

SENTENCE-FINAL FOCUS PARTICLES IN CANTONESE

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For my parents

'The struggle itself towards the heights is enough to fill
a man's heart. One must imagine Sisyphus happy.'

Albert Camus

ABSTRACT

This thesis aims at gaining a better understanding of the syntax, semantics and pragmatics of Cantonese sentence-final particles and, in particular, two focus particles *zaa3* ('only') and *tim1* ('also'). Despite their importance in the language, these particles have not been well studied. Research on the two sentence-final focus particles will also contribute to the area of focus which has attracted much attention in recent years.

A two-position account for the syntax of all sentence-final particles occurring in the CP domain couched in the minimalist framework (Chomsky 1995) is proposed to explain observations on their syntactic distributions, scopal properties and interactions with other elements such as questions and quantifiers. Focus particles, *zaa3* ('only') and *tim1* ('also'), and the particle *laa3* ('inchoative') occur in the lower position (SFP₂), immediately under the higher topic, while other particles that encode speech acts, speaker-oriented modality and epistemic knowledge are generated in the higher position (SFP₁) in the Force field (Rizzi 1997).

Following Rooth (1985, 1992), I suggest that the sentence-final particles *zaa3* ('only') and *tim1* ('also') are focus operators that associate with identificational focus (É. Kiss 1998, Ballantyne Cohan 2000). A distinction between information focus and identificational focus is drawn and three identificational focus-marking devices in Cantonese are discussed, namely contrastive stress, Right Dislocation and the cleft *hai* ('be')-construction. In addition to their respective restrictive and additive semantics, the sentence-final particles also encode procedural information (Blakemore 1987, 2000, 2002) that constrains inferential computations of conceptual representations. It is shown that scalar usage is a reflection of their procedural information encoded, and conditions licensing their usage are also discussed.

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ABBREVIATIONS

ASP	aspect marker
C	complementiser
CL	classifier
DE	Mandarin nominaliser <i>de</i>
EXP	experiential marker
GE	complementiser
GEN	genitive marker
LE	Mandarin verbal particle <i>le</i>
PRT	post-verbal particle
SFP	sentence-final particle
TOP	topic marker

ROMANISATION

The Linguistic Society of Hong Kong Cantonese romanisation scheme (or Jyutping) (1997) is adopted throughout this thesis. For the sake of convenience, tones are omitted except for sentence-final particles. The following tables show the letter-sound correspondences in this scheme.

<u>Onsets</u>				
b [p]	p [p ^h]	m [m]	f [f]	
d [t]	t [t ^h]	n [n]		l [l]
g [k]	k [k ^h]	ng [ŋ]	h [h]	
gw [kw]	kw [k ^h w]			w [w]
z [ts]	c [ts ^h]		s [s]	j [j]

<u>Rimes</u>										
i [i]	e [ɛ]	y [y]	oe [œ]			aa [a]	u [u]		o [ɔ]	
	ei [ei]				ai [ɛi]	aai [ai]	ui [ui]		oi [ɔi]	
iu [iu]	eu [ɛu]				au [ɛu]	aa [au]		ou [ou]		
				eoi [cy]						
im [im]	em [ɛm]				am [ɛm]	aam [am]				m [m]
in [in]	en [ɛn]	yun [yn]		eon [øŋ]	an [ɛn]	aan [an]	un [un]		on [ɔn]	
ing [iŋ]	eng [ɛŋ]		oeng [œŋ]		ang [ɛŋ]	aang [aŋ]		ung [oŋ]	ong [ɔŋ]	ng [ŋ]
ip [ip]	ep [ɛp]				ap [ɛp]	aap [ap]				
it [it]	et [ɛt]	yut [yt]	oet [œt]	eot [øt]	at [ɛt]	aat [at]	ut [ut]		ot [ɔt]	
ik [ik]	ek [ɛk]		oek [œk]		ak [ɛk]	aak [ak]		uk [ok]	ok [ɔk]	

<u>Tones</u>	
1	high level
2	high rising
3	mid level
4	low falling
5	low rising
6	low level

CHAPTER 1 OVERVIEW

Cantonese, a Chinese dialect spoken in Guangzhou, Hong Kong and Macau, has an extremely rich inventory of sentence-final particles (SFP) which frequently occur in the colloquial register. They are monosyllabic or bisyllabic elements attached to the end of a sentence and carry a wider range of meanings, apart from just emotions, than is generally believed. Here are some examples of sentence-final particles – *gwaa3* ('probably') in (1) expresses the speaker's epistemic state, *wo5* in (2) is a hearsay particle, and *zaa3* ('only') in (3) is a focus particle meaning 'only'. As the translations show, their meanings would otherwise be conveyed by adverbs or embedding the proposition in a separate predicate in English.

(1) keoi heoi zo syuguk **gwaa3**
 s/he go ASP bookshop SFP
 'S/he probably went to the bookshop.'

(2) keoi heoi zo syuguk **wo5**
 s/he go ASP bookshop SFP
 'They say that s/he went to the bookshop.'

(3) keoi heoi zo syuguk **zaa3**
 s/he go ASP bookshop SFP
 'S/he only went to the bookshop.'

The meaning of these particles is notoriously difficult to pin down and although they have attracted more attention in recent years, their syntactic, semantic and pragmatic properties are still largely unexplored.

This thesis is an attempt to contribute to our understanding of the syntax, semantics and pragmatics of Cantonese sentence-final particles and, in particular, two focus-sensitive particles *zaa3* ('only') and *tim1* ('also'). As focus and focus-sensitive operators in other languages such as *only* in English and *auch* in German

have been widely studied, it is interesting to investigate how these focus-sensitive elements are realised in a less well-studied language such as Cantonese and how they behave syntactically and pragmatically.

Chapter 2 gives a critical review of Cantonese sentence-final particles in general and the two focus particles *zaa3* ('only') and *tim1* ('also') in particular. While the entire inventory of Cantonese sentence-final particles is well-documented, their syntactic, semantic and pragmatic properties are still not fully understood. Different theories for focus operators are also reviewed and the notion of focus is discussed. It will be shown that a single notion of Focus (Selkirk 1984, 1996, Krifka 1992, Rooth 1985, 1992, Reinhart 1995, Szendrői 2001, among others) is not theoretically and empirically desirable. Instead, I suggest that É. Kiss's (1998) and Ballantyne Cohan's (2000) distinction between information focus and identificational focus should be adopted, where identificational focus is taken to be that part of a sentence to which corresponds a set of alternatives. Rooth's (1985, 1992) Association with focus is then probably more suitably viewed as association with identificational focus.

In Chapter 3, I discuss the syntax of Cantonese sentence-final particles in the minimalist framework (Chomsky 1995). As there has not been much work done in this area, I shall propose a two-position account for all sentence-final particles occurring in the CP domain, supported by many previously unnoticed observations. Contrary to some previous studies that posit that sentence-final particles are just appended to the end of an utterance (e.g. Luke 1990), I shall show that they are indeed clause-final and have very interesting syntactic properties that interact with other elements such as questions, negation and quantifiers, etc.

While I adopt Rooth's (1985, 1992) Association with Focus framework to account for focus particles in Cantonese and claim that the type of focus that these focus operators associate with is identificational focus (É. Kiss 1998, Ballantyne Cohan 2000), I shall investigate in Chapter 4 how identificational focus is marked in Cantonese. Three identificational focus-marking devices will be discussed – one phonological: contrastive stress, and two syntactic: Right Dislocation and the cleft *hai* ('be')-construction.

Chapter 5 deals with the semantics and pragmatics of the two focus particles *zaa3* ('only') and *tim1* ('also'). Although most work on Cantonese SFPs has been on their meaning and use, previous studies have often been sketchy. Drawing from work done on focus-sensitive operators in other languages, I suggest a formal semantic representation for each of the two sentence-final focus particles. Their different uses are the result of pragmatic constraints encoded in their lexical entries and the context with which they interact. I adopt Blakemore's (1987, 2000, 2002) approach to meaning that some elements encode procedural information that constrains inferential computations of conceptual representations. Previous accounts of the meaning of sentence-final particles, e.g. listing functional primes and semantic features as in Fung (2000), are insufficient in one way or another in describing these particles. This is likely a reflection of the fact that these sentence-final particles encode more than just conceptual information.

Chapter 6 is the conclusion.

CHAPTER 2 PREVIEW: PRECURSORS AND ASSUMPTIONS

In this chapter, I shall first review previous studies of Cantonese sentence-final particles and the two focus particles *zaa3* ('only') and *tim1* ('also') in particular. Then I shall present work done on restrictive and additive focus in other languages. Rooth's (1985, 1992) Association with focus framework is to be adopted in the discussion of focus operators. However, the unitary notion of Focus, though theoretically appealing, is best abandoned. I distinguish between information focus and identificational focus in the sense of É. Kiss (1998) and Ballantyne Cohan (2000) and claim that focus operators like *only* associate with identificational focus.

2.1. Cantonese sentence-final particles

Cantonese sentence-final particles (SFPs) are bound forms attached to the end of sentences and constitute an important grammatical category in the language. The number of SFPs in Cantonese ranges from 30 (Kwok 1984) to 95 (Leung 1992), depending on how one counts them. Functionally, especially in the early studies, they are often said to be similar to intonation in non-tonal languages (e.g. Chao 1968, M. Chan 1998, H. Cheung 1972, Kwok 1984), mainly because many SFPs carry emotive meanings. For instance, the particle *wo4* expresses the speaker's surprise, which is often expressed by manipulating the intonation in other languages. Some studies (e.g. Gibbons 1980, Luke 1990) prefer the term 'utterance particles', suggesting that these particles are attached to utterances rather than sentences. Numerous studies have found that SFPs express a wide range of meanings such as aspect, focus, modality, speech acts and temporal order (cf. M. Chan 1998, H. Cheung 1972, Fung 2000, Gibbons 1980, Kwok 1984, S. Law 1990, Luke 1990, Leung 1992, Matthews and Yip 1994, Lee and Yiu 1998a, 1998b, 1999, Lee and A. Law 2000, 2001, and Yau 1980). Some examples are

given below, which exemplify the range of contributions of Cantonese sentence-final particles.

(1) keoi heoi zo syuguk **zaa3**
 s/he go ASP bookshop SFP
 ‘S/he only went to the bookshop.’

(2) keoi heoi zo syuguk **gwaa3**
 s/he go ASP bookshop SFP
 ‘S/he probably went to the bookshop.’

(3) keoi heoi zo syuguk **wo5**
 s/he go ASP bookshop SFP
 ‘They say that s/he went to the bookshop.’

(4) keoi heoi zo syuguk **lo1**
 s/he go ASP bookshop SFP
 ‘It is obvious that s/he went to the bookshop.’

(5) keoi heoi zo syuguk **me1?**
 s/he go ASP bookshop SFP
 ‘Did s/he go to the bookshop?’

(1) – (5) contain the same basic proposition ‘s/he goes to the bookshop’. The addition of different sentence-final particles gives rise to a variety of different meanings, from embedding the proposition in a hearsay predicate (3) to turning it into a yes-no question (5).

A number of studies of Cantonese sentence-final particles, such as Yau (1980), Kwok (1984), Leung (1992) and Matthews and Yip (1994), offer a good outline of the entire inventory of SFPs; however, they tend to fall short of giving more elaborate and precise accounts of individual particles.

Sporadic work has been done on subsets of the particles, most of which concerns their semantics, pragmatics and conversational functions couched in

different frameworks. For example, Luke (1990) examines three particles *laal* (lack of definiteness), *lol* (obviousness) and *wo4* (surprise) in the tradition of Conversation Analysis and analyses their behaviours in naturally occurring conversations. Lee & Yiu (1998a, 1998b, 1999) investigate two particles *lei4* and *ge3* and argue that the former can be a ‘verbaliser’ that can be attached to any nominal that cannot stand independently as a predicate, or a temporal marker that signals that an event has taken place in the recent past. The latter *ge3* is said to be a ‘nominaliser’, which has often been said of its Mandarin counterpart *de*. Evidence for the proposal is largely based on the contexts in which these two particles can occur and what sort of semantic requirements license their use. Fung (2000) studies twenty-five SFPs based on a spoken corpus. She proposes three particle families, Z-, L- and G-, each of which is specified for some core semantic features: [+restrictive] for Z-, [+realisation of state] for L-, and [+situation given, +focus, +deictic] for G-. Variations in the particle meaning result from semantic extension and pragmatic inference among different linguistic domains, e.g. sentential, propositional, discourse, epistemic, speech act, *de re* and *de dicto* domains. Furthermore, a set of functional primes are proposed for the 25 SFPs, e.g. connective, contrastive, exhortative, temporal, doubt, H-knowledge (hearer knowledge towards the proposition is assumed), etc. Combinations of the semantic features and functional primes together form a bundle of features for the individual particles in each of the three families. Lee & A. Law (2000, 2001) examine five evidential particles *wo5* (hearsay), *wo4* (surprise), *aalmaa3* (reminder), *lol* (obviousness) and *gwaa3* (‘probably’) and claim that they encode epistemic modality in expressing the speaker’s commitment to the information expressed in the sentence, or the relationship between the information and the knowledge states of speaker and hearer (Lee & A. Law 2001: 73-74). Some previously unobserved properties of these five particles are spelled out in the studies.

Works on the syntactic properties of sentence-final particles are relatively scarce and as yet there doesn’t seem to be any definitive account of where SFPs are base-generated. Nevertheless, they are usually assumed to occupy some position in C, possibly after T. Tang’s (1989) treatment of Mandarin sentence-final particles. However, it seems that SFPs may not be uniformly generated in

one position, based on the evidence that SFPs follow some kind of ordering when they occur in a cluster. It has also been observed that some particles can only occur in the root clause while others occur in both root and embedded clauses (cf. S. Law 1990, S. Tang 1998, Lee and A. Law 2001 for example). So it is likely that there are different positions in which different particles may be generated. For instance, as will be reviewed shortly, S. Tang (1998) proposes two positions for SFPs and S. Law (1990) has three. As for the scope of SFPs, it has been widely accepted that they have clausal scope. However, closer examination of some particles shows that this may not be true of all particles. For example, Lee and Yiu (1998a, 1998b, 1999) argue that *lei4* and *ge3* are ‘verbaliser’ and ‘nominaliser’ respectively and hence most likely do not have clausal scope, but they do not propose any positions for them. Besides these two, the domain of focus of the focus particles *zaa3* (‘only’) and *tim1* (‘also’) is also controversial as there seem to be conflicting facts and analyses. This issue will be taken up in greater detail later in section 2.2 and in the next chapter. Next, I shall evaluate two studies, S. Law (1990) and S. Tang (1998), which have comparatively extensive discussions on the syntax of SFPs.

S. Law (1990) proposes three syntactic positions for SFPs. The question particles¹ are said to be base-generated in [Spec,CP] as they are claimed to behave like wh-words and A-not-A constructions which express yes-no questions in the language. The particle *ge3* (assertion) is generated in the COMP (C⁰) position of the embedded CP inside a noun phrase, evidence of which comes from the fact that it occurs in clause-final position in relative clauses, noun-complement clauses and the *hai* (‘be’) ... *ge3* construction. Particles such as *laa3*, *lo3*, *lak3* (irrevocability), *zaa3* (‘only’) and *le1/ne1* (tentative) are suggested to be generated in the COMP (C⁰) position of the matrix CP. *Tim1*, which means ‘also’ or ‘even’, occurs within VP and is argued to be part of the discontinuous construction *zung* (‘also’) ... *tim1*, where *zung* is a focus adverb meaning ‘also’. It can be either in the higher VP above *ge3* or in the lower VP which would then be in a position lower than *ge3*. This variation captures her judgements that *tim1* (‘also’) can

¹ S. Law’s (1990) analysis has six question particles but it is open to question whether there are indeed that many question particles in Cantonese. The status of some of her so-called question particles is dubious. For instance, *laa3bo3/laa3wo3* is said to be a ‘confirmation seeking’ question

either precede or follow *ge3*. She suggests tentatively in a footnote that the *zung* ... *tim1* construction occurs pre-verbally in the underlying structure and *tim1* moves to the final position in the S-structure. However, the details are not fleshed out.

Apart from the two particles *tim1* ('also') and *ge3* (assertion), other particles receive relatively less discussion. Although she briefly mentions that *laa3*, *laak3*, *lo3* (irrevocability), *zaa3* ('only') and *le1/ne1* (tentative) also occupy the C position of the matrix clause, she does not provide much evidence to support this claim, except particle ordering. A few of the SFPs that indicate speaker-oriented modality appear in some places occasionally but their syntactic positions are not systematically justified. Nevertheless, S. Law (1990) is a rare major work on the syntax of Cantonese sentence-final particles from which subsequent research can draw insights.

S. Tang (1998) classifies SFPs into two types: 'inner particles' and 'outer particles'. According to him, inner particles are 'associated with either temporal information or focalisation' while outer particles are 'used to indicate the clause type and illocutionary force of a sentence'. Inner particles include, for instance, *laa2*² (current relevant state), *lei4* (recent past) and *zaa3* ('only'). They are overt realisations of T⁰ where the semantic features [Tense] and [Focus] may be inserted. I shall delay discussion of S. Tang's (1998) account of the particle *zaa3* ('only'), which he claims is an inner particle, to section 2.2. Outer particles are also known as 'typing particles', e.g. question particles *maa3*, *me1*, *aa4*, *ne1*³ and the 'exclamative and appreciative' *bo3*. S. Tang does not discuss these particles in detail, except that they are claimed to be overt realisations of C and can only occur in the root clause, whereas inner particles can occur either in the root clause, the embedded clause or both. This generalisation is probably right, but S. Tang only surveys a few examples of SFPs.

particle. However, it seems that the confirmation-seeking function is either inferred from the context or contributed by intonation rather than the particle in her examples.

² S. Tang probably means *laa3*, with a mid level tone, rather than *laa2*, with a high rising tone, as there doesn't seem to exist such a particle *laa2* in Cantonese and *laa3* is generally thought to be the counterpart of the Mandarin *le* which means 'current relevant state'. But unfortunately, in the few examples that S. Tang gives in subsequent sections, the tones of all particles are missing altogether. So it is hard to tell whether he indeed means *laa2* or it is just a typographical error.

³ It is dubious that *ne1*(//*le1*) is really a question (typing) particle because it is actually optional in wh-questions.

The most-discussed aspect of the phonology of SFPs is probably phonetic fusion in particle clusters. (Cf. S. Law 1990, Matthews & Yip 1994 and many others) For example, when *ge3* (assertion) and *aa3* (softener) co-occur in a cluster, the resultant form is *gaa3* with only one syllable. S. Law (1990) proposes underlying forms for sets of sentence-final particles. For instance, the particle *laa1*, with a high level tone, is derived from the underlying form *laa3*, with a mid level tone, by attaching a [H] tone to *laa3*. *Laa4*, with a low level tone, is also derived from *laa3*, but by attaching a [L] tone to it. She further suggests that these two tones [H] and [L] are actually segment-less particles specified for just the tone and perform the function of ‘weakening’ and ‘strengthening’ respectively.

With regard to the acquisition of sentence-final particles, they are found to emerge very early at about the two-word stage in young children before the age of two (Lee et al 1996). Some particles, such as *aa3* (softener), appear early, while others, e.g. the evidential particles reported in Lee & A. Law (2000, 2001), do not appear until three years of age, probably because other cognitive domains such as theory of mind not having fully developed yet. In their experimental studies on the comprehension of *wo4* (surprise) and *aalmaa3* (reminder), they find that only three out of the thirteen six-year-olds can detect the surprise-indicating function of *wo4* (surprise) while none of them seem to be able to grasp the use of *aalmaa3* (reminder). (But see A. Law (2001b) for criticisms on the experimental design of *aalmaa3* (reminder).) Lee (2000) examines the longitudinal data of the use of the restrictive focus particle *zaa3* (‘only’) and the corresponding pre-verbal adverb *zinghai* (‘only’) by children of age from 1;05 to 3;08. He observes that they emerge after 3;01 and their uses are mostly ‘exclusive uses’ and ‘limiting or scalar uses’. The use of the adverb *zinghai* (‘only’) is always non-scalar, which Lee (2000) claims to be adult-like, and neither the adverb *zinghai* (‘only’) nor the SFP *zaa3* (‘only’) co-occurs with other logical operators such as negation and modals. Apart from these studies, the acquisition area of sentence-final particles is still largely unexplored.

2.2. Sentence-final focus particles *zaa3* ('only') and *tim1* ('also')

Among the inventory of Cantonese sentence-final particles, two particles have the function of focus operators: the restrictive focus *zaa3* ('only') and additive focus *tim1* ('also'). Examples (6) and (7) show their typical use.

(6) keoi maai zo loeng bun syu **zaa3**
 s/he buy ASP two CL book SFP
 'S/he only bought two books.'

(7) keoi maai zo loeng bun syu **tim1**
 s/he buy ASP two CL book SFP
 'S/he also bought two books.'

The meaning and use of the two particles have not been studied in great detail. The restrictive sentence-final focus particle *zaa3* is taken to bear a meaning equivalent to the English *only* or *just* (e.g. H. Cheung 1972, Kwok 1984, Leung 1992, Matthews and Yip 1994). Kwok (1984) further contends that it usually carries a negative meaning and is used to convey the idea of insufficiency. Fung (2000) postulates that *zaa3* is a member of a family of phonologically similar particles, termed as Z-, which share the core feature [+restrictive]. The differences among the members of the Z- family arise from semantic extension and pragmatic inference. Following König (1991a), she states that the particles in the Z- family (including *zaa3*) 'evaluates the focused value (quantity, time, range, extent, etc.) as a minimal value, conveying a delimiting or diminutive sense.' (34) These Z-particles all share the semantic feature [restriction] and the delimiting or diminutive sense is a derived property 'in the process of restriction', though it is not clear how the derivation is achieved. She doesn't say whether this is also true of the adverb *zinghai* ('only'), but mentions in passing that the adverb can co-occur with a restrictive particle, e.g. *zaa3* ('only'), and the restrictive adverb 'further emphasise[s] the restriction'. (34) So there is no conclusion as to whether she posits any difference between the restrictive focus particle *zaa3* ('only') and the adverb *zinghai* ('only').

Lee (2000) on the other hand suggests that, with regard to scalarity, the adverb *zinghai* ('only') 'cannot be used for scalar quantification' while the sentence-final particle *zaa3* ('only') 'is responsible for scalar quantification'. He gives the following contrast to illustrate this claim.

- (8) John maai zo saam bun syu zaa3, mhai maai zo sei/??loeng bun (=10a)
 John buy ASP three CL book SFP not-be buy ASP four/two CL
 'John only bought three books, not four/??two.'
- (9) John zinghai maai zo saam bun syu, mhai maai zo ??sei/??loeng bun (=10b)
 John only buy ASP three CL book not-be buy ASP four/two CL
 'John only bought three books, not ??four/??two.'

I interpret Lee as saying that in (8) where the particle *zaa3* occurs, the sentence can be continued with 'not four books', but not 'not two books'. However, the sentence in (9) where the adverb *zinghai* ('only') occurs cannot be continued with 'not four books' or 'not two books', thus showing that *zinghai* ('only') is not responsible for scalar quantification.

From these two examples, Lee proposes the following logical form of a sentence of the form 'NP_j – V – [Q-Nm] *zaa3*':

- (10) presupposition: 'P2(j) & the cardinality of $\lambda x \{P1(j,x) \& Nm(x)\}=Q$
 where P1=predicate corresponding to V; P2=predicate corresponding to V-Nm'
 assertion: 'it is not the case that the cardinality of $\lambda x \{P1(j,x) \& Nm(x)\} > Q$
 where P1=predicate corresponding to V' (=10e))

Take (8) to illustrate Lee's logical form, repeated here as (11).

- (11) John maai zo saam bun syu zaa3
 John buy ASP three CL book SFP
 'John only bought three books.'

In this example,

NP_j = *John*

V = P1 = *maai zo* (bought)

[Q-Nm] = *saam bun syu* (three books)

P2 = *maai zo saam bun syu* (bought three books)

The presupposition would be ‘John bought three books’ (P2(j)) and the cardinality of books that John bought = 3. The assertion would be ‘it is not the case that the cardinality of books that John bought is greater than 3’.

What Lee is trying to say here is that, in the sentence ‘John bought three books *zaa3*’, the proposition expressed by the part without *zaa3* (John bought three books) is presupposed while the meaning of *not greater than n* (three) is asserted.

There are two parts in Lee’s presupposition: one is basically the proposition expressed by the utterance without the particle *zaa3* and the other one is the cardinality of the object noun phrase. One can see that the second part is already contained in the first part and it seems redundant to repeat a subpart of it. The only motivation for extracting the cardinality out of the first part seems to be to prepare us for the assertion which says that the cardinality is not greater than three.

There are several problems with Lee’s analysis. First, the judgements are dubious. With regard to (9), although it does sound odd to continue the sentence with ‘not four books’, this is not necessarily so. If we put a sentence-final particle, e.g. *bo3*, after the first sentence, the acceptability is greatly improved.

- (12) John zinghai maai zo saam bun syu bo3, mhai maai zo sei bun
 John only buy ASP three CL book SFP not-be buy ASP four CL
 ‘John only bought three books, not four.’

So it seems that the oddity of (9) is perhaps not so much due to the incapability of *zinghai* (‘only’) to express a scalar interpretation. The reason could be that the

lack of a sentence-final particle, in general, conveys a sense of abruptness or incompleteness.

Second, assuming that Lee's judgements are correct, the contrast doesn't show that *zaa3* ('only') is 'responsible for scalar quantification' while *zinghai* ('only') is not. The continuation in both cases ('not four/two books') is a metalinguistic negation of a previously held expectation or belief (of the hearer, possibly). So if such a contrast did exist, it would merely show that in (8), there is an implicit expectation or belief 'John bought four books' which is to be rectified by the utterance (8); whereas in (9) somehow there is a lack of such an expectation.

If we turn to Lee's proposed logical form in (10), the 'assertion', for him, is the meaning of *not greater than n*. Lee's formulation is probably motivated by the need to capture the facts in (8) and (9), but whether it is really 'assertion' in the first place is open to question. In other studies like Rooth (1992), the meaning of *not greater than n* is taken to be a case of implicature rather than an assertion. Rooth states that in such scalar uses of focus particles, the ordering relation \geq_C is entailment. The pattern of scalar implicature is that asserting an element ϕ of C **implicates** the negation of any higher element of the scale, that is, any ψ such that $\psi \geq_C \phi$ and $\psi \neq \phi$. (82-83)

Another problem is that the 'logical form' given in (10) only captures cases involving cardinal numbers, but it seems that there are parallel cases involving other scalar dimensions, e.g. ranked entities, states and attributes; part/whole relationships; type/subtype, instance-of, and generalisation/specialisation relations; entity/attribute relations, etc. (cf. Carston 1998) where implications are made with respect to elements higher in the scale. Incorporating just cardinality in the logical form would lose the generalisation of all these dimensions. In fact, Lee also gives the following examples as putative evidence of the scalar and non-scalar contrast between the adverb *zinghai* ('only') and the SFP *zaa3* ('only'), but his logical form proposed for the above examples involving cardinal numbers obviously does not apply here and there are no representations given for these examples.

(13) John hai jingau zolei zaa3 (=10c)
 John be research assistant SFP
 ‘John is only a research assistant.’

(14) ??John zinghai jingau zolei (=10d)
 John only research assistant
 ‘John is only a research assistant.’

Note that Lee thinks that (14) is unacceptable. I do believe it sounds rather odd, but if we lengthen the sentence a little and add a sentence-final particle, it is much more acceptable and most importantly, conveys the scalar meaning ‘John is only a research assistant (not a professor)’ as does (13).

(15) John zinghai hai jat go jingau zolei lei
 John only be one CL research assistant SFP
 ‘John is only a research assistant.’

Some examples involving dimensions other than cardinality are given below:

(16) zek toigoek laan zo zaa3
 CL table-leg break ASP SFP
 ‘Only the table leg is broken (not the whole table).’

(17) zinghai zek toigoek laan zo lo4
 only CL table-leg break ASP SFP
 ‘Only the table leg is broken (not the whole table).’

(18) keoi go joeng leng zaa3
 s/he CL face pretty SFP
 ‘She is only pretty.’

- (19) keoi zinghai go joeng leng lo4
s/he only CL face pretty SFP
'She is only pretty.'
- (20) zek joeng di mou baak zaa3
CL sheep CL wool white SFP
'Only the sheep's wool is white.'
- (21) zek joeng zinghai di mou baak lo4
CL sheep only CL wool white SFP
'Only the sheep's wool is white.'

From all these examples above, contrary to Lee, it is not entirely true that *zinghai* ('only') cannot express a scalar interpretation. In many cases, the marginality of the utterances could be due to the fact that they lack a sentence-final particle. Furthermore, Lee's (2000) account would potentially face a problem in explaining the co-occurrence of *zinghai* ('only') and *zaa3* ('only'). These two focus elements frequently co-occur as shown in the following examples.

- (22) John zinghai maai zo saam bun syu zaa3, mhai maai zo sei bun
John only buy ASP three CL book SFP not-be buy ASP four CL
'John only bought three books, not four.'
- (23) zinghai zek toigoek laan zo zaa3
only CL table-leg break ASP SFP
'Only the table leg is broken (not the whole table).'
- (24) keoi zinghai go joeng leng zaa3
s/he only CL face pretty SFP
'She is only pretty.'

- (25) zek joeng zinghai di mou baak zaa3
 CL sheep only CL wool white SFP
 ‘Only the sheep’s wool is white.’

If the adverb *zinghai* (‘only’) only has a non-scalar use, one has to explain why these examples are acceptable and what sort of interpretation, scalar or non-scalar, would be derived in these cases.

Timl (‘also’) has been claimed to express the meaning of ‘in addition to’ or ‘also’ (H. Cheung 1972, Kwok 1984, Leung 1992, S. Law 1990). It is also said to express the meaning of, or one similar to, the English *even*. While the meaning of *timl* as ‘also’ or ‘in addition to’ is widely accepted, the fact that it can also express the meaning ‘even’ is still open to question. Besides, ‘even’ seems to be shorthand for this scalar meaning but whether the English *even* is exactly equivalent to *timl* is not clear. Neither H. Cheung (1972) nor Leung (1992) tackle the problem explicitly. Kwok (1984:44) states that the particle is similar to the English *even* and *also* in certain contexts; however, she does not spell out in which respective contexts *timl* means ‘even’ and ‘also’. S. Law (1990) posits that the construction *zung ... timl* is parallel to *lin ... dou ...*,⁴ the Mandarin counterpart of which is generally accepted as expressing a meaning similar to the English *even* and states that the *zung ... timl* construction can mean ‘even’ or ‘also’. Lee (1995: footnote 7) in his analysis of focus adverbs glosses the particle *timl* as meaning ‘even’, while on the other hand he claims that the adverb *zung* (‘also’) shows properties of a non-scalar operator and denies the contention that it has a scalar meaning similar to the English *even*. For sentences where the particle *timl* and the adverb *zung* co-occur, he seems to claim that they convey the meaning ‘even’ without any further clarification.

The syntactic properties of these two particles have been investigated in few previous studies. Kwok (1984) notes some of the scope properties of the particle *zaa3* (‘only’) but offers no syntactic analysis. A recent study by S. Tang (1998) provides a syntactic account of *zaa3* in which he argues that *zaa3* as a focalisation element is an overt realisation of T. He argues that *zaa3* (‘declarative

⁴ Both Mandarin and Cantonese have the same construction and therefore studies of the Mandarin *lian ... dou ...* can be extended to Cantonese *lin ... dou ...*.

only') is a member of what he calls 'inner particles'. He claims that it has *zaa4* (interrogative), *ze1* (emphatic) and *zek1* (emphatic) as 'variants' and hence, being 'morphologically rich', is said to be assigned the 'inflectional affix feature' when it enters the numeration and undergoes T-to-C movement in the phonological component. Furthermore, as *zaa3* ('only') is generated in T, it cannot focus the subject or topics because they are not in its c-command domain. While his suggestion is a novel idea, it is dubious whether *zaa3*, *zaa4*, *ze1* and *zek1* are 'variants' as they have very different syntactic distributions. For instance, with regard to particle ordering, only *zaa3* can be followed by other SFPs, e.g. the question particle *me1*⁵ or the surprise particle *wo4*, while the other three must occur at the edge. As for subject-focusing, my judgements, confirmed by two other native speakers, deviate from S. Tang's. In short, we find that the particle *zaa3* can actually focus the subject, contra S. Tang's observations. I shall elaborate on this in the next chapter. Apart from these, S. Tang's postulation of *zaa3* as an overt realisation of T rests on the assumption that the head T can have the features [Tense] and [Focus], apparently supported by facts like the distribution of the emphatic *do* in English, as in his example *She DID come*. So as a focus marker, *zaa3* ('only') could be generated in T, bearing the [Focus] feature. Curiously though, there is no mention of what happens to the *actual* focused constituent, i.e. whether it also bears the feature [Focus], as generally assumed in accounts that make use of the [Focus] feature. Furthermore, the notion of focus in his analysis is rather obscure: the kind of 'focus' found in the English emphatic *do* and that associated with *only* or *zaa3* ('only') do not seem to be quite the same. However, no definition is provided and hence it is difficult to evaluate.

Syntactic analyses of the particle *tim1* ('also') are rare and S. Law (1990) is probably the only one to give a syntactic account of the particle. On the assumption that adverbials occur within VP and *tim1* ('also') is part of the discontinuous construction *zung ... tim1*, she concludes that the particle occurs within VP.

⁵ The fact that *zaa3* ('only') can co-occur with a question marker *me1* contradicts S. Tang's (1998) classification of *zaa3* as a 'declarative' particle.

2.3. Restrictive focus

Focus-sensitive particles in languages such as English and German have been widely studied. (E.g. Beaver & Clark 2003, Bonomi & Casalegno 1993, Herburger 2000, Horn 1969, Karttunen and Peters 1979, Kay 1990, König 1991a,b, Krifka 1995, 1999, Rooth 1985, *inter alia*) Broadly speaking, there are two classes of focus particles in terms of semantics, namely restrictive/exclusive, e.g. *only*, and additive/inclusive, e.g. *also* (König 1991a). There is also a set of particles identified as scalar particles which appear to cut across the two classes, e.g. *even* is an additive scalar particle, while *only*, being restrictive, can also have a scalar use.

Focus particles manifest themselves cross-linguistically as different grammatical categories, which can be adverbs, determiners or clitics (König 1991a). Even within Cantonese, focus-sensitive elements are realised as different grammatical categories. There are focus adverbs, e.g. *zinghai* ('only') and *zung* ('also'), sentence-final particles, e.g. *zaa3* ('only') and *tim1* ('also'), postverbal particles, e.g. *dak1* ('only'), and the focus construction *lin ... dou ...* ('even'), as shown in the following examples. (Cf. Lee 1995, S. Tang 2002)

- (26) (a) John **zinghai** maai zo loeng bun syu
 John only buy ASP two CL book
 'John only bought two books.'
- (b) John maai zo loeng bun syu **zaa3**
 John buy ASP two CL book SFP
 'John only bought two books.'
- (c) John maai **dak1** loeng bun syu
 John buy PRT two CL book
 'John only bought two books.'
- (d) John **zung** maai zo loeng bun syu
 John also buy ASP two CL book
 'John also bought two books.'

- (e) John maai zo loeng bun syu **tim1**
 John buy ASP two CL book SFP
 ‘John also bought two books.’
- (f) **lin** John **dou** maai zo loeng bun syu
 even John also buy ASP two CL book
 ‘Even John bought two books.’

As they belong to different grammatical categories, these elements, though uniformly expressing either restrictive/exclusive or additive/inclusive, all differ from one another in terms of syntactic distributions, scope and discursal functions, etc.

Different frameworks have been proposed to account for the semantic properties of focus particles. In general, restrictive focus particles like *only* have a semantics along the line of (27). (Cf. König 1991b)

- (27) $(\forall x) [\alpha(x) \rightarrow (x=\beta)]$ (e.g. English *only*, German *nur*, Cantonese *zaa3*)
 where β is the focus and α the propositional schema.

Hence, in the following example,

- (28) John only bought two books

the propositional schema α is ‘John VP’ and for all x that is true of α , x has to be the focus β , which is *bought two books*, and nothing else. In other words, alternatives that correspond to the focused element β , e.g. *saw a film*, *made a cake*, etc., are selected which are not possible values for the variable of its scope and thereby do not satisfy the propositional schema.

Only is said to have a scalar use in addition to the above non-scalar use. Scalar particles are so-called because some ranking is involved in the interpretation. For example,

(29) Juliet was only drugged. (from Herburger 2000)

possibly expresses the meaning that ‘Juliet was in a pretty bad condition but was not as serious as being dead’. Here ‘being drugged’ and ‘being dead’ seem to be ranked on a scale and *only* marks the focused element as the one that ranks highest on the scale. Other elements ranking higher than the focused one cannot hold true of the predication. We shall see how this scalar use of *only* is unified with the non-scalar use in some studies.

König (1991b) also posits that *only* evaluates a focus denotation as ranking low on the relevant scale, though it seems to be viewed from another perspective, and involves a Min(imum) function as illustrated in the following:

(30) $\text{Min}(\lambda x, (\alpha), \beta) = (\forall x) x < \beta \rightarrow \neg \alpha(x)$

where α is the propositional schema with a variable of the appropriate category and β is the focused value.

(30) says that the focused value β is evaluated as ‘minimal’ on a scale. However, König on the other hand claims that the ranking is heavily dependent on the ‘linguistic co-text’ and can be ‘reversed’ in some contexts in the sense that the focused constituent can be ranked low or high on the relevant scale. He gives the examples below.

(31) (a) Only a B+ is adequate (not a B-). (=8a)

(b) Only a B+ is required (not an A-). (=8b) (p.15)

König does not provide any possible contexts for the two utterances but one can imagine that both (31a) and (31b) can be uttered in response to the question of what is the grade required to be accepted for a certain degree programme. (31a) would be felicitous in a context where the hearer expects a lower grade, hence ‘not a B-’, while (31b) in a context where the hearer expects a higher grade (say A-). Here, König probably intends to say that in (31a) the focused element ‘B+’ ranks high on the scale when compared to ‘B-’, while in (31b) it ranks low on the scale when compared to ‘A-’. But then the question is

whether it is indeed true that the ranking is really reversed, as he claims. Actually, contrary to what König contends, in **both** cases, the grades that are acceptable for the degree programme are B+ and above, so the focused element (B+) is at the lowest end of the scale. The only difference lies in the hearer's expectation and the continuation *not a B-* or *not an A-* does not really show on which end the focused element lies on the pragmatic scale. So, it is dubious that there is a reverse of the ranking, if any ranking is involved.

Different theories of focus give rise to different semantic representations of *only*. Here I review three frameworks.

2.3.1. Association with focus (Rooth 1985, 1992)

Many proposals for the meaning of *only* in the literature are basically along the lines of Rooth's theory of association with focus (Alternative Semantics). They differ in various aspects such as determination of contexts, variable types, the nature and role of focus, etc. Here is a summary of a few of these proposals.

Under Rooth's (1985, 1992) theory of focus interpretation, *only* is a universal operator quantifying properties, and associates with the focused phrase marked by the syntactic feature [Focus]. The focus semantic value is the set of propositions obtainable from the ordinary semantic value by making a substitution in the position corresponding to the focused phrase. Intuitively, this set of propositions is the set of alternatives to the focused phrase which the focus operator *only* excludes. For example,

(32) Mary *only* VP

has the form

(33) $\forall P [P \in C \wedge P(\mathbf{m}) \rightarrow P = \text{VP}']$ where C is a set of properties in which P is a member.

So, for all properties P in C , if Mary has the property P , then P equals the semantic value of VP.

To illustrate, consider the following example.

- (34) Mary only baked a cake.

The property P in C that Mary has is the semantic value of the VP *baked a cake*. *Only* excludes all other alternatives in C , such as *mowed the lawn* and *picked the apples*.

Rooth (1992) further introduces some focus-determined constraints in dealing with the fixing of the context C and scales (to be discussed later). For example, there is a focusing adverb constraint which says that

- (35) If C is the domain of quantification of a focusing adverb with argument α ,
then $C \subseteq [\alpha]^f$. (85)
where $[\alpha]^f$ is the focus semantic value of α .

Rooth emphasises that the contribution of focus is not to fix the value of C ; rather it constrains C . The fixing of the domain of quantification of *only* in Rooth's framework seems to fall into two parts: semantic and pragmatic. The lexical semantics of the adverb *only* introduces a domain-of-quantification variable C which as required is a set of properties. The constraint introduced by focus interpretation may give information about C , e.g. a set of properties of the form represented by the VP. However, at the same time, Rooth says that 'focus need not be the only source of information about C ' and 'at the formal level, C remains a free variable, which is viewed as an indication that its value is to be fixed pragmatically'. (89-90) For example, in the case of scalar interpretation, focus gives a free variable with the type of a set of propositions. The antecedent is not contributed by the semantics, but by the pragmatic process of constructing a scale of alternative assertions. He concludes that possible antecedents can be entities constructed pragmatically or contributed by the semantics proper. (90)

Rooth's notion of focus assumes a syntactic [Focus] feature that marks a focused phrase and, building on this assumption, he defines a semantic interpretation of the focus feature. In line with other researchers such as Selkirk (1984), Rooth collapses different kinds of focus into one single notion: focus

corresponding to the wh-element in a wh-question, contrastive focus, focus associated with *only* and scalar focus (Rooth 1992: 85-86). So, to him all these different kinds of foci are marked with the same focus feature in syntax. While some of these foci may coincide, it is not clear that it is desirable to generalise all of them under one category. I shall return to this point in section 2.5.

Bonomi & Casalegno's (1993) propose an analysis which makes use of groups and requires *only* to quantify over events instead of properties. This proposal can account for all the cases in which *only* is associated with a focused NP and would serve as a uniform explanation of how *only* can be associated with expressions of different categories. For example,

(36) Only [John]_F cried

has the form

(37) $\exists e[\mathbf{cried}'(e) \ \& \ AG(e, \mathbf{John}')] \ \& \ \forall f[\mathbf{cried}'(f) \ \rightarrow \ \exists g[\mathbf{cried}'(g) \ \& \ AG(g, \mathbf{John}') \ \& \ f \subseteq_E g]] \quad (=18)$

where **cried'** is a constant of type (e,t) denoting a set of events other than $\mathbf{0}_E$ (intuitively, the events of crying) and **John'** is a constant of type o denoting an atom in the Boolean algebra of objects (intuitively, (the group whose only member is) John), and AG denotes the thematic relation of agent. Paraphrasing (37), it means that John cried, and every event of crying is included in an event of crying whose agent is John. This is equivalent to

(38) $\forall x[\exists f[\mathbf{cried}'(f) \ \& \ AG(f,x)] \leftrightarrow x = \mathbf{John}'] \quad (=19)$

So, for every x, x is the agent of an event of crying if and only if x is John. We can see that this reformulation derives the same semantics of *only*; the only difference from Rooth's account is the variable type being quantified by the operator.

Herburger's (2000) neo-Davidsonian account can be seen as a modification of Bonomi & Casalegno's (1993) proposal for *only*. *Only* is a universal quantifier

over events and is argued to have existential force. Members of its restriction are not quantified directly but are assumed to be related as parts of (for the non-scalar interpretation) or as ranked lower on a scale than (for the scalar interpretation) the focused event, whose existence is asserted. Her representations for non-scalar *only* and scalar *only* are as follows respectively:

$$(39) \quad [\text{only } e: F(e)] G(e) \text{ iff } F \neq \{ \} \ \& \ \forall f ((f \in F) \rightarrow \exists e (\text{Part}(f, \text{ of } e) \ \& \ e \in G)) \\ (= (61))$$

(39) says that the restriction (F) is not empty and that each of its elements forms a part of a member of the scope.

$$(40) \quad [\text{only-scalar } e: F(e)] G(e) \text{ iff } F \neq \{ \} \ \& \ \forall f ((f \in F) \rightarrow \exists e (\text{Not-ranked-} \\ \text{higher}(f, \text{ than } e) \ \& \ e \in G)) \ (= (63))$$

The only difference between non-scalar *only* in (39) and scalar *only* in (40) is that in (40), the members of the restriction are not ranked higher than a member of the scope on a contextually chosen scale.

Beaver & Clark's (2002, 2003) theory of *only* is essentially a semantic or what they (and Rooth) call an intermediate one (like Rooth's). To them, theories of focus fall into two groups: a 'semantic' one which involves lexical stipulation, i.e. the lexical entry of these focus operators stipulates a dependency on focus, e.g. Rooth (1985, 1992) and Krifka (1992), and a 'pragmatic' one which explains focus sensitivity without recourse to such a lexical stipulation (Roberts 1998, Schwarzschild 1997). For the latter type, Beaver & Clark say that pragmatic factors optionally link the interpretation of focus operators like *only* to their associated focus. It is not clear what 'pragmatic factors' they have in mind and to what extent they play a role in the association of the focus operators with focus. Without that being established, it is hard to decide whether these factors are really 'optional'.

They postulate two independent mechanisms explaining focus sensitivity, one semantic and the other pragmatic. An expression is 'focus sensitive' if its interpretation is correlated with the placement of focus. *Only* is a focus sensitive

universal quantifying over events and encodes a lexicalised dependency on focus marking. However, it is not clearly defined what their focus means. Judging from their exposition, they probably assume syntactic constituents are focus-marked, i.e. there exists such a thing as a [Focus] feature, which is applied under prosodic stress. Like Bonomi & Casalegno (1993) and Herburger (2000), they adopt a neo-Davidsonian event-based account to analyse *only*. For the form

(41) NP *only* VP

we have the following representation:

(42) $\forall e (\text{background}(e) \rightarrow \text{npvp}(e))$

'*Background*' is a property of events given by the subject and all non-focused material in the VP. The predicate *npvp* is a property of events given by all the material in the sentence apart from *only*, i.e. $\text{background} \cup \text{focus}$, where *focus* is the focal material in the VP. Non-focal material in the syntactic domain of *only* is interpreted in the restrictor of a universal. To take (34) as an example, repeated below.

(43) Mary *only* baked [a cake] (and nothing else).

The respective values of *background*, *focus* and *npvp* are as follows:

(44) *Background* = Mary and the act of baking
Focus = a cake
npvp = $\text{background} \cup \text{focus}$ = Mary baked a cake

So, what it all means is that for all events, if there is an event of Mary baking, then the event is such that Mary baked a cake.

One can see that their proposal is not much different from that of Bonomi & Casalegno's (1993). However, they highlight certain important generalisations about *only*, some of which have been independently observed by others, such as

the impossibility of its associating with gaps, extracted materials, weak forms (their ‘leaners’) and presuppositions, and the puzzle of second occurrence focus. For example, ‘leaners’ or weak forms such as *im* in English cannot be associated with *only*.

- (45) I only discussed *im* with Sandy. (= (44) in Beaver & Clark 2003)
 * ‘I only discussed Fred (and no one else) with Sandy.’

Also, there is an issue about ‘second occurrence focus’. The following example is due to Partee (1991).

- (46) A: Eva only gave xerox copies to [the graduate students]_F.
 B: (No,) [Petr]_F only gave xerox copies to [the graduate students]_{SOF}.

In example (46), *the graduate students* in B’s utterance is so-called ‘second occurrence focus’ which is associated with *only*, even though this NP lacks prosodic prominence. These two issues will be discussed in greater detail later in section 2.6.

Other proposals on *only*, such as Marti’s (2002), basically follow Rooth’s theory of Association with focus and only differ in certain fine points. For instance, Marti’s (2002) account differs from the others in the mechanism for reconstructing the context and in the nature of the argument of *only* which is taken to be the proposition (with the assumption that the subject reconstructs to [Spec,VP]). *Only* has the following semantics:

- (47) [*only*] = $\lambda p \forall q [(q \in C \ \& \ q(w)) \rightarrow p=q]$, for p, q of type $\langle s, t \rangle$ (= (9))

Context reconstruction, i.e. determining the antecedent of C , is couched in terms of Roberts’s (1998) theory of discourse structure.

2.3.2. Structured Meaning representation of Focus (Krifka 1992, 1995)

According to the Structured Meaning framework (Krifka 1992, 1995), the basic function of focus is to give prominence to meaning-bearing elements in an expression. Focus induces the partition of the semantic representation into a background B and a focus F, which is represented by $\langle B, F \rangle$, where B can be applied to F, and the application $B(F)$ yields the standard interpretation. Constituents in focus bear the feature [F] which is co-indexed with its focus operator. The feature [F] is spelled out by sentence accent (in line with Selkirk 1984). Sentences containing *only* make use of the Background-Focus underlying structure. *Only* is taken to be a sentence operator instead of a VP operator, even when it is syntactically a VP adverb. It has the interpretation:

$$(48) \quad \mathbf{only}(\langle B, F \rangle) : \Leftrightarrow B(F) \ \& \ \forall X[X \in \text{ALT}(F) \ \& \ B(X) \rightarrow X=F],$$

where X is a variable of the type of F and $\text{ALT}(F)$ is the set of alternatives to F.

As seen above, Krifka's account also makes use of alternatives but he posits no variable in the semantics of *only* for the context. The set of alternatives, as he says, is provided by the context (contra Rooth). The meaning of $\mathbf{only}(\langle B, F \rangle)$ can be paraphrased as 'B applies to F, and B applies to no alternative to F'. In the Structured Meaning framework,

$$(49) \quad \text{John only introduced Bill [to Sue]}_F$$

where the indirect object is in focus, has the following representation:

$$(50) \quad \mathbf{only}(\langle \lambda x.\text{introduced}(j,x,b),s \rangle) == \\ \text{introduced}(j,s,b) \ \& \ \forall x[x \in \text{ALT}(s) \ \& \ \text{introduced}(j,x,b) \rightarrow x=s]$$

The same sentence but with a different focus, e.g.

$$(51) \quad \text{John only [introduced Bill to Sue]}_F$$

has a different representation as follows:

$$(52) \quad \text{only}(\langle \lambda P.P(j), \lambda x.\text{introduced}(x,s,b) \rangle) == \\ \text{introduced}(j,s,b) \ \& \ \forall P[P \in \text{ALT}(\lambda x.\text{introduced}(x,s,b)) \ \& \ P(j) \rightarrow \\ P = \lambda x.\text{introduced}(x,s,b)]$$

The Structured Meaning framework can also capture other types of foci, e.g. free focus. In such cases, e.g. answers to *wh*-questions, the constituent in focus is associated with the assertion operator (ASSERT). As with Rooth's account, Krifka does not distinguish between subtypes of focus.

2.3.3. Erteschik-Shir (1997)

Erteschik-Shir (1997) mentions briefly how the focus operator *only* is represented with respect to focus. Her definition of Focus is taken to be 'the Focus of a sentence S = the (intension of a) constituent c of S which the speaker intends to direct the attention of his/her hearer(s) to, by uttering S'. Focus is a discoursal property which is assigned to a constituent in a context of conversation. Unlike Rooth and others, she makes a distinction between 'plain focus' and 'contrastive focus'. 'Plain focus' is what Erteschik-Shir calls 'Focus' (sometimes 'noncontrastive focus') and is limited to syntactic constituents, e.g. an NP, a VP or the whole S. 'Contrastive focus', on the other hand, may coincide with plain focus, but is not limited to syntactic constituents, as shown by the following example.

(53) He didn't tie his shoelaces, he UNtied them. (= (6), p.12)

Sentence stress is governed by the focus and if a sentence contains both a contrastive and a noncontrastive focus, the former will receive the main sentential stress.

For her treatment of *only*, she postulates another focus type called 'Restrictive Focus' which requires a context-specified set. She claims that what is

presupposed is the existence of a context-specified set which *only* operates on, and what is asserted is only the overt predication. *Only* operates on the following f-structure:⁶ (p.112)

$$(54) \quad [\text{John}]_{\text{TOP}} [\text{ONLY phoned } \left\{ \left\{ [\text{Mary}]_{\text{FOC}} \right\} \right\}]_{\text{FOC}}]_{\text{TOP}}$$

The set consisting of {Mary, everyone else} is the topic of a subordinate f-structure, i.e. we are ‘talking about’ *Mary* and the alternative persons. The focus of this subordinate f-structure is [Mary]_{FOC}, i.e. *Mary* is the focus of this set of alternatives (of which she is a member). *Only* associates with a focus of a subordinate f-structure and eliminates the whole complement set to the focus.

Her account also makes use of the notion of alternatives but the set of alternatives is defined in the f-structure and not introduced by *only* or focus. But she doesn’t say where this set of alternatives comes from. It seems that Erteschik-Shir’s formulation of *only* makes use of her ‘plain focus’ rather than contrastive or restrictive focus, in which case the set of alternatives is defined by the context.

She also recognises the scalar interpretation of *only*, in which case the context defines a scaled set. *Only* limits the range of possibilities to the focused item and everything below it on the scale.

2.4. Additive focus

Additive focus particles are those that have a semantics along the following lines.

(56) contains an example of additive focus particles, *also*.

$$(55) \quad (\exists x) x \neq \beta \alpha(x) \text{ (e.g. English } \textit{also}, \text{ German } \textit{auch}, \text{ Cantonese } \textit{timl})$$

where β is the focus and α the propositional schema.

⁶ Erteschik-Shir argues that f-structure is a grammatical level where topic and focus constituents are marked. It is this level and not LF which provides the input to a semantic rule of Predication and this framework can give an account of quantifier scope, interpretations of wh-in-

(56) John also bought two books

(55) says that for the propositional schema α , e.g. ‘John VP’ in (56), there exists an x , which is **not** the focus β (*bought two books*), that is also true of α , e.g. *visited the British Museum*. So (56) presupposes the truth of other propositions containing at least one alternative of the expression in focus. Alternative Semantics accounts can also be applied to additive focus particles in the sense that the focus operator associates with the focused element and a set of alternatives that correspond to the focus is invoked. Unlike restrictive focus particles, the semantics of additive focus particles dictates that at least one of the alternatives hold true of the predication.

Additive focus particles also have scalar uses and one oft-cited example is the English *even*. *Even* is a classic example of ‘scalar’ particles because a scale of likelihood or pragmatic probability is often induced when it is used. Karttunen & Peters (1979) suggest that *even* conventionally implicates that the focused element is the ‘least likely’ one on a likelihood scale. For example, the use of *even* in (57) gives rise to a conventional implicature that Mary is the least likely person to succeed in climbing the hill.

(57) Even Mary climbed the hill.

While ‘likelihood’ is probably too narrow for the range of these pragmatic scales, it is generally thought that the focused element occupies the lowest point of the scale (cf. Fauconnier 1975).

Kay (1990) develops a scalar model to explain the meaning and use of *even* and suggests that *even* is a scalar operator with direct pragmatic interpretation. He proposes that *even* indicates that the sentence in which it occurs expresses a proposition which is ‘more informative’ or ‘stronger’ than some distinct proposition in the context. A proposition p is ‘more informative’ or ‘stronger’ than a proposition q iff p entails q . Kay’s (1990) proposal does away

with the notion of ‘likelihood’ which is not necessarily associated with the interpretation of *even*.

Iten (2002) provides an inferential account for *even* couched in Sperber & Wilson’s (1986/95) Relevance Theory. *Even* encodes procedural information (Blakemore 1987) and constrains the context in which the utterance containing it is processed. She proposes the following:

- (58) Process S^* in a context in which it is at the extreme end of a scale containing at least one assumption (i.e. fully propositional mental representation) different from S^* in the element in the focus of *even* (S_i), such that the truth of S^* makes manifest or more manifest all assumptions on the scale. (=62), p.151)

S^* is the sentence in which *even* occurs and an assumption is ‘manifest’, according to Sperber & Wilson (1986), when the individual is capable of representing the assumption and accepting it as true or probably true at that time. It is clear that Iten’s (2002) proposal also makes reference to some pragmatic scale, but unlike most previous accounts, it can account for cases where the scale is not of a ‘likelihood’ nature. Furthermore, although her account is seemingly similar to Kay’s (1990), the entailment relationship between propositions suggested in the latter may be too strong in some cases. Relativising the relationship to manifestness can better capture the facts.

2.5. The notion of focus

The discussion of focus particles like *only* and *also* involves focus. So it is worth considering what ‘focus’ is. ‘Focus’ is generally taken as a discourse-related information notion. However, the notion of ‘focus’ and how many types of ‘focus’ there should be have been subject to debate. At the descriptive level, focus is often distinguished into several types, e.g. presentational or information (new vs. old/given information), identificational, contrastive, exhaustive listing, etc. (Cf. Lambrecht 1994, Selkirk 1996, Erteschik-Shir 1997, É. Kiss 1998, Ballantyne

Cohan 2000, Vallduví & Engdahl 1996, Zubizarreta 1998 and many others.) There is also a distinction between broad and narrow focus, which is sometimes treated as a contrast between the size of the focused constituent, but very often the former is identified with information/new (sentence or VP) focus while the latter is identified with contrastive or identificational focus.

Beyond the descriptive level, some researchers maintain multiple types of focus in the grammar (e.g. Lambrecht 1994, Erteschik-Shir 1997, É. Kiss 1998 and Ballantyne Cohan 2000, etc.) and a variety of categories are proposed, e.g. presentational focus, information focus, identificational focus, contrastive focus, narrow focus, wide focus, plain focus, etc. They rest on different assumptions and some of them coincide. (See, for example, Lambrecht (1994) and Vallduví & Engdahl (1996), etc. for more extensive reviews.) Among all these, an influential view is that there ought to be a distinction between *information* focus and *identificational* focus (É. Kiss 1998, Ballantyne Cohan 2000). Information focus is generally agreed to be the part of the answer that corresponds to the information sought in a wh-question, i.e. the non-presupposed part. In the following example, the information focus is the VP.

- (59) A: What did you do this morning?
 B: I [went to the hospital]_F.⁷

Identificational focus, on the other hand, seems to be functionally quite different from information focus and is, to some extent and in certain contexts, equal to contrastive or exhaustive listing focus. É. Kiss's (1998) definition of identificational focus is inherently contrastive and exhaustive but Ballantyne Cohan (2000) gives extensive arguments to argue against this definition. Although she also maintains a distinction between information focus and identificational focus, identificational focus only involves a set of alternatives corresponding to the focused phrase being invoked. Contrastive focus and exhaustive listing focus, though often presented as separate categories, are actually subtypes of identificational focus and the precise interpretation results from

⁷ The notation []_F merely describes the scope of the constituent that is in focus. There is no commitment here to postulating a syntactic [Focus] feature.

interaction with the context where these sentences occur. The following example contains an identificational focus.

(60) I went to the [hospital]_F (not the nursery).

Here, *hospital* is in contrast with *nursery* and is the contrastive or identificational focus of this utterance. I shall adopt the distinction between information focus and identificational focus (É. Kiss's 1998) but subscribe to Ballantyne Cohan's (2000) definition of identificational focus, i.e. a set of alternatives corresponding to the focused element is invoked and contrastivity or exhaustivity is pragmatically derived.

Despite the functional distinctions, Selkirk (1984, 1996), Krifka (1992), Rooth (1985, 1992), Reinhart (1995), Szendrői (2001), among others, posit a single notion of Focus (henceforth Focus) in the grammar in an attempt to unify all these subtypes of focus for reasons of theoretical simplicity. Among these, there are variants with regard to where Focus is encoded. For instance, some postulate that there is a [+Focus] feature in the syntactic representation (Brody 1990, Rizzi 1997, Kayne 1998) which triggers certain syntactic operations, namely focus movement; while some argue against its legitimacy and necessity in syntax – crucially, pragmatic notions such as focus and topic are not lexical and positing a [+Focus] feature in syntax violates the Inclusiveness Condition of Chomsky (1995). See Szendrői (2001) for more elaborate discussions.

The single notion of Focus, though theoretically desirable, cannot be maintained because the different types of focus they try to unify really belong to a heterogeneous class and such an attempt also results in unnecessary complications. I shall summarise some arguments for teasing apart information and identificational focus. Firstly, the two types of focus seem to be very different in nature. As observed by Erteschik-Shir (1997) and many others, contrastive (identificational) focus and non-contrastive (information) focus do not necessarily coincide, which serves as evidence that they ought to be distinguished. Neither contrastivity nor newness of information entails the other and it is possible that identificational focus and information focus co-occur. Besides, contrastive (identificational) focus seems to be free from the restriction of constituency (cf.

Erteschik-Shir 1997, Zubizarreta 1998, etc.), i.e., any sub-constituent can be stressed and marked as contrastive focus, and it may violate metrical stress rules. The example below shows that only the prefix *un-* is in contrast with the null prefix in *tie*.

(61) He didn't tie his shoelaces, he UNtied them. (= Erteschik-Shir's (6))

A third point is that in cases where contrastive focus does not coincide with information focus, it is always the element that is contrastively focused that receives the most prominent stress, as noted by Erteschik-Shir (1997). In studies which make no distinction between different kinds of focus, this phenomenon is often analysed as a case of stress shift (from the normal place of information focus to contrastive focus). What is significant here is that there seem to be unique mappings between phonology and the nature of focus rather than a mere stress *shift*. In fact, apart from prominence, different phonetic correlates for information focus and contrastive focus have been attested. Selkirk (2002) reports that in English, contrastive focus has predominantly the pitch accent L+H* and there is a substantial disjuncture following the contrastively focused verb and an edge tone L- on the right. Presentational (information) focus on the other hand has the pitch accent H* and lacks the final L- edge tone. She gives the following pair of examples as illustration.

(62) We were manipulating the recordings on the Black Cat label.

H*

(63) We have managed to remaster without remanipulating the recordings

L+H* L-

on the Black Cat label.

Acoustic analysis of pitch tracks shows that the verb *manipulating* in (62) lacks both a leading L+ and a following L plateau or target L at its right edge, while the verb *remanipulating* in (63) has these flanking L tones.

Also, in European Portuguese, narrow (contrastive) focus is marked by phrasal prominence which is found to be qualitatively different from neutral (information) focus (Frota 2002). They differ in duration and pitch accent type: in neutral (focus) contour, the low aligns with the stressed syllable and the peak precedes it (H+L*), while in the contrastive focus contour, it is the peak that aligns with the nuclear syllable and the low is realised in the following syllable (H*+L). Such systematic phonetic differences between contrastive/identificational focus and information focus are indicative of a need to differentiate subtypes of focus. In a theory that assumes only one notion of Focus, one can always say that the precise nature of focus is interpreted in the interpretive component, but then if there is such a systematic correspondence between phonology and focus types, it may be worth reconsidering whether it is really theoretically desirable to posit one notion of Focus at the cost of unnecessarily complicating the theory. I illustrate this point with Szendrői's (2001) stress-based approach.

Szendrői's (2001) stress-based approach to focus assumes a unitary notion of Focus. Following Reinhart (1995), she assumes the Stress-focus correspondence principle:

(64) Stress-focus correspondence principle

The focus of a clause is any syntactic constituent that contains the main stress of the intonational phrase corresponding to the clause.

Focus is always marked by prosodic means, by main stress.⁸ In addition to (64), there is also the Anaphoric interpretation principle that is operative.

(65) Anaphoric interpretation principle (following Neeleman & Reinhart 1998:338) (p.15)

Material is discourse-linked if it is unstressed.

⁸ In her fn. 1, Szendrői's (2001) acknowledges that this is not true for languages that have a tonal system, rather than a stress system, nor for languages that employ morphological markers. This seems to suggest that tonal languages necessarily lack a stress system. However, as argued by Duanmu (1995), for example, Mandarin and Shanghainese, being tonal, do have a metrical system. That said, some tonal languages such as Cantonese indeed lack a metrical system (see e.g. Yip 1994) and thus for Cantonese, it is impossible to relate stress to focus as phrasal stress is non-existent. Information focus marking in Cantonese could be achieved by manipulating the word

Focus is also said to be able to ‘project’, i.e. any constituent that contains the main stress can be a possible element of the focus set. For instance, in the example

(66) Mary baked a CAKE.

cake receives main stress and the focus set contains the NP (*a cake*), VP (*baked a cake*) and IP (*Mary baked a cake*), but not the subject *Mary*. If the subject is intended to be the information focus, then it has to receive stress instead, as in (67).

(67) MARY baked a cake.

Exploiting the stress-based approach, Neeleman & Szendrői (2003) attempt to account for the following puzzling ‘multiple foci’ example (their example (1)):

(68) Father: What happened?
 Mother: You know how I think our children should read decent books. Well, when I came home, rather than doing his homework,
 [_{IP} Johnny was [_{VP} reading [_{DP} SUPERMAN] to some kid]].

The task here is to explain why only *Superman* receives main stress. Assuming stress-focus correspondence and a unitary notion of Focus, they further propose two economy conditions (their (11a,b)):

- (69) (a) Minimise the number of prosodic peaks (given the targeted interpretation).
 (b) Minimise stress shifts (given the number of prosodic peaks).

The explanation for (68) goes like this. The DP *Superman* is not in the focus set if the indirect object *some kid* receives main stress, which it usually does by virtue of the Nuclear Stress Rule (cf. Cinque 1993). In order to put (contrastive) focus on *Superman*, it must receive stress. This does not, though, violate economy because there is no other way to achieve the intended interpretation. By the two economy conditions in (69), the stress on the indirect object dictated by the Nuclear Stress Rule becomes secondary because it is better to have one shifted main stress than to have one shifted main stress and one main stress given by the Nuclear Stress Rule, on the assumption that shifted main stress allows focus projection.

(68) is in minimal contrast with the following example.

- (70) You know how I want our children to read decent books and how I think it is important that Johnny plays with kids his own age. Well, when I came home, rather than doing his homework, [_{IP} Johnny was [_{VP} reading [_{DP} SUPERMAN] to [_{DP} some SIXTEEN-YEAR-OLD]]]. (= (12))

The crucial difference between (68) and (70) is that in (70) the indirect object *some sixteen-year-old* also receives main stress along with *Superman*. Why should this be? The reason they give is that ‘secondary stress cannot support focus’. When stress is shifted to *Superman*, the object carries secondary stress, but it is ‘not sufficient enough’ if the object is also *contrastively* focused, in which case, the object must bear main stress as well.

Recall that this stress-based theory rests on the assumption that there is one unitary notion of Focus which includes all subtypes of focus. Here we seem to find a case that undermines this assumption. Why is it the case that secondary stress can ‘support’ *information* focus, as in (68) where *some kid* is part of the new information, but cannot ‘support’ *contrastive* focus, as in (70) where *sixteen-year-old* is in contrast with *kids his own age*? In fact, similar data all involve contrastive focus only. Here is another example given by Neeleman & Szendrői (2003):

- (71) We have a problem because people don’t agree. JOHN wants to rent a VIDEO, but PETER wants to go to the MOVIES. (= (7))

The objects *video* and *movies* receive main stress along with the subjects *John* and *Peter* precisely because they are in contrastive focus; otherwise, they would receive secondary stress, being part of the information focus.

The problem here is that although at the outset Neeleman & Szendrői (2003) assume only one notion of Focus to include both information and contrastive focus, when discussing cases of multiple foci, they inevitably make reference to the different behaviours of information focus and contrastive focus. As the unitary notion of Focus assumption has to be maintained, some additional economy conditions such as those in (69) and stipulations like ‘secondary stress cannot support focus’ need to be stated to account for the data.

We have seen that the unitary nature of Focus is actually more apparent than real. The intended theoretical elegance is undermined by unnecessary complications. Perhaps if we abandon the unitary notion of Focus assumption, things will be simpler. With regard to the ‘superman sentences’ in (68) and (70), the data can be explained in a more straightforward way if we distinguish information focus from contrastive focus and assume that the stress corresponding to the different types of focus is generated by different rules (cf. Zubizarreta 1998, for example). *Superman* in (68) is in contrastive focus and its most prominent stress is not assigned by the metrical stress rule, but by a contrastive stress assignment operation in the phonological component, which simply assigns (the greatest) prominence to a contrastively focused element. The resulting phonological structure with a marked stress on *Superman* is interpreted by the conceptual-intentional system as being in contrast with some relevant alternatives. Contrastive stress is always the most prominent and therefore the stress on *some kid* in (68), which is generated by the metrical stress rule and is not in contrastive focus, is relatively secondary. This does away with the odd stipulation that ‘secondary stress cannot support focus’. *Sixteen-year-old* in (70), on the other hand, is in contrastive focus and its stress is assigned by the contrastive stress assignment rule. Thus, its prominence is equal to that of *Superman*, which is also in contrastive focus. As there is no limit to how many contrastive foci can be assigned, it is no surprise to find that more than one contrastively focused element receives the ‘greatest prominence’; indeed, it is necessary. There is also no need

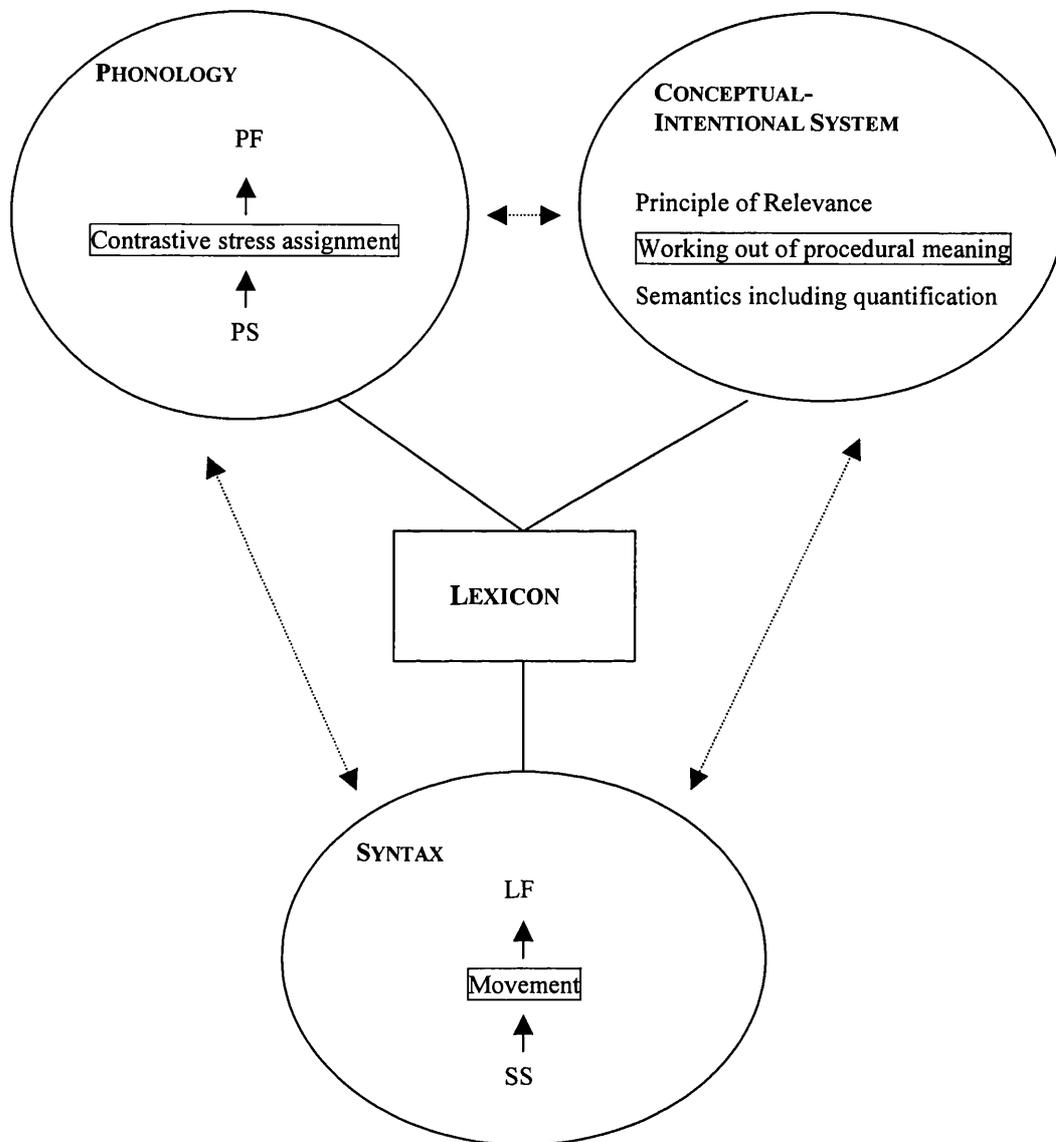
to state any economy conditions for minimising prosodic peaks. Moreover, it follows that the so-called ‘marked’ stress never corresponds to information focus because the stress assignment for information focus strictly obeys the Nuclear Stress Rule. The contrastive stress assignment operation is relatively free, in the sense that any element in a sentence can be applied the greatest prominence.

So it may be best to distinguish information focus from identificational focus. In the next section, we shall see more advantages with reference to focus operators.

2.6. Association with identificational focus

Having reviewed the potential undesirability of a unitary notion of Focus, I would like to argue that the distinction between information focus and identificational focus should be encoded in the grammar, and that different sets of principles are required to describe them. The architecture of the language faculty that I adopt here is represented in Figure 1.

Figure 1 Architecture of the language faculty



Following Szendrői's (2001), the architecture here assumes communication between the phonological component and the conceptual-intentional (C-I) system (cf. Jackendoff 1997), and between (narrow) syntax and the C-I system.

This architecture enables us to arrive at the interpretation of identificational focus in a natural way and also account for the employment of some focus-marking devices, e.g. stress. To recapitulate, I take the interpretation of

identificational focus to mean the invocation of a set of alternatives corresponding to the focused element. This is a cognitive effect offset by the extra effort in processing marked surface manifestations, e.g. extra prosodic prominence and marked word order, in consistency with the communicative principle of relevance (Sperber & Wilson 1986/95, Wilson & Sperber 2002). Markedness is intended in the sense of the classical notion of Trubetzkoy and Jakobson. I assume there exists an unmarked word order in all languages, similar to Lambrecht's (1994) 'pragmatically unmarked constituent order' in spirit. For English and Cantonese, the unmarked word order is SVO. Marked word order can be the result of different syntactic operations, such as fronting in English and Right Dislocation in Cantonese (which will be elaborated later in Chapter 4), applied to syntactic structures (SS). Whether such displacement operations occur before or after Spell-Out is irrelevant because in either case, the linearised order of the phonetic form (PF) is marked. Assuming communication between the phonological component and the C-I system allows us to relate PF to markedness and inferential processes in the C-I system.

The same can be said of the identificational/contrastive stress assignment operation in the phonological component. This operation applies the most prominent stress to some element in a phonological structure (PS) (cf. Chomsky 1971, Jackendoff 1972, Zubizarreta 1998). The resulting PF is interpreted by the C-I system as marked. Again, in consistency with the communicative principle of relevance, such extra processing efforts are offset by extra cognitive effects, namely a set of alternatives is invoked and contrastivity is often obtained as a result. Like the displacement operations in the syntactic component, this phonological operation is again motivated by interpretation needs. Note that this operation is not limited to stress languages like English. Cantonese, a non-stress language, nonetheless makes use of stress to mark identificational focus. This can be seen as an advantage of formulating identificational focus this way, as this can capture cross-linguistic observations. Prosodic prominence is probably a universal means to mark identificational (contrastive) focus, no matter whether a language has phrasal stress or not.

In line with Ballantyne Cohan (2000), I suggest that focus operators such as *only* associate with *identificational* focus rather than other kinds of focus. By

restricting to identificational focus the notion of focus with which *only* is associated, certain challenges widely discussed in the literature can be explained. In their discussion, Beaver & Clark (2003) have found that *only* cannot associate with gaps, ‘leaners’/weak pronouns and elements that have been moved. Here are some examples:

- (72) What do you think Kim *only* gives his mother? (=53)
 (a) * ‘What is the thing such that Kim gives that thing and nothing else to his mother?’
 (b) ‘What do you think Kim gives his mother and no-one else?’
- (73) I *only* discussed’im with Sandy (=44)
 ‘I *only* discussed Fred (and no-one else) with Sandy.’

This fact has also been observed by Aoun & Li (1993) and others. Beaver & Clark (2003) notice that these empty or light elements do not receive intonational prominence and therefore conclude that ‘the lack of [intonational] prominence of an element is sufficient to prevent *only* from associating with that element’ and ‘all those effects provide pointers to’ the theme ‘that *only* is directly sensitive to intonational prominence in its syntactic scope’ (342). While Beaver & Clark have stressed this important fact about association of *only* with focus and intonational prominence, the characterisation that ‘the lack of prominence prevents association’ seems to be a bit convoluted. Perhaps we can view the notion of focus that is associated with a focus operator like *only* from another angle. That is to say, it is not a syntactic feature or a marking in the f-structure to a constituent, to which stress/prominence is applied, but a discorsal notion entering into pragmatic relations with other elements that results from some focus-marking devices. In such a sense, these facts can be explained in a positive way. In the present account, a prosodically prominent element is an identificational focus and by hypothesis *only* is associated with it, as long as it is in its c-command domain. This entails that gaps or weak pronouns can never be associated with *only* because light elements are by definition unstressed and it is simply impossible to put stress

on phonologically null elements. So the impossibility of focusing gaps falls out naturally.

Beaver & Clark (2003) also discuss a type of extraction involving bare relatives which supposedly illustrates the fact that *only* cannot associate with an extracted element. The example they give is

(74) Kim's is **THE TANK** I said I only stock with clownfish. (=48)

where *the tank* is stressed. This sentence cannot mean 'I said I stock Kim's and no other tank with clownfish' and the lack of this reading supports their claim that *only* cannot associate with an extracted element. However, while I agree with the judgement, the reason is not that *only* cannot associate with a gap. Consider the same sentence with the most prominent stress on *Kim's* instead of *the tank*. So, we have

(75) **KIM'S** is the tank I said I only stock with clownfish.

Here, (75) can express the meaning 'I said I stock Kim's and no other tank with clownfish'. However, Beaver & Clark would predict otherwise because *Kim's*, as with *the tank*, is also extracted in this case. More naturally, if we rephrase this example with a cleft, we have

(76) It was **KIM'S TANK** that I said I only stock with clownfish.

The same reading is also available, even though *Kim's tank* is extracted. Beaver & Clark would again wrongly predict that the interpretation is unavailable. But if *only* associates with the element that is in identificational focus, and in this case it is clefting that marks the focused constituent, then it is predicted that in (76), *only* can and must associate with *Kim's tank*, even if it is extracted.

So Beaver & Clark's (2003) conception that 'the lack of prominence prevents association', and extracted materials cannot be associated, only presents part of the story. The crucial thing is that the lack of identificational focus would render association of the focus operator undetermined. Beaver & Clark's example

(74) is a non-argument because the head noun of the relative (*the tank*) is not in contrast with anything; *Kim's* is in contrast with other tanks, but not *the tank*.

The so-called 'second occurrence focus' poses a problem for theories of focus. The example below (see (46) above) is due to Partee (1991) who first observed this phenomenon:

- (77) A: Eva *only* gave xerox copies to [the graduate students]_F.
 B: (No,) [Petr]_F *only* gave xerox copies to [the graduate students]_{SOF}.
 (Partee 1991:31)

The problem is that in B's utterance, *only* still associates with *the graduate students*, which occurs a second time, even if the most prominent stress now falls on *Petr*, which is not associated with *only*. So the challenge is to explain why in these cases *only* does not associate with the 'focus' (*Petr*). Beaver & Clark (2003) mention that it is empirically inaccurate to say that *the graduate students* lacks prosodic prominence. But I think the flaw in all the discussions on second occurrence focus lies in the wrong assumption that *only* must associate with the element bearing the most prominent stress while the syntactic property of *only* is blatantly ignored. In this particular example, *Petr*, even if it bears the most prominent stress, cannot be associated with the operator simply because it does not fall in the c-command domain of *only*, and the stress is to mark the fact that *Petr* is in contrastive focus with *Eva*.

Tancredi (1990) proposes the Principle of Lexical Association (PLA), which states that an operator like *only* must associate with a lexical constituent in its c-command domain, to account for facts like (78) and (79).

- (78) *This tie, Fred *only* bought *t*
 (79) *What did he *only* buy?

Sentences involving wh-in-situ, however, are acceptable because the PLA is obeyed.

- (80) Who *only* likes what?

(81) keoi zinghai maai zo matje? (Cantonese)

s/he only buy ASP what

‘What did s/he only buy?’

(82) ta zhi xihuan shei? (Mandarin)

s/he only like who

‘Who does s/he only like?’

Aoun and Li (1993) provide further evidence to argue that the PLA has to hold at LF. They observe that when *only* occurs with a QP, wh-in-situ element, or in antecedent-contained deletion, no ambiguity is detected which is otherwise found in the minimal pairs where *only* is absent. Aoun and Li claim that the unavailability of one of the interpretations is due to violation of the PLA at LF. Essentially, the PLA bars certain in-situ elements from raising at LF. Furthermore, they reformulate Tancredi’s PLA as follows:

(83) The closest element associated with *only* must be a lexical constituent. A is closer to B than C if A c-commands B and B c-commands C. (229)

The reformulation is supposed to explain the impossibility of co-reference of *John* and *he* in the following.

(84) *John_i only seems *t_i* to think he_i is the best. (= Aoun and Li’s (94))

However, I think the sentence is actually unacceptable for pragmatic reasons. If it is modified as follows and the pronoun *he* is stressed, the sentence is perfectly fine and *only* can and must associate with *he*.

(85) John_i only seems *t_i* to think **HE_i** is a good linguist.

I believe it serves as a counterexample to whichever version of the PLA is chosen. Under the assumptions adopted here, when *he* is stressed, it is interpreted as the identificational focus and in this case, it is also in the c-command domain of *only*.

So *only* is expected to be able to associate with *he*, as evidenced in this example. If one subscribes to this idea of focus, it is redundant to stipulate such a rule as the PLA because the essential ingredients for identification of focus are phonological.

Other counterexamples to the PLA can be found in Cantonese Right Dislocation (RD) structures. Below is an example with the adverb *zinghai* ('only').

- (86) *zukkau lo1 Billy zinghai zungji tai t*
 football SFP Billy only like watch
 'Billy only likes to watch football (not cricket).'

Assuming that *zukkau lo1* ('football' SFP) undergoes leftward movement, the PLA would predict that the focus operator *zinghai* ('only') should not be able to associate with *zukkau* ('football'), as it leaves a trace in the c-command domain of *zinghai* ('only'). However, the prediction is wrong, and not only that, it is actually obligatory for *zinghai* ('only') to associate with the displaced element *zukkau* ('football'). As will be argued in Chapter 4, the Right Dislocation operation marks the fronted phrase *zukkau* ('football') as the identificational focus. So it is predicted that the focus operator *zinghai* ('only') must associate with it. In sum, if we adopt the idea that focus operators associate identificational focus, the PLA is not really necessary.

2.7. Summary

In this chapter, previous studies on Cantonese sentence-final particles and two focus SFPs *zaa3* ('only') and *tim1* ('also') in particular have been reviewed. I have also summarised several analyses of the focus operator *only* and argued against one single notion of Focus. Information focus and identificational focus should be distinguished and the latter can be marked by phonological and syntactic means. Focus operators like the English *only* and Cantonese *zinghai* ('only') and *zaa3* ('only') are claimed to associate with identificational focus. In the next chapter, I shall discuss the syntax of sentence-final particles.

CHAPTER 3 SYNTAX OF SENTENCE-FINAL PARTICLES

This chapter deals with the syntax of Cantonese sentence-final particles. As there is not much work done on this topic, I shall first propose an account for all sentence-final particles occurring in the CP domain and examine several linguistic properties in section 3.1, and then discuss the two focus particles *zaa3* ('only') and *tim1* ('also') in section 3.2.

3.1. Sentence-final particles in the CP domain

It has been observed that Cantonese sentence-final particles follow certain surface orders when they occur in a cluster. There is reason to believe that there are different syntactic positions for different SFPs. A multi-position analysis is not new, e.g. S. Law (1990) and S. Tang (1998), and in general most sentence-final particles are said to occur in some C position.

I shall concentrate on SFPs occurring in the CP domain and, adopting Rizzi's (1997) split-CP framework, propose two structural positions for SFPs in the C space: one in the Force head (SFP₁) and the other lower than the higher Topic (SFP₂). This should capture facts about the distributions of SFPs, their co-occurrence and ordering restrictions, scope properties and behaviours in different types of questions.

3.1.1. Proposal

Along the lines of Rizzi's (1997) split-CP system, I propose two positions for Cantonese sentence-final particles in the C space: SFP₁ and SFP₂. SFP₁ is base-generated in the Force head and SFP₂ is a head lower than the higher Topic. I shall also briefly consider an analysis that excludes the particle *tim1* ('also') from the set of SFPs occurring in the CP domain, and the implications of alternating

between head-initial and head-final structures. The CP domain of Cantonese that I argue for is represented schematically below.

(1) Force[SFP₁] Topic SFP₂* Focus Topic ...

Since there is one unique Force head, only one SFP₁ is generated in each clause. SFP₂ is an iterative head, as indicated by the asterisk. The two classes of SFPs are differentiated by the feature [Q]: SFP₁ can be either [+Q] or [-Q] while SFP₂ lacks the [Q] feature. SFP₁ are typically those that encode speech acts, speaker-oriented modality and epistemic knowledge.¹ The [+Q] subclass includes the question particles *aa4*, *maa3* and *me1*. The [-Q] SFP₁s are the following: *aalmaa3* (reminder), *aa3* (softener), *bo3* (reminder), *gwaa3* ('probably'), *laa1* (lack of definiteness), *le1/ne1* (tentative), *lo1* (obviousness), *lo3* (irrevocability), *lo4* (irrevocability), *lok3* (irrevocability), *wo3* (reminder), *wo4* (surprise), *wo5* (hearsay), *ze1* (downplay) and *zek1* (intimate). SFP₂ is a relatively small class which includes the two focus particles *zaa3* ('only') and *tim1* ('also') and the inchoative particle *laa3*.

Four particles, *ge3* (nominaliser), *lei4* (recent past/verbaliser), *sin1* ('first') and *zyu6* (temporary) are excluded from the CP domain for various reasons. As argued in Lee and Yiu (1998a, 1998b, 1999), the particles *ge3* and *lei4* are termed 'nominaliser' and 'verbaliser' respectively and seem to be much closer to the VP. S. Law (1990) also posits that *ge3* sits in the C position within the NP. So, the two particles most probably do not occur in the C space.^{2,3} With regard to the other two particles, *sin1* and *zyu6*, I have reservations about classifying them as SFPs. Previous studies do not seem to agree on their status. *Sin1* is included in H.

¹ This is in accord with Mui and Chao's (1999) analysis of Cantonese adverbs. In their proposal, speech acts and speaker-oriented adverbs are subcategories of the supercategory ForceP. Cinque (1999) though does not identify his Mood⁰_{speech act} with Rizzi's Force⁰.

² S. Tang (1998) suggests that *lei4* and *zaa3* occupy the same position (the T head) and therefore cannot co-occur. However, I disagree with his judgement of the sequence *lei4 zaa3* (p.48) which is ungrammatical to him but perfect to me and my informants. Our judgements on the reverse order **zaa3 lei4* do converge, though. From this, I conclude that the two particles probably occupy different positions and *lei4* must be in an inner position.

³ The particle *ge3* (nominaliser) always precedes SFP₁ and SFP₂, e.g. *ge3 zaa3*, *ge3 bo3* and *ge3 zaa3 bo3*. The only exception is *tim1 ge3* where *tim1* ('also') as an SFP₂ can precede *ge3*, but it can also follow *ge3*, as one would expect. As will be discussed later, there are lots of disagreements as to judgements about *tim1* ('also') and taking into consideration other evidence to

Cheung (1972), T. Cheng (1990), Leung (1992) and Matthews and Yip (1994) but not Kwok (1984). *Zyu6* is perhaps even more controversial: it is only discussed in H. Cheung (1972) and Leung (1992) but not Kwok (1984) and Matthews and Yip (1994). Their status aside, these two particles are likely to be within the VP as well and hence not in the C space.

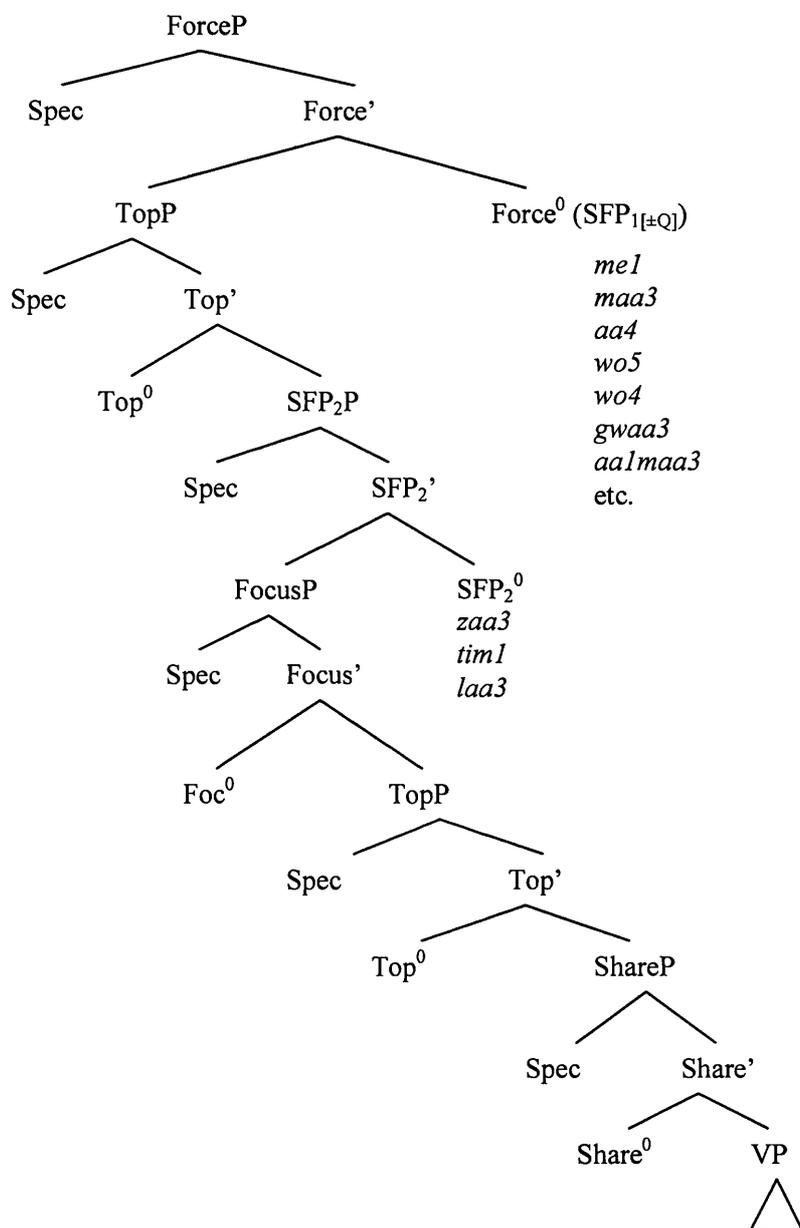
Table 1 shows the sentence-final particles in the CP domain. For the sake of convenience, SFP₁ is put in the second column because when SFP₁ and SFP₂ co-occur, SFP₁ ([±Q]) follows SFP₂, i.e. the former is always at the right edge of a sentence. Incorporating Chao and Mui's (2000) Cantonese clausal structure and Beghelli and Stowell's (1997) proposal for the syntax of quantifier scope, (2) is the proposed structure of the Cantonese CP domain. (Only relevant projections are shown.)

be presented later, I shall disregard this particular exception and maintain that *ge3* falls outside the CP domain.

Table 1 Cantonese sentence-final particles in CP

SFP ₂ *	SFP ₁ [±Q]
<i>zaa3</i> ('only')	<i>aa4</i>
<i>tim1</i> ('also/even')	<i>maa3</i> [+Q]
<i>laa3</i> (inchoative)	<i>me1</i>
	<i>aa3</i> (softener)
	<i>aa1maa3</i> (reminder)
	<i>bo3</i> (reminder)
	<i>gwaa3</i> ('probably')
	<i>laa1</i> (lack of definiteness)
	<i>le1/ne1</i> (tentative)
	<i>lo1</i> (obviousness)
	<i>lo3</i> (irrevocability) [-Q]
	<i>lo4</i> (irrevocability)
	<i>lok3</i> (irrevocability)
	<i>wo3</i> (reminder)
	<i>wo4</i> (surprise)
	<i>wo5</i> (hearsay)
	<i>ze1</i> (downplay)
	<i>zek1</i> (intimate)

- (2) Structure of the Cantonese CP domain (cf. Beghelli and Stowell 1997, Rizzi 1997, Chao and Mui 2000)

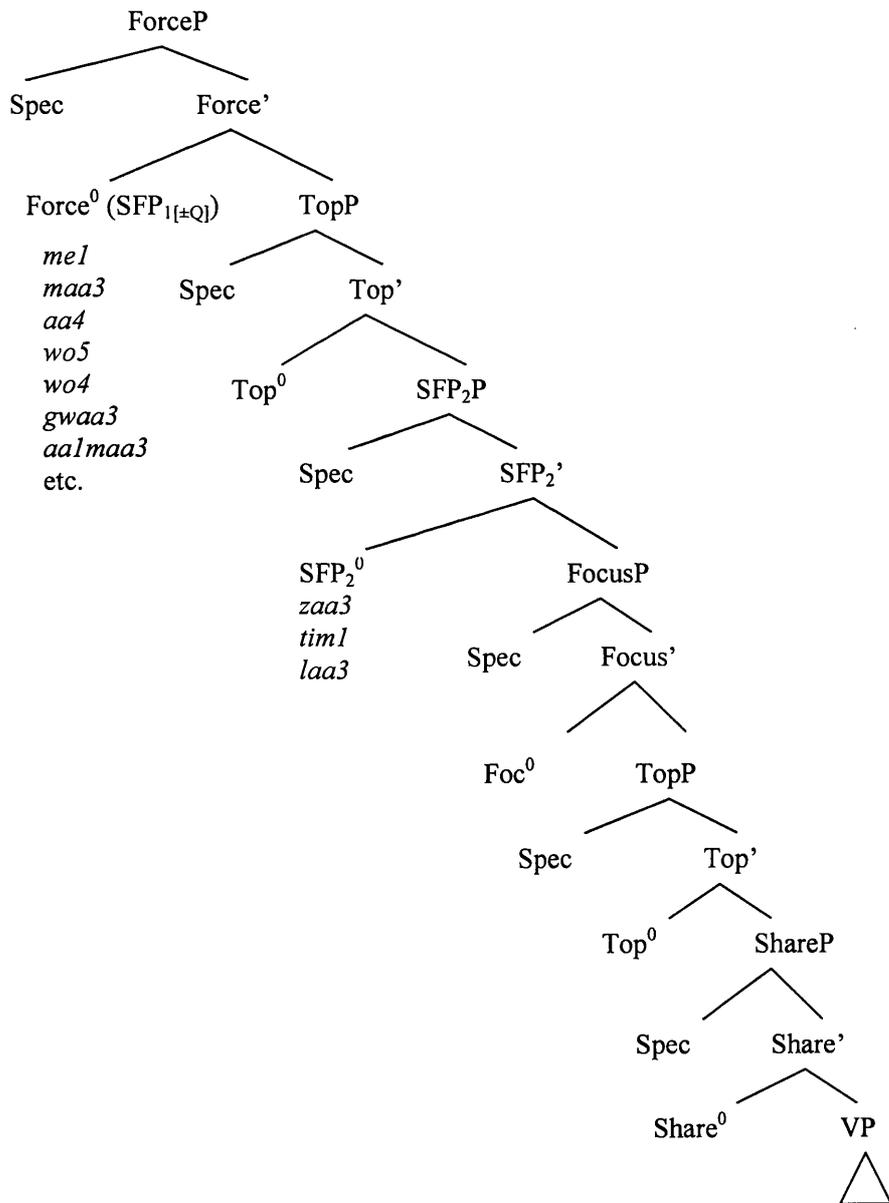


3.1.2. Head-initial vs. head-final

The proposal in (2) assumes that the sentence-final particles are head-final. One obvious advantage is that it straightforwardly captures the canonical position of

sentence-final particles, i.e. they typically show up at the end of a sentence. However, as we can see in (2), the phrase structure contains mixed head directions and it may be theoretically inelegant and potentially pose learnability problem. An alternative is to posit a uniformly head-initial structure, conforming to Kayne's (1994) Linear Correspondence Axiom (LCA), as illustrated in (3).

(3) Structure of the Cantonese CP domain: a head-initial alternative



To derive the correct surface order of sentence-final particles, one has to posit some mechanisms of movement. One approach is to stipulate that the materials under TopP move to [Spec,ForceP], resulting in SFP₁ appearing at the end of the sentence, and a possible motivation for such movement is feature checking. It is not transparent what the feature could be and for the moment I suggest that the Force head carries a feature [X] which has to be checked by movement of an XP to [Spec,ForceP]. The following example is an illustration. The Topic phrase *camjat ngo daa zo loeng go dinwaa* ('yesterday I made two phone calls') moves to [Spec,ForceP] resulting in a position immediately preceding the SFP *wo3*.

- (4) [_{ForceP} [*camjat ngo daa zo loeng go dinwaa*]_i [_{Force/SFP1} *wo3* [_{TopP} *t_i*]]]
 yesterday I hit ASP two CL phone SFP
 'Yesterday, I made two phone calls.'

When an SFP₁ and SFP₂ co-occur, an additional movement of the SFP₂ head has to take place to adjoin it to the SFP₁ head before the movement of TopP. Consider the following example (5).

- (5) [_{ForceP} [*camjat ngo daa zo loeng go dinwaa*]_i [_{Force/SFP1} *zaa3_j-wo3* [_{TopP} *t_i* [_{SFP2} *t_j*]]]]
 yesterday I hit ASP two CL phone SFP-SFP
 'Yesterday, I only made two phone calls.'

The mechanism of derivation can be one similar to that suggested by S. Tang (1998); however, the positions of the sentence-final particles that I propose here are different from his. To recapitulate S. Tang's (1998) proposal, he assumes that *zaa3* ('only') is 'morphologically rich' and is said to be assigned the 'inflectional affix feature' when it enters the numeration. Being generated in the T head, *zaa3* ('only') undergoes T-to-C movement in the phonological component triggered by the affix feature [-T] of C. Then the feature [-TP] of C triggers the TP remnant movement. The fact that the two movements move in the same component, i.e. either in the phonological component or in overt syntax, is ensured by the assumption that if the affix feature [-X^{MIN}] of a head H is an inflectional affix feature, then the affix feature [-X^{MAX}] of H must be an inflectional affix feature,

and if the affix feature $[-X^{\text{MIN}}]$ of H is a phonological affix features, then the affix feature $[-X^{\text{MAX}}]$ of H must not be an inflectional affix feature (S. Tang 1998:54). If we assume the structure in (3), then we probably need to stipulate, just as S. Tang (1998) does, another feature, say [Y], in the Force head to motivate the head-to-head movement of SFP_2 to the Force head.

Note that when an SFP_1 and SFP_2 co-occur, the head-to-head movement of SFP_2 must take place prior to the movement of the Topic phrase motivated by the feature [X]. Otherwise, the correct order as in (5) cannot be obtained and ungrammaticality results. So, if the Topic phrase moves to [Spec,ForceP] while the SFP_2 still remains in its position, the ungrammatical structure in (6) would be formed and SFP_2 would have to lower to the Force head, which is prohibited because the trace of the head of SFP_2 would not be c-commanded by its antecedent.

- (6) * $[_{\text{ForceP}} [\text{camjat zaa3 ngo daa zo loeng go dinwaa}]_i [_{\text{Force/SFP}_1} \text{wo3 } [_{\text{TopP}} t_i]]]$
 yesterday SFP I hit ASP two CL phone SFP

The advantage of an antisymmetric structure (3) over a head-final structure (2) is that it can apparently account for the fact that in the Right Dislocation construction, the sentence-final particle appears immediately after the focused constituent, deviating from its canonical sentence-final position. (Details of Right Dislocation will be discussed in Chapter 4 section 4.2.) In such a case, we could say that the focused XP, instead of the whole TopP, moves first to [Spec,FocusP] and then successively to [Spec,ForceP] by the same mechanism as described above to check the feature [X]. The focused phrase XP would then appear in the sentence-initial position immediately before the SFP, while the rest of the sentence would be left behind, resulting in the right order of a Right Dislocation structure. Although this seemingly solves the long-standing problem of how the sentence-final particle gets to the sentence-medial position, it leaves unexplained why it has to be the focused phrase that gets moved to [Spec,ForceP] via [Spec,FocusP]. If any XP can suffice to check the feature [X] in the Force head, nothing prevents the possibility that other XP's, for instance, the Topic phrase, move to [Spec,ForceP]. This unfortunately would not derive the correct surface order of the Right

Dislocation construction because the sentence-final particle would now show up at the end of the sentence, as in the canonical case. Consider the following example.

- (7) zukkau lo1 Billy zinghai zungji tai
 football SFP Billy only like watch
 ‘It is obvious that Billy only likes to watch football (not cricket).’

(7) is a legitimate Right Dislocation structure. If it is the focused phrase *zukkau* (‘football’) that gets moved to [Spec,ForceP] (via [Spec,FocusP]) to check the feature [X], then we obtain the following structure and the correct surface order.

- (8) [_{ForceP} [zukkau]_i] [_{lo1} [_{TopP} [_{FocP} *t_i*] [_{IP} Billy zinghai zungji tai *t_i*]]]
 football SFP Billy only like watch
 ‘It is obvious that Billy only likes to watch football (not cricket).’

However, another XP such as TopP can also potentially be the constituent that moves to [Spec,ForceP] to check the feature [X], in which case, the following structure would result instead.

- (9) [_{ForceP} [[zukkau]_i] [_{Billy zinghai zungji tai *t_i*]}]_j [_{lo1} [_{TopP} *t_j*]]]
 football Billy only like watch SFP
 ‘As for football, Billy only likes to watch (not play).’

Unfortunately, example (9), although grammatical, does not have the same construal as that of the Right Dislocation construction in (7): *zukkau* (‘football’) here can only be interpreted as the topic, and the focus operator *zinghai* (‘only’) cannot take scope over it, as illustrated in the translation. In other words, the head-initial structure can only solve the sentence-final particle problem at the cost of stipulating yet another *ad hoc* rule, i.e. it is obligatory for the focused phrase to move to [Spec,ForceP] through [Spec,FocusP]. Accordingly, I maintain the analysis in (2) rather than the alternative in (3).

3.1.3. Co-occurrence restrictions and ordering of SFP clusters

It is well known that Cantonese SFPs can co-occur to form clusters at the end of sentences. There can be two or even three SFPs co-occurring. However, SFPs are not completely free to co-occur or co-occur in any order (cf. e.g. H. Cheung 1972, S. Law 1990, Leung 1992, Matthews and Yip 1994). Examples (10) to (14) show some well-formed SFP clusters.

- (10) *nei heoi zo Baalai zaa3 me1?*
 you go ASP Paris SFP SFP
 ‘Did you only go to Paris?’
- (11) *keoi zung heoi zo Baalai tim1 gwaa3*
 s/he also go ASP Paris SFP SFP
 ‘S/he probably also went to Paris.’
- (12) *keoi zung heoi zo Baalai tim1 zaa3*
 s/he also go ASP Paris SFP SFP
 ‘S/he only also went to Paris.’
- (13) *keoi tai jyun bun syu tim1 laa3*
 s/he read finish CL book SFP SFP
 ‘S/he has also finished the book.’
- (14) *keoi zung heoi zo Baalai tim1 zaa3 me1?*
 s/he also go ASP Paris SFP SFP SFP
 ‘Did s/he only also go to Paris?’

The configuration in (1) predicts that particles from the SFP₁ class should be able to co-occur with those from the SFP₂ class. This is indeed true, as seen from examples (10) and (11) in which *zaa3* and *tim1* are SFP_{2s} while *me1* and *gwaa3* are SFP_{1s}. The SFP₂ head can iterate; hence, two SFP_{2s} can be generated, as shown by the cluster *tim1 zaa3* in (12) and *tim1 laa3* in (13) where *tim1*, *zaa3* and

laa3 are all SFP₂s. Three-particle clusters are well-formed as long as there is only one SFP₁ (if any) in the sequence. So *tim1 zaa3 me1* in (14) is a possible cluster.

In contrast to (10) and (11), the following particle clusters with the order reversed are ill-formed.

(15) **nei heoi zo Baalai me1 zaa3*
 you go ASP Paris SFP SFP

(16) **keoi zung heoi zo Baalai gwaa3 tim1*
 s/he also go ASP Paris SFP SFP

It is impossible to reshuffle the sequence *tim1 zaa3 me1* in (14) freely too. So the order *me1 tim1 zaa3*, as in the following example, is ill-formed.

(17) **keoi zung heoi zo Baalai me1 tim1 zaa3?*
 s/he also go ASP Paris SFP SFP SFP

As SFP₁ is structurally higher than SFP₂ and irrespective of whether we adopt a head-initial or head-final structure, SFP₁ necessarily follows SFP₂. Thus, examples (15), (16) and (17) are ungrammatical because the SFP₁s *gwaa3* and *me1* precede the SFP₂s *tim1* and *zaa3*.

There are some particles which cannot co-occur at all, in whatever order. For instance, two (or more) question particles cannot co-occur.

(18) **nei heoi zo Baalai aa4 me1?*
 you go ASP Paris SFP SFP

(19) **nei heoi zo Baalai me1 aa4?*
 you go ASP Paris SFP SFP

(20) to (23) are some more examples of SFP₁s that cannot co-occur.

- (20) *nei heoi zo Baalai mel gwaa3
 you go ASP Paris SFP SFP
- (21) *nei heoi zo Baalai gwaa3 mel
 you go ASP Paris SFP SFP
- (22) *nei heoi zo Baalai aa1maa3 gwaa3
 you go ASP Paris SFP SFP
- (23) *nei heoi zo Baalai gwaa3 aa1maa3
 you go ASP Paris SFP SFP

The ungrammaticality of (18) – (23) can be explained by the fact that no combination of SFPs from the SFP₁ class, whether they are [+Q] or [-Q], is possible in any order because the Force head is unique.⁴

So far the co-occurrence and ordering restrictions have been shown to follow from the relative structural positions of SFP₁ and SFP₂. However, there seem to be exceptions. Below are two examples.

- (24) *keoi tai jyun bun syu zaa3 laa3 / laa3 zaa3
 s/he read finish CL book SFP SFP SFP SFP
- (25) *keoi tai jyun bun syu laa3 le1
 s/he read finish CL book SFP SFP

The sequences *zaa3 laa3* and *laa3 zaa3* in example (24) are not well-formed but we have seen that *tim1 laa3* in example (13) is fine. All three particles *zaa3*, *laa3* and *tim1* are SFP₂s, so they should in theory be able to co-occur. In example (25), the sequence *laa3 le1* is not good either, though *laa3* is an SFP₂ and *le1* is an SFP₁ and this cluster should be syntactically legitimate. I shall offer a speculation here. Cases of phonologically identical adjacent morphemes have been observed in

⁴ S. Law (1990) in her Appendix II includes the particle sequence *lo3 mel*, which is acceptable to her but unacceptable to my ear. Both *lo3* (irrevocability) and *mel* (question particle) are SFP₁s in my analysis, so it is not considered a counterexample.

Mandarin and Cantonese and are argued to be a violation of the Obligatory Contour Principle (OCP) or the *REPEAT constraint (Yip 1998, S. Tang 2000). The ill-formedness of *zaa3 laa3* or *laa3 zaa3* in example (24) could be due to a ban on the adjacent identical vowel 'aa' in the vowel tier, whereas example (25) is unacceptable because there is a ban on the adjacent identical consonants 'l' in the consonant tier. This is an extension of the previously observed facts about identity avoidance in Cantonese in the sense that the OCP or *REPEAT constraint has to be obeyed not only at the morphemic level but also at the level of autosegmental tiers. There are also other similar SFP sequences that share the same vowel and are syntactically well-formed but sound very odd, e.g. *zaa3 maa3*, *zaa3 gwaa3*, *zaa3 laa1*, *laa3 maa3*, *laa3 gwaa3* and *laa3 laa1*. As noted in S. Tang (2000), omission or haplology is a possible remedy of violations of the OCP or *REPEAT constraint in sentence-final particle sequences. Although he only deals with cases of adjacent identical particles, I suggest that haplology is also responsible for avoiding identical segments on the vowel tier. For example, the particle sequence *zaa3 + aa4* is actually phonetically realised as the monosyllabic 'zaa4', in which case the vowel and tone of the first particle *zaa3* are omitted. However, such omission is only possible when the second SFP begins with a zero consonant because, in the case of *zaa3 laa3* or *laa3 zaa3*, for instance, when the vowel of the first SFP is omitted, the resulting consonant clusters 'zl' and 'lz' are not phonologically well-formed in the language. Another strategy is to modify the quality of one of the vowels. As sentence-final particles are known to be less resistant to phonological manipulation, e.g. vowel lengthening and duration, than other lexical words (cf. Matthews & Yip 1994), such sequences with identical vowels can be avoided by shortening the vowel of the first SFP. For example, *zaa3 laa3* can be pronounced as *za3 laa3* with the first vowel reduced to something close to a schwa and this indeed sounds more acceptable than the sequence *zaa3 laa3*.

Another mystery is the unacceptable sequence *zaa3 tim1* ('only' 'also'). Recall that *tim1 zaa3* ('also' 'only') is fine, as in example (12). However, reversing the order of the two SFP₂s seems odd to me and another informant. In fact, judgements about the particle *tim1* ('also') vary a great deal across generations. I and my informant allow *tim1 zaa3* but not *zaa3 tim1*, in accord with

available sources such as H. Cheung (1972), S. Law (1990), Matthews & Yip (1994), etc. However, informants of the younger generation whom I have consulted find *zaa3 tim1* equally acceptable as *tim1 zaa3*. Interestingly, in Right Dislocation constructions, which will be discussed in more details in the next chapter, the particle *tim1*, just like other SFPs, can be in the position immediately following the focused phrase, as in the following example.

- (26) *waan gwuzang tim1 keoi zung sik dak*
 play guzheng SFP s/he also know ASP
 ‘She also knows how to play the guzheng.’

However, speakers of the older generation find it marginal. As for the sequence *tim1 laa3*, all informants accept it but again the reverse order *laa3 tim1* is rejected by speakers of the older generation. In other words, there seems to be a tendency in the younger generation to accept the particle *tim1* occurring in an outer position. It is beyond the scope of the present work to investigate the historical development of this particular particle. But for the sake of giving a fuller picture, I shall briefly discuss an alternative to the account as exemplified in (2) (or (3)). In light of these divergent judgements of the data, there could be a possibility that the particle *tim1* may be generated in a position lower than SFP₂, say, within the IP clause, or within the VP as S. Law (1990) suggests. This would mean excluding it from the set of sentence-final particles occurring in the CP domain. This suggestion obviously captures the intuitions of speakers who do not allow *tim1* to occur after *zaa3* or *laa3*; however, it would pose problem for the other speakers who do allow both orders *tim1 zaa3* and *zaa3 tim1* or *tim1 laa3* and *laa3 tim1*. With regard to Right Dislocation, putting *tim1* in a much lower position (within IP or VP) can apparently explain why some speakers reject sentences like (26). Since *tim1* is neither in the SFP₁ nor SFP₂ head, it cannot show up in a position immediately following the focused phrase *waan gwuzang* (‘play the guzheng’) which has been moved to the [Spec,ForceP] position (assuming a head-initial structure as in (3)). However, if *tim1* is also a head, one needs to explain why it cannot undergo head-to-head movement, just like other SFP₂s, all the way to the SFP₁ head. Furthermore, if *tim1* and another SFP₁ such as *bo3* (reminder) co-occur, this

alternative account should predict that example (27), which is intended to be a Right Dislocation construction, is possible, but in fact, it is ungrammatical, of course unless it is construed as two utterances.

- (27) *waan gwuzang bo3 keoi zung sik dak tim1
 play guzheng SFP s/he also know ASP SFP
 ‘They say she also knows how to play the guzheng.’

Apart from particle ordering and Right Dislocation, there are also divergent judgements with regard to *wh*- and A-not-A questions and again the two alternatives outlined above can solve different problems. I shall return to this issue when we discuss particles and questions in section 3.1.8, but my conclusion will be that the balance of evidence favours the account that includes *tim1* (‘also’) in the set of sentence-final particles in the CP domain, as illustrated in (2).

3.1.4. Clause-final or utterance-final?

There have been controversies over whether sentence-final particles are attached to sentences or utterances. Luke (1990), for instance, argues for the latter and hence adopts the term ‘utterance particles’. There are good reasons to believe that sentence-final particles, even those that have been claimed to occur in outer positions, are sentence-final and not just utterance-final. Evidence comes from the fact that they can occur in both conjoined clauses in coordination structures, as in (28), and in main clauses and adjunct clauses introduced by subordinating conjunctions such as *janwai* (‘because’), as in (29).

- (28) keoi faan zo ukkei wo5 daanhai keoi beng zo me1?
 s/he return ASP home SFP but s/he sick ASP SFP
 ‘They said that s/he went home, but was s/he sick?’

- (29) keoi faan zo ukkei wo5 janwai keoi beng zo gwaa3
 s/he return ASP home SFP because s/he sick ASP SFP
 ‘They said that s/he went home, probably because s/he was sick.’

In (28), *wo5* (hearsay) and the question particle *me1* are both SFP₁s and are generated in the Force head of each of the conjuncts respectively. I assume that the two Force phrases are conjoined. In (29), the subordinate *because*-clause is argued to have independent illocutionary force (cf. Haegeman 2002), and here we indeed find an SFP₁ *gwaa3* ('probably'), which is generated in the Force head. Moreover, following Haegeman (2002), I take this subordinate *because*-clause to be merged to a root CP. Thus an SFP₁, e.g. *wo5* (hearsay), can occur in the main clause, as evidenced in example (29). These two examples not only show that SFPs are really clause-final rather than just utterance-final, but also provide support for the status of SFP₁s.

3.1.5. Root vs. embedded clause

As suggested in S. Tang (1998), his 'outer particles' can only occur in root clauses while 'inner particles' can occur in either the root clause or the embedded clause. However, he does not say why there is such a difference between the two classes of particles. I shall suggest that those *speaker-oriented* particles (SFP₁s) necessarily occur in the root clause because Force must be anchored to the speaker to be licensed and root clauses are anchored to the speaker by default (cf. Haegeman 2002). So postulating that SFP₁ is generated in the Force head can capture this fact. This is also reminiscent of other speaker-oriented elements, e.g. sentential adverbs, which must occur in the root clause. For example, in (30), the speaker-oriented adverb *unfortunately* must occur in the sentence-initial position. When it occurs in the embedded clause, the evaluation of the unfortunate fact cannot be attributed to the speaker, but to the subject *Peter* instead, in which case the adverb has become subject-oriented rather than speaker-oriented.

(30) Unfortunately, Peter believes that (#unfortunately) life is like a box of chocolates.

Returning to Cantonese sentence-final particles, although SFP₁s apparently comprise particles of different natures, I shall argue that they are all inherently

speaker-oriented and thus must occur in the root clause. First, there are several SFP₁s whose meanings are very similar to some speaker-oriented sentential adverbs, e.g. *gwaa3* ('probably') and *honang* ('probably'), *lol* (obviousness) and *houminghin* ('obviously'), *wo5* (hearsay) and *tenggong* ('allegedly'), and *wo4* (surprise) and *gwumdou* ('surprisingly'). It has been observed in Lee & A. Law (2001) that, for instance, *gwaa3* ('probably') necessarily takes matrix scope. So, in (31), only the (a) reading is possible where the modal evaluation is that of the speaker and 'probably' modifies Mary's act of saying rather than Billy's going to Paris, which is inside the embedded clause. The (b) reading is not available.

- (31) Mary waa Billy wui heoi Baalai gwaa3
 Mary say Billy will go Paris SFP
 (a) 'Probably, Mary said that Billy would go to Paris.'
 (b) # 'Mary said that Billy would probably go to Paris.'

Question particles, e.g. *me1*, which are also SFP₁s and encode interrogative force, also show similar patterns. In (32), again only the question reading (a) is possible, i.e. (32) can only be construed as a matrix yes-no question, whereas the indirect question reading (b) is unavailable.

- (32) Mary man Billy heoi Baalai me1?
 Mary ask Billy go Paris SFP
 (a) 'Did Mary ask Billy whether he went to Paris?'
 (b) # 'Mary asked Billy whether he went to Paris.'

Furthermore, when a *wh*-element co-occurs with a question particle, as in (33a), the *wh*-element *matje* ('what') cannot take matrix scope. Like (32), (33a) must be interpreted as a matrix yes-no question.

- (33) (a) Mary soeng zidou Billy sik zo matje me1?
 Mary want know Billy eat ASP what SFP
 'Did Mary wonder what Billy ate?'

- (b) Mary soeng zidou Billy sik zo matje?
 Mary want know Billy eat ASP what
- (i) ‘What did Mary wonder that Billy ate?’
 (ii) ‘Mary wondered what Billy ate.’

Notice that it is not impossible for a *wh*-element to take matrix scope. In (33b) where there is no question particle, the wide scope reading of *matje* (‘what’) is available, as in (i). So when two question elements, a question particle and a *wh*-element, co-occur, the *wh*-element is forced to take narrow scope. This serves as further evidence that the question particle must occur in the root clause.

Other SFP₁s are quite mixed but they are inevitably very closely tied to the speaker. For example, the ‘reminders’ *aalmaa3*, *bo3* and *wo3*, in relevance-theoretic terms, encode procedural meanings that constrain the manifestness of the speaker’s and hearer’s contextual assumptions (cf. Blakemore 1987, Sperber and Wilson 1986/95). Emotive particles such as *zekl* (intimacy) are, of course, speaker-oriented in the sense that they express the speaker’s perceived intimate relationship with the hearer.

In sum, SFP₁s can only occur in the root clause because they are inherently speaker-oriented and Force, where these particles are generated, is anchored to the speaker in the root clause by default.

SFP₂s, on the other hand, are not speaker-oriented, nor are they generated in the Force head. Hence, there should be no restriction on which type of clause they can occur in. This is indeed supported by empirical facts. SFP₂s, such as *zaa3* (‘only’), can certainly appear in the root clause. Example (34) shows that it may also occur in the embedded clause, as indicated by the translation of reading (a) where negation occurs in the higher clause with *zaa3* (‘only’) in the embedded clause.

- (34) John m soengseon bou gongkam maai jicin bong zaa3
 John not believe CL piano sell 2000 pounds SFP
- (a) ‘John does not believe that the piano only costs £2000.’
 (b) ‘John does not only believe that the piano costs £2000. (He believes other things, such as the violin costs £500.)’

Reading (b) is also available where *zaa3* ('only') is now in the matrix clause. This example shows that the particle may be generated in the root clause or the embedded clause.

3.1.6. SFPs and (yes-no) particle questions

Yes-no questions in Cantonese can be expressed by a question particle (*me1*, *maa3* or *aa4*). They are considered SFP₁s in the present proposal. Hence they must follow SFP₂s if they co-occur. We have already seen some examples, e.g. (10), and (15), repeated here.

(10) nei heoi zo Baalai zaa3 me1?
 you go ASP Paris SFP SFP
 'Did you only go to Paris?'

(15) *nei heoi zo Baalai me1 zaa3
 you go ASP Paris SFP SFP

As there can only be one SFP₁, it is predicted that question particles cannot occur with other SFP₁s, e.g. *gwaa3* ('probably') in (20) and (21), or other question particles, e.g. (18) and (19), repeated here.

(20) *nei heoi zo Baalai me1 gwaa3
 you go ASP Paris SFP SFP

(21) *nei heoi zo Baalai gwaa3 me1
 you go ASP Paris SFP SFP

(18) *nei heoi zo Baalai aa4 me1?
 you go ASP Paris SFP SFP

- (19) *nei heoi zo Baalai me1 aa4?
 you go ASP Paris SFP SFP

3.1.7. A-not-A questions: a proposal

Before discussing SFPs in A-not-A questions and wh-questions, I shall propose an account for A-not-A questions in Cantonese, based on independent observations, in this section.

A-not-A questions can also function as yes-no questions, where the morpheme *A* can be a verb, modal, adjective and coverb or preposition (Ernst 1994, McCawley 1994, Li and Thompson 1981, Matthews and Yip 1994). The difference between a particle question and an A-not-A question is that A-not-A questions are often construed as being ‘neutral’ presuppositionally or used in a neutral context. This means that the questioner does not hold any assumption that the proposition expressed by the question is either true or false (Li and Thompson 1981 among many others). The following Cantonese examples best illustrate the difference.

- (35) a. nei heoi-m-heoi Baalai aa3?
 you go-not-go Paris SFP
 ‘Are you going to Paris?’
- b. nei heoi Baalai me1?
 you go Paris SFP
 ‘Are you going to Paris? (I thought you were not going.)’
- c. nei m heoi Baalai me1?
 you not go Paris SFP
 ‘Are you not going to Paris? (I thought you were going.)’

The A-not-A question in (35a) is in a neutral context, i.e. the speaker does not hold any assumption that the hearer is going or not going to Paris. On the other hand, in (35b), the question with the final question particle *me1* conveys the

speaker's belief which is contradictory to the proposition expressed by the question, i.e., that the speaker thought that the hearer was not going to Paris. Similarly, in (35c), by asking a negative question using the particle *mei*, the speaker conveys his or her assumption that the hearer was going to Paris and seeks to confirm his/her belief or asks whether it should be revised.

Studies of A-not-A questions in Mandarin Chinese in the classical approach suggest that A-not-A questions are derived from their corresponding disjunctive questions containing the explicit disjunctive morpheme *haishi* ('or') by transformational deletion of identical elements (cf. Wang 1967, Chao 1968, Li and Thompson 1981 and others). Thus, example (37) is derived from the disjunctive coordinate structure in (36) in which the disjunctive morpheme *haishi* ('or') and the identical elements *ni* ('you') and *yinyue* ('music') are deleted.

(36) *ni xihuan yinyue haishi ni bu xihuan yinyue?*
 you like music or you not like music
 'Do you like music or do you not like music?'

(37) *ni xihuan-bu-xihuan yinyue?*
 you like-not-like music
 'Do you like music?'

Huang (1990) departs from the traditional views and claims that A-not-A questions belong to the same question type as wh-questions based on the observation that A-not-A questions show similar syntactic behaviours to wh-questions rather than disjunctive questions. In his analysis, an A-not-A question⁵

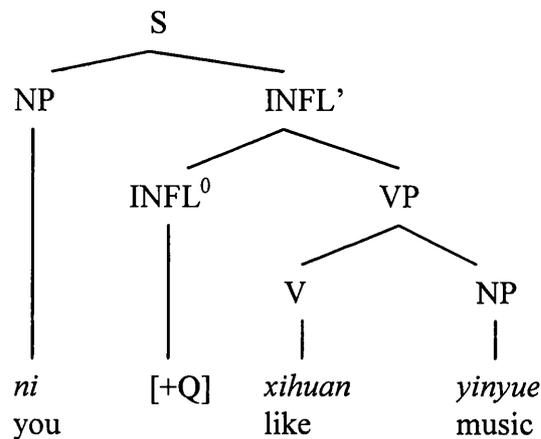
⁵ Huang postulates two types of A-not-A questions: A-not-AB and AB-not-A, which have distinct formation rules. For the question 'Do you like music?', the A-not-AB type in Mandarin can be either of the following:

- (i) *ni xi-bu-xihuan yinyue?*
 you like-not-like music
- (ii) *ni xihuan-bu-xihuan yinyue?*
 you like-not-like music
- (iii) *ni xihuan yinyue bu xihuan yinyue?*
 you like music not like music

The AB-not-A type for the same question would be

is derived from a simplex sentence with an interrogative ([+Q]) INFL constituent that is phonetically realised by a reduplication rule which copies a sequence immediately following INFL and inserting the negative morpheme *bu* ('not') between the original and the copy (Huang 1990: 316). Example (37) then has the following D-structure.

(38)



This yields several possible surface structures, namely *ni xihuan-bu-xihuan yinyue* (as in (37)), or *ni xi-bu-xihuan yinyue*, or *ni xihuan yinyue bu xihuan yinyue*. The parallel of wh-questions and A-not-A questions derives from the observation that both of them exhibit island effects, namely extraction from sentential subjects and relative clauses. On the assumption that, like a wh-phrase, an A-not-A constituent undergoes LF movement, the ungrammaticality of an A-not-A constituent being extracted from a sentential subject results from the violation of the ECP. Huang concludes that A-not-A questions and wh-questions belong to a single question type and the former are syntactically not the same type as disjunctive questions containing the morpheme *haishi* ('or').

-
- (iv) *ni xihuan yinyue bu xihuan?*
 you like music not like

Since the AB-not-A type is not attested in Cantonese due to dialectal difference, Huang's proposal for the AB-not-A type will not be discussed here. All A-not-A questions in the current discussion, Mandarin or Cantonese, necessarily refer to the A-not-AB type, unless stated otherwise.

Aoun and Li (1993) and Wu (1999) argue against the LF-movement account proposed by Huang (1982, 1990). Essentially, the A-not-A form stays in situ and is licensed by the Question operator. Furthermore, the A-not-A element is on a par with an adjunct wh-element as there is a contrast between wh-adjuncts and A-not-A on the one hand and wh-arguments on the other in their behaviours. Extraction from strong islands such as subject islands, adjunct islands and complex-NP islands is permitted while extraction of wh-adjuncts or A-not-A is not possible (see Aoun and Li 1993, Huang 1982 and Tsai 1994). The island effects observed in A-not-A questions and wh-adjunct questions can be explained by the fact that the A-not-A element and the wh-adjunct must be antecedent-governed (Aoun and Li 1993) or licensed by the question operator (Wu 1999) in the minimal clause in which they occur. Although Tsai (1994) also observes that the A-not-A element behaves like a wh-adverb, he argues that wh-adverbs (and A-not-A) do not enter into unselective binding as variables, as opposed to wh-arguments. Instead, they appeal to chain formation to avoid vacuous quantification.

My proposal for Cantonese A-not-A questions is based on the behaviours of quantifying elements in A-not-A questions.⁶ Apart from being subject to island constraints, as in Mandarin, they also exhibit some other interesting co-occurrence restrictions with quantificational elements. Generally, quantified noun phrases can occur in A-not-A questions as shown in the following examples.

(39) ni go jauwai gaiwaak kap-m-kapjan dou houdo haak aa3? (many)
 this CL discount plan attract-not-attract PRT many customer SFP
 ‘Did this promotion plan attract many customers?’

(40) John ceoi-m-ceoi dou sojau ge laapzuk aa3? (all)
 John blow-not-blow PRT all CL candle SFP
 ‘Can John blow out all the candles?’

⁶ Some of these observations have been independently made for Mandarin by Wu (1997) who provides a model-theoretic account to explain them. But his account cannot explain the full range of observations for Cantonese.

- (41) *sinsaang gamnin wui-m-wui sung laimat bei mui go hoksaang aa3?* (every)
 teacher this-year will-not-will give gift to every CL student SFP
 ‘Will the teacher give presents to every student this year?’
- (42) *nei soeng-m-soeng ziugwu jat di dukgeoi ge loujangaa aa3?* (some)
 you want-not-want look-after one CL alone-live GEN elderly SFP
 ‘Do you want to look after some old people who live alone?’
- (43) *nei ho-m-hoji sung loeng go bo bei go siupangjau aa3?* (numeral NP)
 you can-not-can give two CL balloon to CL child SFP
 ‘Can you give two balloons to this child?’

However, A-not-A questions are ill-formed when the quantified noun phrases occur in the subject position as in examples (44) to (50).

- (44) **mui go hoksaang dou zung-m-zungji tai dinsii aa3?* (every)
 every CL student all like-not-like watch TV SFP
 ‘Does every student like watching TV?’
- (45) **go-go hoksaang dou jau-mou⁷ gaau hokfai aa3?* (all)
 CL-CL student all have-not-have pay school fees SFP
 ‘Did all students pay the school fees?’
- (46) **sojau sansang dou sai-m-sai heoi tousyugwun boudou aa3?* (all)
 all fresher all need-not-need go library report SFP
 ‘Do all freshers need to report to the library?’
- (47) **jau (jat-)di jan soeng-m-soeng waanjau saigaai aa3?* (some)
 have (one-)CL person want-not-want go-around world SFP
 ‘Do some people want to travel around the world?’

⁷ The *mou* (‘not-have’) morpheme in *jau-mou* (‘have-not-have’) shows incorporation of negation and the morpheme *jau* (‘have’). It is equivalent to the Mandarin counterpart *you-mei-you* and is thus an A-not-A structure.

- (48) *jau houndo/housiu jan teng-m-teng Radio 3 gaa3? (many/few)
 have many/few person listen-not-listen Radio 3 SFP
 ‘Do many/few people listen to Radio 3?’
- (49) *jau loeng go hoksaang wui-m-wui caamgaa beicoi aa3? (numeral NP)
 have two CL student will-not-will participate contest SFP
 ‘Are two students going to participate in the contest?’
- (50) *moujan sik-m-sik gong Jingman gaa3? (negative QNP)
 nobody know-not-know speak English SFP
 ‘Does nobody speak English?’

At first glance, it seems that what matters is the surface position of the quantified noun phrase with respect to the A-not-A form, i.e. the question would be well-formed only when the quantified noun phrase occurs in a post-A-not-A position. However, when the quantified noun phrase is postposed as in examples (51) to (55), yielding a Right Dislocation construction which is prevalent in Cantonese, the question still remains ill-formed.

- (51) *dou zung-m-zungji tai dinsi aa3, mui go hoksaang? (every)
 all like-not-like watch TV SFP every CL student
 ‘Does every student like watching TV?’
- (52) *dou jau-mou gaau hokfai aa3, go-go hoksaang? (all)
 all have-not-have pay school fees SFP CL-CL student
 ‘Did all students pay the school fees?’
- (53) *soeng-m-soeng waanjau saigaa aa3, jau (jat-)di jan? (some)
 want-not-want go-around world SFP have (one-)CL person
 ‘Do some people want to travel around the world?’

- (54) *teng-m-teng Radio 3 gaa3, jau houndo/housiu jan? (many/few)
listen-not-listen Radio 3 SFP have many/few person
'Do many/few people listen to Radio 3?'
- (55) *sik-m-sik gong Jingman gaa3, moujan? (negative QNP)
know-not-know speak English SFP nobody
'Does nobody speak English?'

As Y. Cheung (1997) shows that the noun phrase being postposed originally occupies the subject position, it can be concluded that the incompatibility of quantified noun phrases and the A-not-A form indeed stems from their relative structural positions rather than their surface order.

Similar to the behaviour of quantified noun phrases, pre-A-not-A and post-A-not-A adverbs of quantification also exhibit this asymmetry. This is illustrated by the ungrammaticality of example (56a) in which the frequency adverb *gingsoeng* ('often') is pre-A-not-A and the grammaticality of (56b) in which the adverb is post-A-not-A.

- (56) a. *zou segung gingsoeng jiu-m-jiu ceot ngoizin gaa3?
do social worker often need-not-need out outreach SFP
'As a social worker, do you often need to do outreach work?'
- b. zou segung jiu-m-jiugingsoeng ceot ngoizin gaa3?
do social worker need-not-need often out outreach SFP
'As a social worker, do you often need to do outreach work?'

The same pattern can be found in questions containing the focus adverb *zinghai* ('only') as in the following contrast.

- (57) a. *ngo zinghai ho-m-hoji gaau jat pin man?
I only can-not-can submit one CL paper
'Can I only submit one paper?'

- b. ngo ho-m-hoji zinghai gaau jat pin man?
 I can-not-can only submit one CL paper
 ‘Can I only submit one paper?’

Modal adverbs such as *jatding* (‘necessarily’) show a similar asymmetry.

- (58) a. *ngo jatding jiu-m-jiu gaau loeng pin man?
 I necessarily need-not-need submit two CL paper
 ‘Do I necessarily have to submit two papers?’
- b. ?ngo jiu-m-jiu jatding gaau loeng pin man?
 I need-not-need necessarily submit two CL paper
 ‘Do I necessarily have to submit two papers?’

Almost all epistemic and deontic modal auxiliaries can occur as the A in an A-not-A construction, as exemplified in examples (59) to (63).

- (59) sailouzai ho-m-hoji jam zau aa3? [deontic/permission]
 child can-not-can drink alcohol SFP
 ‘Can children drink alcohol?’
- (60) John ho-m-hoji jat-ci-gwo sik ng wun min aa3? [root/ability]
 John can-not-can one-time eat five bowl noodles SFP
 ‘Can John eat five bowls of noodles at one time?’
- (61) John tingjat jiu-m-jiu faan hok aa3? [deontic/necessity]
 John tomorrow need-not-need go school SFP
 ‘Does John need to go to school tomorrow?’
- (62) John jing-m-jinggoi sik siu-di jin aa3? [deontic/obligation]
 John should-not-should eat fewer cigarette SFP
 ‘Should John smoke less?’

- (63) ni tiu sou ho-m-hoji jung ling-jat-go fongfaat heoi gaai aa3?
 this CL problem may-not-may use other-one-CL method go solve SFP
 ‘Is it possible to use another method to solve this problem?’
 [epistemic/possibility]

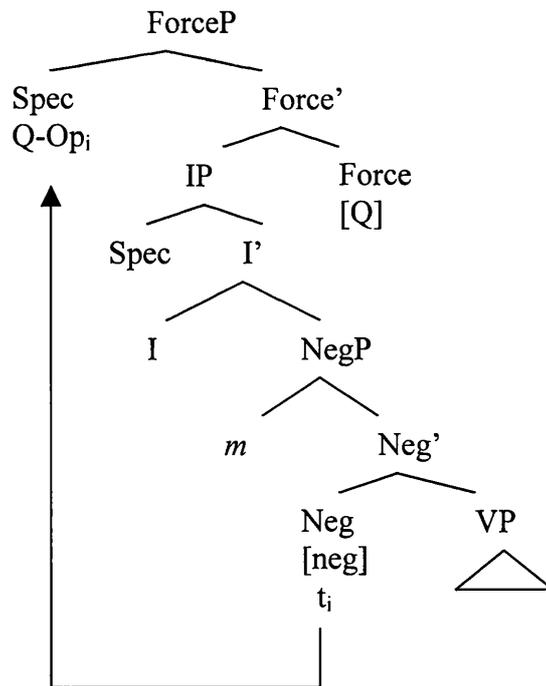
Interestingly, the only exception is the epistemic necessity modal auxiliary *jinggoi* (‘should’), as illustrated in examples (64) to (67). This peculiarity will be explained in due course in this chapter.

- (64) *gin T-seot jing-m-jinggoi wui sukseoi? [epistemic/necessity]
 CL T-shirt should-not-should will shrink
 ‘Should the T-shirt shrink?’
- (65) *tingjat jing-m-jinggoi wui lokjyu aa3? [epistemic/necessity]
 tomorrow should-not-should will rain SFP
 ‘Should it rain tomorrow?’
- (66) *John jing-m-jinggoi heoi zo Jatbun? [epistemic/necessity]
 John should-not-should go ASP Japan
 ‘Should John have gone to Japan?’
- (67) *keoi jing-m-jinggoi hai ngodei ge loubaan? [epistemic/necessity]
 s/he should-not-should be we GEN boss
 ‘Should s/he be our boss?’

I suggest that an A-not-A question does not involve any underlying co-ordinate structure and phonological ellipsis process. Since A-not-A questions are alternative questions which are arguably comparable to wh-questions in the sense that they contain a two-valued variable instead of a many-valued variable, it is logical to assume a similar configuration for A-not-A questions to that of wh-questions. As it has been observed in the literature that A-not-A questions are sensitive to strong islands, similar to wh-adjuncts but different from wh-arguments (Aoun and Li 1993, Huang 1982, Tsai 1994, *inter alia*), unselective binding

cannot be at work in A-not-A questions, unlike wh-questions involving arguments. Along the lines of Tsai (1994), I propose that, for A-not-A questions, an operator-variable pair is base-generated in the sentential Neg^0 head and the non-overt Q(uestion)-operator undergoes successive-cyclic movement to check the question feature $[\text{Q}]$ in Force^0 . (Cf. L. Cheng 1991, Chomsky 1995) The sentential negative morpheme m is, as generally assumed for pure negators, generated in $[\text{Spec}, \text{NegP}]$ and is in spec-head agreement with the $[\text{neg}]$ feature on the Neg^0 head. A reduplication of the verb or modal immediately dominated by NegP , and essentially the first syllable of it if it is disyllabic, occurs and the reduplicated morpheme is inserted in a position immediately preceding the negative morpheme m before Spell-Out, thus yielding the A-not-A form. It is not clear, however, what triggers this reduplication process or why it occurs at all. Assuming that I^0 selects NegP (Pollock 1989), an A-not-A question has the following structure:

(68)



Although this approach, like Huang's (1990), postulates that A-not-A and wh-questions are associated with the same $[\text{wh}]$ feature, one crucial difference is that it is more constrained than Huang's analysis which involves triggering an insertion of the negative morpheme and a reduplication of the verb by the $[\text{Q}]$

feature generated at INFL. In this approach, the negative morpheme *m* is necessarily generated in its canonical sentential [Spec,NegP] position, by virtue of the [neg] feature in Neg⁰, which also semantically corresponds to one of the choices offered in an A-not-A question, i.e. the negated proposition. Moreover, as I claim here that the wh-variable is associated with the sentential Neg⁰ head and the negative morpheme is generated in [Spec,NegP], the surface A-not-A structure must follow the subject (with certain optional adjuncts in between).

Semantically, the claim here is that the negation in an A-not-A question is always sentential (contra Wu (1997), *inter alia*), albeit that the surface position of the negative morpheme seems to suggest that it is adverbial. It will be shown in the following that positing sentential negation rather than adverbial negation, contrary to most other analyses, has the advantage of providing a unified account for the ill-formedness of A-not-A questions containing elements of quantification.

As the A-not-A variable is essentially like an adjunct variable in nature, it is expected that the chain formation is subject to Relativised Minimality (Rizzi 1990) which disallows movement across an intervening element of the same type. This accounts for the island effects that A-not-A questions exhibit. Moreover, it is also predicted that intervening elements between the Q-operator and the variable can block the chain formation, resulting in the ungrammaticality of such questions. What constitutes these intervening elements? Since the Q-operator is quantificational in nature, potential intervening elements should also belong to the same natural class (Rizzi 1990). Thus, it is expected that elements of quantification such as quantifiers (as in quantified NPs), adverbs of frequency, modals and focus can all be potential interveners. Now we can explain the observations outlined above.

Recall that pre-A-not-A quantified noun phrases in the subject position are not compatible with A-not-A questions. Example (44), repeated here as (69), contains the quantified noun phrase *mui-go hoksaang* ('every student') in the subject position.

- (69) *mui-go hoksaang dou zung-m-zungji tai dinsì aa3?
 every CL student all like-not-like watch TV SFP
 'Does every student like watching TV?'

Assuming that the subject is generated in [Spec,IP], the above question has the following structure:

(70) * [_{ForceP} Q-Op_i [_{IP} *mui-go hoksaang* Op_(v) *dou* [_{NegP} *zung m t_i zungji tai dinsi*]]]

As shown in (70), there exists a universal quantifier operator *dou*, which provides the subject *mui-go hoksaang* ('every student') with the universal quantificational force (Lin 1997), intervening between the Q-operator and the wh-variable. Since the universal quantifier has scopal interactions with the negative operator, the chain formation is blocked due to violation of Relativised Minimality.

The same holds true for an existential quantifier intervening between the operator and variable. For example,

(71) **jau (jat-)di jan soeng-m-soeng waanjau saigaai aa3?* (some)
 have (one-)CL person want-not-want go-around world SFP
 'Do some people want to travel around the world?'

has the structure (72).

(72) * [_{ForceP} Q-Op_i [_{IP} Op_(∃) *jau (jat-)di jan* [_{NegP} *soeng m t_i soeng waanjau saigaai*]]]

Similar to the case of universal quantification, the existential operator associated with *jau* ('have') binding the variable *(jat-)di jan* ((one-)CL-people) blocks the movement of the Q-operator.

Such intervention does not occur when the quantified noun phrase occurs in the object position or any position lower than Neg⁰. Consider the following example.

(73) *hokhaau wui-m-wui giu mui go hoksaang gaau hokfai?* (every)
 school will-not-will ask every CL student pay school fees
 'Will the school ask every student to pay school fees?'

(74) [_{ForceP} Q-Op_i [_{IP} *hokhaau* [_{NegP} *wui m t_i wui* [_{VP} *mui-go hoksaang_j* [_{VP} *giu t_j gaau hokfaai*]]]]]]

In the above example, either *mui-go hoksaang* ('every student') undergoes Quantifier Raising (May 1985) to adjoin to VP or it stays in situ and the situation quantification associated with it is licensed by existential closure, where a situation is taken to be the context against which the domain of *mui* is specified (Lin 1997). As the Neg⁰ head which carries the wh-variable is structurally higher than the quantified noun phrase, there is no intervening operator blocking the movement of the Q-operator. Thus, the A-not-A question is well-formed.

The asymmetry between pre-A-not-A and post-A-not-A adverbs of quantification such as *gingsoeng* ('often') can also be accounted for along the same lines. For instance, example (75)

(75) **ni gaan poutau gingsoeng maai-m-maai gwai je aa3?*
 this CL shop often sell-not-sell expensive thing SFP
 'Does this shop often sell expensive things?'

is not well-formed because the frequency adverb *gingsoeng* ('often') as an operator intervenes between the Q-operator and the wh-variable. It has the following structure.

(76) * [_{ForceP} Q-Op_i [_{IP} *ni-gaan poutau* Op *gingsoeng* [_{NegP} *maai m t_i maai gwai je*]]]]

A parallel case can be found in the interaction of adverbs of quantification, such as *only*, and wh-adjuncts. The following wh-question is ill-formed.

(77) **dimgaai_i John waa Mary zinghai maai zo saam bun syu t_i?*
 why John say Mary only buy ASP three CL book
 'Why did John say that Mary only bought three books?'

Here, the movement of the wh-adjunct *dimgaai* ('why') is blocked by the restrictive focus operator *zinghai* ('only'). The ungrammaticality of A-not-A questions containing adverbs of quantification lends support to the suggestion that A-not-A questions and adjunct wh-questions are comparable in nature. (Cf. Aoun and Li 1993, Tsai 1994)

The behaviour of the epistemic necessity modal *jinggoi* ('should') in A-not-A questions with respect to other modal auxiliaries seems peculiar since all modals but *jinggoi* are compatible with A-not-A questions. Although questioning one's epistemic evaluation is rare, it is not impossible to do so; thus semantic anomaly as a reason for the impossibility of the epistemic necessity modal *jinggoi* occurring in an A-not-A question is ruled out.

If we adopt the postulation that there are two modal positions, one above and one below sentential negation (Cormack and Smith 1998, 2000 and 2002) and posit that the Cantonese epistemic necessity modal *jinggoi* ('should') is merged in a pre-Neg position, the ill-formedness of those A-not-A questions involving this modal operator can be readily explained. To illustrate, consider the following example.

- (78) *gin T-seot jing-m-jinggoi wui sukseoi? [epistemic/necessity]
 CL T-shirt should-not-should will shrink
 'Should the T-shirt shrink?'

Jinggoi ('should') is merged above NegP while *wui* ('will') is merged below it. Since the epistemic necessity modal operator intervenes between the Q-operator and the wh-variable in Neg⁰, chain formation is impossible owing to violation of Relativised Minimality.

- (79) * [_{ForceP} Q-Op_i [_{IP} gin T-seot [_{ModalP1} Op *jing(goi)* [_{NegP} m t_i *jinggoi* [_{ModalP2} *wui* [_{VP} *sukseoi*]]]]]]]]

As other kinds of modal operators are merged below NegP, i.e. ModalP₂ such as *wui* ('will') above, they do not block the movement of the Q-operator and thus are compatible with A-not-A questions.

One may argue that the ungrammaticality of (78) is actually due to the fact that the modal *jinggoi* is ‘wrongly’ reduplicated, i.e., what is reduplicated before Spell-Out ought to be the verb or modal dominated by NegP. In this case, *jinggoi* is merged above NegP and therefore renders the sentence ungrammatical. If that is indeed the reason, one should predict that (80) in which Modal₂ *wui* (‘will’) merged below NegP is reduplicated instead of *jinggoi* (‘should’) should be well-formed.

- (80) ??/*gin T-seot jinggoi wui-m-wui sukseoi?
 CL T-shirt should will-not-will shrink

However, this is still ungrammatical and thus lends support to the intervening role played by the epistemic necessity modal *jinggoi* (‘should’).

If the negation in the A-not-A form is adverbial, all modal auxiliaries are necessarily higher than negation structurally and therefore all necessity and possibility modal auxiliaries ought to behave the same, contrary to the facts observed. In other words, the postulation of adverbial negation in the A-not-A form cannot capture the different behaviours of different types of modal auxiliaries.

An interesting fact about the three categories discussed earlier is that they can actually participate in an A-not-A question if *hai-m-hai* (‘be-not-be’) is used instead of reduplicating the verb or modal. Why is this so? This fact can be explained if we adopt the configuration for A-not-A questions proposed in the preceding section. But first, we need to determine the status of *hai*.

Some previous studies (e.g. Matthews and Yip 1994 and others) treat questions containing the morpheme *hai-m-hai* (‘be-not-be’) as yes-no questions and thus distinct from A-not-A questions. However, the distinction they draw between the two types of questions is not at all clear. In fact, conceptually the difference between a yes-no question and an alternative or disjunctive question is debatable. It has also been suggested that *hai-m-hai* questions have an emphatic function and *hai* is treated as an emphatic particle rather than the copular verb; thus, *hai-m-hai* questions are not included in the set of A-not-A questions that

involve verbs and modals as the *A* element (Shi 1994). However, the claim is rather dubious.⁸

A question containing *hai-m-hai* ('be-not-be'), solely from the surface form, certainly fits into the category of A-not-A questions: *hai* is the copular verb and the two *hai*'s are separated by the negative morpheme. From the point of view of economy, classifying *hai-m-hai* questions and other A-not-A questions into two distinct types does not seem appealing. Hence, contrary to some previous suggestions, I maintain that *hai* is not any special emphatic particle but the copular verb. The emphatic function arises from the syntactic structure rather than the verb *hai* per se.

Returning to the question why the three categories of quantification discussed earlier are grammatical in *hai-m-hai* questions, we shall consider some examples as follows.

(81) *hai-m-hai mui go hoksaang dou zungji tai dinsi aa3?* (Cf. (44))

be-not-be each CL student all like watch TV SFP

'Is it that every student likes watching TV?'

(82) *ni gaan poutau hai-m-hai gingsoeng maai gwai je aa3?* (Cf. (75))

this CL shop be-not-be often sell expensive thing SFP

'Is it that this shop often sells expensive things?'

(83) *gin T-seot hai-m-hai jinggoi wui sukseoi?* (Cf. (64))

CL T-shirt be-not-be should will shrink

'Is it that the T-shirt should shrink?'

Adopting the proposed configuration for Cantonese A-not-A questions, the grammaticality of these examples is actually predicted since there exist no intervening quantificational elements between the Q-operator and the wh-variable, unlike their ungrammatical counterparts in the earlier examples where *hai-m-hai* is

⁸ Shi's (1994) conclusion that *shi* (the Mandarin counterpart of *hai*) is not the copular verb is drawn from his opposition to the claim that in the so-called emphatic *shi ...de* construction, *de* is a nominaliser and *shi* is the copular verb. He shows that actually no nominalisation is involved in

absent. To illustrate, consider example (81). If we assume that the verb *hai* takes a CP complement, *mui go hoksaang dou zungji tai dinsi* ('every student likes watching TV') will be an embedded clause and (81) will have the following structure.

(84) [_{ForceP} Q-Op_i [_{NegP} *hai m t_i hai* [_{CP} *mui-go hoksaang dou zungji tai dinsi*]]]

As shown above, the quantified noun phrase *mui-go hoksaang* ('every student') is now below sentential NegP and does not intervene between the Q-operator and the wh-variable. Therefore, Relativised Minimality is respected and the question is well-formed. Similarly, the other three cases can be accounted for in the same vein.

In sum, the ill-formedness of A-not-A questions containing quantified noun phrases in the subject position, adverbs of quantification in the pre-A-not-A position, and the epistemic necessity modal auxiliary *jinggoi* can be accounted for by the impossibility of movement of the Q-operator in Neg⁰ to [Spec,ForceP] due to violation of Relativised Minimality arising from intervening potential operators.

3.1.8. SFPs and wh- and A-not-A questions

Cantonese is a wh-in-situ language, so there is no overt movement of the wh-element. The question particles (SFP_{I(+Q)}) *me1*, *maa3* and *aa4* in (85) and most SFP_{I(-Q)S}, e.g. *aalmaa3*, *gwaa3* and *lol* in examples (86), (87) and (88), are incompatible with wh-questions.⁹

(85) *bingo zin zo di cou me1/maa3/aa4?
 who cut ASP CL grass SFP

such a construction and therefore *shi* need not be the copular verb. Instead, he suggests that *shi* is a modal which has an emphatic function.

⁹ 'Wh-questions' throughout this paper refers to those which truly (intend to) convey question force. As in Mandarin, wh-elements in Cantonese can sometimes be interpreted as indefinite variables. (Cf. Huang 1982, Aoun and Li 1993, Tsai 1994 and many others) The ungrammatical examples here are actually grammatical when the indefinite reading of the wh-elements is intended.

(86) *bingo zin zo di cou aalmaa3?
 who cut ASP CL grass SFP

(87) *nei heoi zo bindou gwaa3?
 you go ASP where SFP

(88) *bingo zin zo di cou lo1?
 who cut ASP CL grass SFP

As proposed here, only three particles carry the [+Q] feature, namely *aa4*, *maa3* and *me1*, so only these three are genuinely ‘question particles’ in the sense that they do the clause-typing, contra S. Law (1990) who names six question particles. Following L. Cheng (1991) and Chomsky (1995), the [Q] feature in Force has to be checked by either Merge (of a question particle, for example) or Move (of a wh-phrase, for example). In Cantonese (yes-no) particle questions, the checking of [Q] is achieved by merging a particle carrying the [+Q] feature (*aa4*, *maa3* or *me1*).

With regard to wh-questions, no matter whether the Q-operator associated with the wh-phrase is moved covertly to the [Spec,ForceP] (Huang 1982) or base-generated in that position (Tsai 1994), it should be predicted that the three question particles cannot occur in wh-questions for economy reasons. Hence, (85) is ungrammatical.

The present classification of SFPs should predict that SFP₁s with the [-Q] feature cannot occur in a wh-question because there is a clash of feature value in the same head. This seems to be true, as shown by the ill-formedness of (86), (87) and (88).

However, there are three SFP₁s *aa3* (softener), *le1/ne1* (tentative) and *zek1* (intimacy) which are compatible with wh-questions, as shown in examples (89), (90) and (91).

(89) nei heoi zo bindou aa3?
 you go ASP where SFP
 ‘Where did you go?’

(90) bingo zin zo di cou le1/ne1?
 who cut ASP CL grass SFP
 ‘Who has mown the lawn?’

(91) nei heoi zo bindou zek1?
 you go ASP where SFP
 ‘Where did you go?’

The particle *aa3* has been labelled as a ‘neutral’ particle in all previous studies, in the sense that it functions as a ‘softener’ (Matthews and Yip 1994) and does not carry much semantic content (Kwok 1984). The particle *le1/ne1* (tentative), on the other hand, has received different analyses. Kwok (1984) states that it can be ‘suffixed’ to questions (all wh-questions in her examples) as well as statements and suggests ‘a sense of tentativeness’. S. Tang (1998) simply states that it is an ‘interrogative’ particle ‘with presuppositions’ but he doesn’t give any examples. In my view, question particles are only those which can clause-type a question. So even if *le1/ne1* can occur in a wh-question, it does not fulfil this requirement and is therefore not ‘interrogative’. One reason is that *le1/ne1* is not obligatory in wh-questions. For example, (90) is also grammatical and still has interrogative force if *le1/ne1* is replaced by another particle such as *aa3*. The other reason is that if it did clause-type a question, it would belong to the same class as the question particles *me1*, *maa3* and *aa4*, but then empirically they behave very differently, e.g. attaching *le1/ne1* to a statement does not result in a question, unlike *me1*, *maa3* and *aa4*. The particle *zek1* is often seen as simply conveying a sense of intimacy between the speaker and hearer (Kwok 1984, M. Chan 1998). So intuitively, *aa3*, *le1/ne1* and *zek1* are very similar in the sense that they carry very little semantic content.

Turning back to the question why *aa3*, *le1/ne1* and *zek1*, which are [-Q], can occur in wh-questions while other [-Q] SFPs cannot. One could view SFP_{1[-Q]} as just shorthand for the class of particles that do not clause-type a question, rather than clause-type a declarative or imperative since there are no overt

markings of declarative or imperative in the language.¹⁰ As most of the particles in this class encode the speaker's modal and epistemic knowledge, their semantics often dictates that they need a true proposition as argument (cf. Ernst 2002). For instance, the obviousness particle *lo1* embeds the proposition 'Mary went to Paris' in example (92).

- (92) Mary heoi zo Baalai lo1
 Mary go ASP Paris SFP
 'It is obvious that Mary went to Paris.'

So *lo1* (obviousness) is ungrammatical in a wh-question in example (88) because it makes no sense for *lo1* (obviousness) to embed a wh-question which is not a true proposition. This holds true for all other particles expressing speaker-oriented modality. However, as the three exceptions *aa3*, *le1/ne1* and *zek1* are relatively semantically empty, i.e. they do not contribute much propositional content, it is not obvious that they do the kind of embedding found in *lo1* (obviousness) or *wo5* (hearsay). This is perhaps why they can occur in a wh-question.

As it has been shown that wh-questions and A-not-A questions have similar syntactic behaviours, it is no surprise to find that the occurrence restrictions of SFPs in A-not-A question resemble those of wh-questions. No question particle (*me1*, *aa4* and *maa3*) can occur in an A-not-A question (example 93).

- (93) *nei heoi-m-heoi Baalai me1/aa4/maa3?
 you go-not-go Paris SFP/SFP/SFP

Particles from the class SFP_{1[-Q]} that typically express speaker-oriented modality are also incompatible with A-not-A questions (example 94).

¹⁰ Although the particle *laa1* is said to be characteristically used in requests and instructions (Matthews and Yip 1994), it should not be considered as a morphological marker of imperative because its presence is actually optional and it can also occur in non-imperatives. Like the 'softener' *aa3*, the role of *laa1* is really to moderate the requests and commands in such ways that the utterance is to be perceived as polite or abrupt, etc.

- (94) *nei heoi-m-heoi Baalai lo1/gwaa3/wo5/aa1maa3?
 you go-not-go Paris SFP/SFP/SFP/SFP

Again, there are three exceptions: *aa3*, *le1/ne1* and *zek1*, as shown in examples (95), (96) and (97).

- (95) nei heoi-m-heoi Baalai aa3?
 you go-not-go Paris SFP
 ‘Are you going to Paris?’

- (96) nei soeng-m-soeng heoi Baalai le1/ne1?
 you want-not-want go Paris SFP
 ‘Do you want to go to Paris?’

- (97) nei zung-m-zungji ngo zek1?
 you like-not-like me SFP
 ‘Do you love me?’

These are the same three particles that can occur in *wh*-questions. The explanations for these are essentially the same for *wh*-questions, so they are not repeated here.

As for *SFP*_{2s}, which lack the [Q] feature, *tim1* (‘also’) and *laa3* (inchoative) are good (example 98 and 99) but *zaa3* (‘only’) (example 100) seems rather odd in *wh*-questions.

- (98) nei sik zo matje tim1?
 you eat ASP what SFP
 ‘What else did you eat?’

- (99) bingo faan zo lai laa3?
 who return ASP come SFP
 ‘Who has come back?’

- (100) ??/*nei sik zo matje zaa3?
 you eat ASP what SFP

Zaa3 ('only') is incompatible with A-not-A questions (example 101a), too, while the particle *tim1* ('also') is better with wh-questions (example 98) than A-not-A questions (example 101a).

- (101) a. nei heoi-m-heoi Baalai *zaa3/??tim1?
 you go-not-go Paris SFP/SFP
- b. nei hai-m-hai heoi Baalai zaa3/tim1?
 you be-not-be go Paris SFP/SFP
 'Are you only/also going to Paris?'

Laa3 (inchoative) is good with wh-questions (example 99) but not A-not-A questions (example 102a).

- (102) a. *nei tai-m-tai saai bun syu laa3?
 you read-not-read all CL book SFP
- b. nei hai-m-hai tai saai bun syu laa3?
 you be-not-be read all CL book SFP
 'Have you read the book?'

However, the three particles are all good in A-not-A questions if the *A* is the copular verb *hai*, as shown in (101b) and (102b).

Adopting the proposal for A-not-A questions in section 3.1.7 and the proposed position of SFP₂, the incompatibility of the focus particles in A-not-A questions can be explained. For instance, example (104) is the structure for the ungrammatical (103).

- (103) **nei sik-m-sik gong Dakman zaa3?*
 you know-not-know speak German SFP
 ‘Do you only speak German?’

- (104) * [_{ForceP} Q-Op_i [_{Op} *zaa3* [_{IP} *nei* [_{NegP} *sik m t_i sik gong Dakman*]]]]

As shown in (104), the Q-operator and variable of the A-not-A question are base-generated in the head Neg⁰ and the Q-operator undergoes movement to [Spec,ForceP] to check the [Q] feature. Since the Neg head is lower than the SFP₂ head in the clausal structure, the focus particle in the SFP₂ head, being quantificational in nature, blocks the movement of the Q-operator due to violation of Relativised Minimality (Rizzi 1990).

This should hold true for wh-questions as well on the assumption that there is such movement of the Q-operator. It is not known though why *tim1* (‘also’) is not as incompatible with wh- and A-not-A questions as *zaa3* (‘only’). One possible solution is to posit a structure in which *tim1* is much lower down in the clause, as I have suggested as an alternative in section 3.1.3. Recall that in light of the divergent judgements of *tim1* co-occurring with the particle *zaa3* and in the Right Dislocation construction, an alternative position for *tim1* could be within the IP (or VP) which can apparently capture the judgements of some speakers. If we invoke this alternative account in the case of wh-questions and A-not-A questions, we can explain why *tim1* is better than *zaa3*: since *tim1* is much lower down in the clause structure, it does not block the movement of the Q-operator and therefore it is compatible with wh- and A-not-A questions. However, again balancing all the evidence, I maintain that *tim1* is generated in the same head as *zaa3* in the CP domain.

The grammaticality of examples (101b) and (102b) where the copula is used (*hai-m-hai* ‘be-not-be’) is due to the fact that the focus particles *zaa3* and *tim1* are now lower down in the embedded clause while the Neg head is in the matrix clause. Hence, the focus particles do not act as interveners between Neg and Force and therefore the movement of the Q-operator is successful and example (101b) is grammatical.

The incompatibility of the inchoative *laa3* with A-not-A questions (example 102b) is probably because *laa3* requires perfective aspect but the negator *m* used in the A-not-A form is imperfective. Hence, there is a clash of the aspectual values. Replacing the imperfective *m* with the perfective negator *mou* is impossible because the Cantonese A-not-A form only allows the negator *m* but not others. So a rescue would be again to use the copula *hai* as the *A* of the A-not-A form, as shown in example (102b), in which case the imperfective negator *m* is in the higher clause while *laa3* is in the embedded clause and therefore no requirement of compatibility of aspect is at issue.

3.2. Focus particles *zaa3* ('only') and *tim1* ('also')

I have argued above that the two focus particles *zaa3* ('only') and *tim1* ('also') belong to the class of SFP₂s. We have seen some of their properties, such as the fact that they can be generated in either the root clause or embedded clause, unlike SFP₁s. Also, being quantificational in nature, they have interesting interactions with A-not-A and wh- questions. In this section, we shall look at their scopal properties.

3.2.1. Scope of *zaa3* ('only')

There does not seem to be any consensus with respect to the scope of *zaa3* ('only'). As reviewed earlier, S. Tang (1998) contends that *zaa3* cannot focus the subject or any preverbal elements. Here are two of his examples. (Judgements are his.)

- (105) ngo tai zo ni bun syu zaa3 (= his (37)) [*Subj/V/Obj]
 I read ASP this CL book SFP
 'I only read this book.'

- (106) *Camjat ngo tai syu zaa3* (= his (43)) [**Temp/*Subj/V*]
 yesterday I read book SFP
 ‘Yesterday I read only.’

According to S. Tang, the particle *zaa3* cannot focus the subject *ngo* (‘I’) in (105) and (106). Furthermore, it cannot focus the preverbal temporal adverb *camjat* (‘yesterday’) in (106) either. However, my judgements, confirmed by two informants, differ from his. With sufficient contextual support and stress placed on *ngo* (‘I’) in (105) and (106), the reading ‘(Yesterday) It was only I (not Billy) who read this book’, where the subject *ngo* (‘I’) is contrasted with other alternatives, is in fact available. Other researchers such as Lee (2000) and Kwok (1984), explicitly or implicitly, support the view that the particle can actually focus the subject. For example, Kwok (1984:51) asserts that *zaa3* can ‘apply to the whole sentence’. Below are two more examples which confirm that the scope of *zaa3* is not limited to the VP only. In (107), imagine a teacher has found that the wall is covered in graffiti and she asks her students the following question.

- (107) Teacher: *bingo waak faa bung coeng?*
 who draw scratch CL wall
 ‘Who did the graffiti?’
- Billy: *m-gwaan ngo si aa3.*
 Not-related I business SFP
Aaming waak faa bung coengzaa3
 Aaming draw scratch CL wall SFP
 ‘It’s not me! It’s only Aaming who did it.’

When stress is placed on *Aaming* in Billy’s utterance, the reading ‘It is only Aaming who did the graffiti’ is perfectly acceptable, which shows that the particle *zaa3* can actually focus the subject. Another example is given in (108) which expresses the meaning ‘It is just that someone has broken the vase’ in response to, for instance, the question ‘What happened?’.

- (108) *jaujan daa laan zo go faazeon zaa3*
 someone hit broken ASP CL vase SFP
 ‘It’s just that someone has broken the vase.’

By contrast, the restrictive focus adverb *zinghai* (‘only’), which is uncontroversially a VP-adverb, cannot be used here to convey the same meaning. This is shown in (109).

- (109) *jaujan zinghai daa laan zo go faazeon*
 someone only hit broken ASP CL vase
 (a) # ‘It’s just that someone has broken the vase.’
 (b) ‘Someone has only broken the vase (not the glass menagerie).’

So these two examples show that the particle *zaa3*, unlike the VP-adverb *zinghai* (‘only’), can indeed have clausal scope and focus the subject, contra S. Tang’s (1998) analysis. The present proposal can capture these facts, as SFP₂ is located in the CP domain and therefore the focus particle *zaa3* (‘only’) has scope over the whole clause.

As for (106), I share S. Tang’s judgement that *camjat* (‘yesterday’) cannot be focused by the particle *zaa3* (‘only’), even if stress is put on *camjat* (‘yesterday’). This is due to the fact that *camjat* (‘yesterday’) is in the higher Topic position, which is higher than SFP₂ as proposed here in structure (2), and therefore falls outside the scope of the restrictive focus particle *zaa3*. The temporal adverbial cannot be the lower Topic though because the lower Topic is for [+N] topics only (Chao and Mui 2000). I suggest that the lower Topic is the position for non-quantified referential arguments while the higher Topic is for adverbials or (argument) topics marked by the topic marker *le*. The higher Topic may or may not associate with a gap in the sentence. (110) is an example in which *si* (‘poetry’) marked by the topic marker *le* is the higher Topic.

- (110) *si le, ngo tai gwo zaa3*
 poetry TOP I read ASP SFP
 (a) # ‘I have only read poetry (not novels).’
 (b) ‘I have only read poetry (but not written any).’

Here, we find that the meaning in (a) ‘I have only read poetry (not novels)’ is unavailable while only reading (b) ‘I have only read poetry (but not written any)’ is possible. This shows that the topic *si* (‘poetry’) falls outside the scope of the particle *zaa3* (‘only’) and lends support to the proposed structure in (2) in which SFP₂ is merged lower than the higher Topic. In (111), the topic *dungmat* (‘animal’) is base-generated in the higher Topic position and does not associate with any gap in the sentence. As expected, the particle *zaa3* (‘only’) cannot focus it.

- (111) *dungmat le, ngo zungji touzai zaa3*
 animal TOP I like rabbit SFP
 ‘As for animals, I only like rabbits.’

Another interesting case is example (108), repeated below, which has only two readings out of the possible four.

- (108) *jaujan daa laan zo go faazeon zaa3*
 someone hit broken ASP CL vase SFP
 (a) ‘It’s just that someone has broken the vase.’ [indefinite/*specific]
 (b) ‘Someone has only broken the vase.’ [*indefinite/specific]

In reading (a), *jaujan* (‘someone’) is under the scope of *zaa3* (‘only’) and must be interpreted as indefinite. On the other hand, in reading (b), when the relative scope is reversed, *jaujan* (‘someone’) can only be interpreted as a specific individual but not as indefinite. This is in fact predicted if we adopt the theory of the syntax of quantifier scope developed by Beghelli and Stowell (1997) in which the referentially independent quantified noun phrase *someone* is in the specifier position of the highest projection RefP while the indefinite quantified noun phrase

someone occupies the [Spec,ShareP] position lower down in the clausal structure. (108a) has the following structure.

(112) [_{ForceP} [_{SFP2} *zaa3* [_{ShareP} *jaujan*_i [_{VP} *t_i daa laan zo go faazeon*]]]]]

The indefinite noun phrase *jaujan* ('someone') is moved to the [Spec,ShareP] position which is lower than the focus particle *zaa3* ('only'). Hence, *zaa3* ('only') has scope over the indefinite *jaujan* ('someone') and reading (a) is obtained. On the other hand, if the noun phrase *jaujan* ('someone') is to be interpreted as specific, according to Beghelli and Stowell (1997), it has to move to [Spec,RefP], here taken to be the specifier position of the higher Topic phrase. So (108b) has the following structure.

(113) [_{ForceP} [_{TopP} *jaujan*_i [_{SFP2} *zaa3* [_{VP} *t_i daa laan zo go faazeon*]]]]]

We can see that now the specific *jaujan* ('someone') is in a higher position than the focus particle *zaa3* ('only'), so the former takes scope over the latter. Thus, reading (b) is obtained where *zaa3* ('only') appears to have VP scope only. Since SFP₂ sits between the higher TopicP and ShareP, the other two possible readings are not available.

What happens when (the VP-scope) *zinghai* and *zaa3* co-occur? The co-occurrence is actually frequently found in the language. Below is an example.

(114) Billy *zinghai* *maai zo* Chomsky *bun syu zaa3*
 Billy only buy ASP Chomsky CL book SFP
 'Billy only bought Chomsky's book'
 # 'Only Billy bought Chomsky's book.'

As shown in the translation, (114) can only have the reading 'Billy only bought Chomsky's book', whereas 'Only Billy bought Chomsky's book' is not possible, even if the subject *Billy* is stressed. Hence, apparently, when the two focus elements co-occur, only the scope of the focus adverb *zinghai* ('only') takes effect while that of the particle *zaa3* ('only') seems to play no role. One might posit that

in these co-occurrence cases, the scope of the adverb ‘overrides’ that of the particle. However, such a stipulation sounds rather unconvincing, as it should be equally possible to state the rule in the alternative way. The more serious problem is that whichever way the stipulation goes, no explanation can account for such a ‘loss’ of scopal ability of either the focus adverb or the particle.

I suggest that when the two focus elements co-occur, both of their scopal abilities do take effect. The sum of the two is naturally the intersection of the two sets. Hence, the resultant scope is equivalent to the narrower of the two, i.e. the scope of the adverb *zinghai* (‘only’) (VP scope). This accounts for the fact that the subject cannot be focused as it is outside VP. In the case where *zinghai* (‘only’) is adjoined to IP, since both the adverb and the particle *zaa3* (‘only’) now have IP scope, the resultant scope remains the same and this is indeed supported by empirical facts, e.g. the following example only expresses the meaning (a) but not (b).

- (115) *zinghai* Billy *maai zo* Chomsky *bun syu zaa3*
 only Billy buy ASP Chomsky CL book SFP
 (a) ‘Only Billy bought Chomsky’s book.’
 (b) # ‘Billy only bought Chomsky’s book.’

3.2.2. Scope of *tim1* (‘also’)

As with the restrictive focus particle *zaa3* (‘only’), the additive focus particle *tim1* (‘also’) also appears to have VP-scope rather than sentential scope at first glance. Consider the following example.

- (116) *Mary heoi zo* British Museum *tim1*
 Mary go ASP British Museum SFP
 ‘Mary also went to the British Museum.’

The subject *Mary* doesn’t fall into the scope of *tim1*, as it seems hard to get the interpretation that Mary went to the British Museum, in addition to someone else. However, it may be too soon to dismiss the claim that *tim1* (‘also’) has sentential

scope. Examples (117) and (118) differ minimally in that the former contains *tim1* ('also') in the second sentence while the latter has the adverbial counterpart *zung* ('also').

(117) ngo maai zo gaa ce. Billy bong ngo zung zo gei po syu tim1
 I buy ASP CL car Billy help I plant ASP few CL tree SFP
 'I bought a car. Moreover, Billy planted a few trees for me.'

(118) ngo maai zo gaa ce. Billy zung bong ngo zung zo gei po syu aa3
 I buy ASP CL car Billy also help I plant ASP few CL tree SFP
 'I bought a car. Billy also planted a few trees for me.'

Although they are both grammatical, (118) necessarily presupposes that Billy also did something other than plant a few trees; however, (117) is still felicitous if the context does not contain this presupposition. I suggest that this difference stems from the difference between the syntactic scope of the two additive focus elements. Only additive focus particles with sentential scope like *tim1* ('also') can show such behaviour in (117). Interestingly, we can find parallels in English. The following examples are due to Blakemore (1987).

(119) Tom's here. Also, he's brought his guitar. (=57b)

(120) Tom's here. He's also brought his guitar.

Also in (120) necessarily presupposes that Tom has brought something else while (119) may or may not carry this presupposition. It is undesirable to posit that the English *also* is lexically ambiguous. The obvious difference in these two examples is that in (119) *also* has sentential scope while *also* in (120) has VP-scope.

Putting *tim1* ('also') in the SFP₂ position would enable it to take scope over the whole sentence and thus these observations can be explained.

3.3. A Cinquean analysis?

It has been suggested that the sentence-final particles *zaa3* ('only') and *tim1* ('also') and their corresponding adverbs *zinghai* ('only') and *zung* ('also') can perhaps be linked syntactically under Cinque's (1999) framework. The essence of Cinque (1999) is that adverbs are analysed as unique specifiers of distinct maximal projections and in some languages their corresponding head positions can also be overtly realised. Furthermore, these functional maximal projections are arranged in a fixed relative order across languages. It is beyond the scope of this work to develop a systematic account of the two focus particles and their corresponding adverbs along the lines of Cinque (1999). But I shall give a few brief remarks on some potential problems such an account might face.

As we have seen in section 3.2.1 and 3.2.2, the two sentence-final focus particles *zaa3* ('only') and *tim1* ('also') have IP scope but their corresponding adverbs *zinghai* ('only') and *zung* ('also') have a narrower (VP) scope. If the particle and its corresponding adverb are generated respectively in the head and specifier of the same functional projection, it would be hard to determine where this functional projection is located in the clause structure, assuming that the position of the projection has some bearing on the scope of its elements. Intervening elements should not be allowed between the SFP and its corresponding adverb if they are in the same functional projection, which would entail that the two elements should take the same scope. However, this is contrary to the facts that we have seen.

In section 3.1.5, I have mentioned that some SFP₁s and adverbs are very similar in meaning, e.g. *wo5* (hearsay) and *tenggong* ('allegedly'), and *wo4* (surprise) and *gwumdou* ('surprisingly'). If the SFPs *zaa3* ('only') and *tim1* ('also') are syntactically related to their corresponding adverbs *zinghai* ('only') and *zung* ('also') in Cinque's (1999) fashion, it is natural to extend this suggestion to other sentential adverbs and SFPs that share the same semantic content. For instance, the SFP *wo4* (surprise) and the adverb *gwumdou* ('surprisingly') would occupy the head and specifier position of a unique functional projection respectively. One prediction is that two elements generated in the same functional projection should exhibit similar behaviours, e.g. with respect to other SFPs. It

has been shown earlier that SFP₁s cannot co-occur with other SFP₁s. (121) is an example.

- (121) *Mary git zo fan wo4 zek1 / zek1 wo4
 Mary tie ASP marry SFP SFP SFP SFP
 ‘Surprisingly, Mary has got married.’

One would expect that the corresponding adverb of *wo4* (surprise), *gwumdou* (‘surprisingly’), should be incompatible with the SFP *zek1* (intimacy) as well. However, this prediction is not borne out, as shown in (122).

- (122) gwumdou Mary git zo fan zek1
 surprisingly Mary tie ASP marry SFP
 ‘Surprisingly, Mary has got married.’

In order to explain the different behaviours, separate stipulations need to be made to prevent *wo4* (surprise) and *zek1* (intimacy) from occurring together, e.g. the head-to-head movement of the sentence-final particles is for some reason prohibited in these cases but is allowed and necessary in others. Putting these SFP₁s in a unique head (Force), as I have suggested in (2), can straightforwardly explain (121) and (122) and other similar facts.

While Cinque’s (1999) hypothesis nicely captures the relative order of clausal adverbs of Mood, Modality, Tense, Aspect, etc. and their morphological counterparts in a large number of languages, applying his analysis to Cantonese *zaa3* (‘only’) and *tim1* (‘also’) and their corresponding adverbs *zinghai* (‘only’) and *zung* (‘also’), and to sentence-final particles more generally, seems to generate more problems than it solves. It is impossible to give a more in-depth analysis here, so future research is needed to investigate this possibility further.

3.4. Summary

In this chapter, I have argued for two syntactic positions for Cantonese sentence-final particles in the CP domain: one, which hosts SFP₁s, is generated in the Force head and the other, which may iterate, is lower than the higher Topic for SFP₂s. Two classes of SFPs are identified: SFP₁s typically express speech acts, speaker-oriented modal and epistemic knowledge and SFP₂s include two focus particles *zaa3* ('only') and *tim1* ('also') and the 'change-of-state' particle *laa3*. Some facts about the co-occurrence and ordering restrictions of SFP clusters, their scope and behaviours with quantified noun phrases, *wh*- and A-not-A questions have been examined and accounted for by the proposed configurations. An alternative antisymmetric structure and one that puts *tim1* ('also') in a position within the IP are also considered in view of the different judgements of different speakers with regard to particle ordering and the Right Dislocation construction. I have also given additional evidence to show that the two focus particles have sentential scope, contra some previous studies, and are different from their corresponding adverbs which have VP scope. This fact and considerations of other SFPs and sentential adverbs point to the tentative conclusion that it may not be desirable to relate the two focus sentence-final particles and their corresponding adverbs along the lines of Cinque (1999).

CHAPTER 4 FOCUS-MARKING DEVICES IN CANTONESE

I adopt Rooth's (1985, 1992) Alternative Semantics account of focus operators in the discussion of Cantonese focus particles, but the nature of focus that focus operators associate with is different from his. As I argued in Chapter 2 that one single notion of Focus (Rooth 1985, 1992, Selkirk 1984, 1996, Reinhart 1995, Szendrői 2001, etc.) is undesirable, I follow the spirit of É. Kiss (1998) and Ballantyne Cohan (2000) and suggest that information focus and identificational focus ought to be teased apart. Focus operators like *only* associate with *identificational* focus in the sense of Ballantyne Cohan (2000), i.e. a set of alternatives corresponding to the focused phrase is invoked, which can be marked by different devices available in the language, e.g. prosodic prominence commonly used in many languages like English and syntactic movement such as focus movement in Hungarian. In this chapter, I shall discuss three devices to mark identificational focus in Cantonese: contrastive stress, Right Dislocation (RD) and the cleft *hai* ('be')-construction.

4.1. Contrastive stress

Prosodic prominence is probably a universal phonological operation to mark identificational focus. Cantonese is no exception, even if it is a tonal and non-stress language. Acoustically, according to Man (2002), contrastive focus is marked by a substantially wider pitch range, coupled with a significant increase in duration of the focused word. As in the case of English in which non-constituents can receive prosodic prominence, Cantonese is similar in the sense that almost anything can be contrastively stressed. For example, in (1), even a post-verbal particle *jyun* ('finish') can be contrastively focused by placing stress on it.

- (1) A: Mary hai fong dou zou gan gungfo aa3
 Mary at room PRT do ASP homework SFP
 ‘Mary is doing her homework in the room.’
 B: mhai aa3, keoi zou JYUN gungfo laa3
 not-be SFP s/he do finish homework SFP
 ‘No, she has finished doing it.’

In the case of polysyllabic constituents, it is usually the first syllable that attracts stress, as shown in the following example.

- (2) Mary zeoigan se gan LEONman, mhai siusyut
 Mary recently write ASP thesis not-be novel
 ‘Mary has been writing a thesis recently, not a novel.’

The only exception is when the polysyllabic word begins with the hypocoristic *aa3*, which is the only syllable in the language that is not heavy. In this case, the stress falls on the following syllable. (Cf. Yip 1994)

- (3) Mary aamaam gin gwo Aawong, mhai Aasing
 Mary just see ASP Wong not-be Sing
 ‘Mary has just seen Wong, not Sing.’

4.2. Right Dislocation

Unlike languages such as Hungarian, Cantonese is not known to have any syntactic position designated for expressing identificational (or contrastive) focus. (Cf. Xu 2002, 2004, on Mandarin) Nevertheless, Cantonese does make use of a syntactic process resulting in identificational focus marking. I shall discuss the properties of Right Dislocation (RD) and argue that it is one of the focus-marking devices in Cantonese.

4.2.1. 'Right Dislocation' in Cantonese is different from Right Dislocation in Romance and Germanic languages

In Germanic and Romance languages, e.g. Italian (Cecchetto 1999, Cardinaletti 2002), Dutch (Zwart 2001, 2002), English (Ross 1967, Kayne 1994), and French (De Cat 2002), the term Right Dislocation is generally used to refer to constructions like the following:

(4) They spoke to the janitor about that robbery yesterday, the cops (Ross 1967)

(5) ... dat ik hem niet ken, die jongen (Zwart 2001)
 that I him not know that guy
 'I don't know him, that guy.'

(6) Io lo odio, Gianni (Cecchetto 1999)
 I him hate Gianni
 'I hate him, Gianni.'

(7) Ils poussent bien, mes pois de senteur (De Cat 2002)
 they grow well my sweet peas
 'My sweet peas are growing well.'

The Right-dislocated phrase is typically associated with a resumptive pronoun or clitic in the main clause. An intonational break is obligatorily required before the Right-dislocated phrase which often has a low and level pitch intonation. With respect to meaning, the Right-dislocated phrase is said to be either topic (e.g. Cardinaletti 2002, De Cat 2002) or background (e.g. Zwart 2001).

Various accounts have been proposed for Right Dislocation in these languages: e.g. rightward movement of the dislocated phrase; double topicalisation, which involves leftward movement of the dislocated phrase followed by leftward remnant movement; and base-generated adjunction of the dislocated phrase, followed by remnant movement, etc., and its apparent counterpart Left Dislocation has been shown not to be treated as its mirror image

(see, e.g. Cecchetto 1999). A comprehensive survey of all accounts of Right Dislocation in these languages is beyond the scope of this thesis. Right Dislocation is said to be attested in Cantonese as well, but it seems to be a phenomenon different from that in Germanic and Romance languages, with respect both to its function and derivation. It is probably more aptly compared with leftward fronting of focused constituents in other languages, such as focalisation in Italian (cf. Rizzi 1997).

The following examples illustrate Right Dislocation in Cantonese.

- (8) a. *zukkau lo1 Billy zinghai zungji tai _*
 football SFP Billy only like watch
 ‘It is obvious that Billy only likes to watch football (not cricket).’
- b. *zukkau zaa3 Billy zungji tai _*
 football SFP Billy like watch
 ‘Billy only likes to watch football (not cricket).’

In these structures, one or more constituents are superficially dislocated to the right of the sentence-final particle (*lo1* (obviousness) and *zaa3* (‘only’) in these cases), which otherwise always ends up in the final position of a sentence. However, one difference between Cantonese RD and Right Dislocation in Romance and Germanic languages, as exemplified in (4) – (7), is that the right-dislocated string in the former is very often a non-constituent. In (8a), the superficially right-dislocated string *Billy zinghai zungji tai* (‘Billy only likes to watch’) is not a constituent. On the other hand, in English, for example, it is impossible to dislocate a non-constituent to the right.

- (9) *They did to the janitor about that robbery yesterday, the cops speak?

In Cantonese RD, however, what is always a constituent is actually the string on the left-hand side of the sentence-final particle, e.g. *zukkau* (‘football’) in (8a). (10) is bad when it is not.

- (10) *Billy zinghai zungji tai lo1 zukkau
 Billy only like watch SFP football

In Germanic and Romance languages, the Right-dislocated phrase is typically associated with a co-referential resumptive pronoun. In Cantonese, however, this is not obligatory. In fact, as shown in the survey in Y. Cheung (1997), RDs with a gap are much more prevalent in the language than gapless RDs.¹

Interestingly, Cantonese RD resembles focus movement in these languages, by which a focused element is preposed to the left periphery, more than their Right Dislocation structures. For example, in Italian, *il tuo libro* ('your book') can be preposed to receive a contrastive focus interpretation.

- (11) IL TUO LIBRO ho letto (, non il suo) (from Rizzi 1997)
 your book I read not his
 'Your book I read (not his).'

Here, a clitic is not required. The presence of the clitic, on the other hand, results in topicalisation rather than focalisation.

- (12) Il tuo libro, lo ho letto
 your book it I read
 'Your book, I have read it.'

Apart from the absence of clitics or resumptive pronouns, Cantonese RD is reminiscent of Italian focus movement to the left periphery in the sense that the string on the left of the sentence-final particle is obligatorily interpreted as the focus. This will be further elaborated in section 4.2.6. The Right-Dislocated phrase in Romance and Germanic languages, on the other hand, is generally

¹ In his (1997) survey, Y. Cheung classifies three types of RDs: *Pronominal RD (PN RD)* which contains a resumptive pronoun, *Repeated Copy RD (RC RD)* which contains two identical copies of a string (not necessarily NPs) on either side of the sentence-final particle, and *Gap RD (GP RD)* which contains a gap corresponding to the dislocated string. He has found that in the corpus, *Gap RD (GP RD)* outnumbers the other two types with an overwhelming majority, 91.6% of all cases.

thought to be background or topic, as mentioned earlier, and this construction has not been analysed as having a focusing effect. So there is reason to believe that RD in Cantonese is not quite the same phenomenon as RD in Germanic and Romance languages. Analysing Cantonese RD the same way would miss its true properties. However, I shall continue to use the term ‘Right Dislocation’ to refer to structures like (8) for the sake of convention.

4.2.2. Structure of RD

Y. Cheung’s (1997) thesis on Cantonese Right Dislocation provides the most in-depth analysis of this construction in the language. Despite the name, he convincingly argues that the syntactic operation responsible for the phenomenon is actually leftward movement of a constituent preceding the sentence-final particle (together with that sentence-final particle), rather than rightward movement of the apparent right-dislocated phrase. He proposes a Generalised Dislocation Adjunction (GDA) Rule, which is an instance of Move- α that adjoins a YP (a phrasal constituent immediately preceding the SFP) to any XP (IP, VP or a fragment) so that the moved YP can bind the trace at the base position. Hence, for instance, in (8a), repeated below, the constituent *zukkau* (‘football’) is adjoined to IP (together with the SFP *loi* (obviousness)).

- (8a) [IP [NP *zukkau loi*] [IP Billy *zinghai zungji tai* _]]
 football SFP Billy only like watch
 ‘It is obvious that Billy only likes to watch football (not cricket).’

I agree with Y. Cheung’s (1997) argumentation for leftward movement as the superficially right-dislocated string stranded on the right is often not a constituent. I shall maintain the spirit of his proposal, but propose that the moved constituent is uniformly moved to the FocusP of the split-CP system in the sense of Rizzi (1997), rather than adjoined to a choice of maximal projections. The motivation for moving the constituent to the FocusP is that the leftward fronted constituent is obligatorily interpreted as the focus and this should better capture the interpretive effect of Right Dislocation. I suggest that the fronted constituent undergoes

extract phrases out of a strong island (complex NP, adjunct island and subject island).

[Complex NP]

- (15) *cin lo1 Billy mou zeonsau keoi jiu zeonsi waan _ ge singnok
 money SFP Billy not obey s/he must on-time return GE promise
 ‘Billy broke the promise that he would return the money on time.’

[Adjunct island]

- (16) *hokfai lo1 keoi zou loeng fan gung janwai jiu bong sailou gaau _
 fee SFP s/he do two CL work because have-to help brother pay
 ‘S/he has two jobs because s/he has to pay the tuition fees for his/her
 brother.’

[Subject island]

- (17) *jisang laa3 keoi waa m soengzou _ zanhai giksei keoi aamaa
 doctor SFP s/he say not want do really irritate her/his mother
 ‘That s/he says s/he doesn’t want to be a doctor really irritates his/her
 mother.’

Y. Cheung (1997) briefly notes that Right Dislocation displays reconstruction effects. Below is a survey of RD structures involving binding and scope interactions, all of which substantiate the claim for reconstruction in Right Dislocation.

RD structures that involve dislocated anaphors are grammatical and have identical dependencies as in their counterparts in the canonical word order, though apparently the anaphor has moved to a position where its antecedent cannot c-command it. This is shown in the following examples.

- (18) a. Billy_i hou gwaansam zigei_i di hoksaang gaa3
 Billy very care-about self CL student SFP
 ‘Billy_i cares about his_i students.’

- b. hou gwaansam zigei_i di hoksaang gaa3 Billy_i
 very care-about self CL student SFP Billy
 ‘Billy_i cares about his_i students.’
- c. zigei_i di hoksaang gaa3 Billy_i hou gwaansam
 self CL student SFP Billy very care-about
 ‘Billy_i cares about his_i students.’
- (19) a. Mary_i waa Jenny_j hou zungji zigei_{ij} aa3
 Mary say Jenny very like self SFP
 ‘Mary_i said Jenny_j liked herself_{ij}.’
- b. zigei_{ij} aa3 Mary_i waa Jenny_j hou zungji
 self SFP Mary say Jenny very like
 ‘Mary_i said Jenny_j liked herself_{ij}.’
- c. hou zungji zigei_{ij} aa3 Mary_i waa Jenny_j
 very like self SFP Mary say Jenny
 ‘Mary_i said Jenny_j liked herself_{ij}.’

In all the examples above, Right Dislocation makes no difference to binding dependencies: the dislocated structure has the same interpretation as the one in normal order. As *zigei* (‘self’) is a long-distance anaphor or logophor (see Cole, Hermon and Huang 2001 for a survey), one might argue that it can be made co-referent to the antecedent by some other means. However, if we examine the local polymorphemic anaphor *keoizigei* (‘him/herself’), which cannot be bound by an antecedent outside the clause which contains it, the dependency is also preserved, as evidenced by the following examples.

- (20) a. Mary_i waa Jenny_j hou zungji keoizigei_{*ij} aa3
 Mary say Jenny very like him/herself SFP
 ‘Mary_i said Jenny_j liked herself_{*ij}.’

- b. hou zungji keoizigei*_{ij} aa3 Mary_i waa Jenny_j
 very like him/herself SFP Mary say Jenny
 ‘Mary_i said Jenny_j liked herself*_{ij}.’
- c. keoizigei*_{ij} aa3 Mary_i waa Jenny_j hou zungji
 him/herself SFP Mary say Jenny very like
 ‘Mary_i said Jenny_j liked herself*_{ij}.’

One should take note that this does not hold true for topicalisation. When the anaphor occurs as the topic, it cannot be bound by any NP in the IP clause. Below is a minimal pair of (20c).

- (21) keoizigei*_{i/*j} le1 Mary_i waa Jenny_j hou zungji
 him/herself TOP Mary say Jenny very like

Generally, Right Dislocation does not affect the grammaticality or dependencies of sentences with bound pronoun binding. The bound pronoun can be realised as the pronoun *keoi* (‘s/he’), the long-distance reflexive *zigei* (‘self’) or the local anaphor *keoizigei* (‘him/herself’). In cases of bound pronoun binding, the three entities do not display any difference in locality restrictions. There is, however, some interpretation difference among the three. The use of *keoi* is best translated as ‘his’, while the meaning of *zigei* and *keoizigei* is closer to ‘his own’. All possibilities of the three are presented below, in addition to sentences containing *zinghai* (‘only’). It is found that all RD sentences are grammatical and the bound pronoun in the dislocated constituent can be bound by the quantified noun phrase, except where only the bound pronominal phrase is fronted (22d and 25e) which are relatively deviant. No explanation can be provided for this decreased acceptability for the time being.

[Pronoun *keoi* ('s/he')]

- (22) a. *muigo sinsoang; dou hou gwaansam keoi; di hoksaang gaa3*
 every teacher all very care-about s/he CL student SFP
 'Every teacher_i cares about his_i students.'
- b. *dou hou gwaansam keoi; di hoksaang gaa3 muigo sinsoang;*
 all very care-about s/he CL student SFP every teacher
 'Every teacher_i cares about his_i students.'
- c. *hou gwaansam keoi; di hoksaang gaa3 muigo sinsoang; dou*
 very care-about s/he CL student SFP every teacher all
 'Every teacher_i cares about his_i students.'
- d. *??keoi; di hoksaang gaa3 muigo sinsoang; dou hou gwaansam*
 s/he CL student SFP every teacher all very care-about
 'Every teacher_i cares about his_i students.'

[Long-distance reflexive *zigei* ('self')]

- (23) a. *muigo sinsoang; dou gwaansam zigei; di hoksaang gaa3*
 every teacher all care-about self CL student SFP
 'Every teacher_i cares about his_i own students.'
- b. *dou gwaansam zigei; di hoksaang gaa3 muigo sinsoang;*
 all care-about self CL student SFP every teacher
 'Every teacher_i cares about his_i own students.'
- c. *gwaansam zigei; di hoksaang gaa3 muigo sinsoang; dou*
 care-about self CL student SFP every teacher all
 'Every teacher_i cares about his_i own students.'
- d. *zigei; di hoksaang gaa3 muigo sinsoang; dou gwaansam*
 self CL student SFP every teacher all care-about
 'Every teacher_i cares about his_i own students.'

[Polymorphemic reflexive *keoizigei* ('him/herself')]

- (24) a. *muigo sinsaangi dou gwaansam keoizigei di hoksaang gaa3*
 every teacher all care-about him/herself CL student SFP
 'Every teacher_i cares about his_i own students.'
- b. *dou gwaansam keoizigei di hoksaang gaa3 muigo sinsaangi*
 all care-about him/herself CL student SFP every teacher
 'Every teacher_i cares about his_i own students.'
- c. *gwaansam keoizigei di hoksaang gaa3 muigo sinsaangi dou*
 care-about him/herself CL student SFP every teacher all
 'Every teacher_i cares about his_i own students.'
- d. *keoizigei di hoksaang gaa3 muigo sinsaangi dou gwaansam*
 him/herself CL student SFP every teacher all care-about
 'Every teacher_i cares about his_i own students.'

[Pronoun *keoi* ('s/he') with *zinghai* ('only')]

- (25) a. *muigo sinsaangi dou zinghai gwaansam keoi di hoksaang gaa3*
 every teacher all only care-about s/he CL student SFP
 'Every teacher_i cares only about his_i students.'
- b. *?dou zinghai gwaansam keoi di hoksaang gaa3 muigo sinsaangi*
 all only care-about s/he CL student SFP every teacher
 'Every teacher_i cares only about his_i students.'
- c. *zinghai gwaansam keoi di hoksaang gaa3 muigo sinsaangi dou*
 only care-about s/he CL student SFP every teacher all
 'Every teacher_i cares only about his_i students.'

- d. ?gwaansam keoi_i di hoksaang gaa3 muigo sinsaang_i dou zinghai
 care-about s/he CL student SFP every teacher all only
 ‘Every teacher_i cares only about his_i students.’
- e. ??keoi_i di hoksaang gaa3 muigo sinsaang_i dou zinghai gwaansam
 s/he CL student SFP every teacher all only care-about
 ‘Every teacher_i cares only about his_i students.’

[Long-distance reflexive *zigei* (‘self’) with *zinghai* (‘only’)]

- (26) a. muigo sinsaang_i dou zinghai gwaansam zigei_i di hoksaang gaa3
 every teacher all only care-about self CL student SFP
 ‘Every teacher_i cares only about his_i own students.’
- b. dou zinghai gwaansam zigei_i di hoksaang gaa3 muigo sinsaang_i
 all only care-about self CL student SFP every teacher
 ‘Every teacher_i cares only about his_i own students.’
- c. zinghai gwaansam zigei_i di hoksaang gaa3 muigo sinsaang_i dou
 only care-about self CL student SFP every teacher all
 ‘Every teacher_i cares only about his_i own students.’
- d. gwaansam zigei_i di hoksaang gaa3 muigo sinsaang_i dou zinghai
 care-about self CL student SFP every teacher all only
 ‘Every teacher_i cares only about his_i own students.’
- e. zigei_i di hoksaang gaa3 muigo sinsaang_i dou zinghai gwaansam
 self CL student SFP every teacher all only care-about
 ‘Every teacher_i cares only about his_i own students.’

[Polymorphemic reflexive *keoizigei* ('him/herself') with *zinghai* ('only')]

- (27) a. *muigo sinsaangi dou zinghai gwaansam keoizigei di hoksaang gaa3*
 every teacher all only care-about him/herself CL student SFP
 'Every teacher_i cares only about his_i own students.'
- b. *dou zinghai gwaansam keoizigei di hoksaang gaa3 muigo sinsaangi*
 all only care-about him/herself CL student SFP every teacher
 'Every teacher_i cares only about his_i own students.'
- c. *zinghai gwaansam keoizigei di hoksaang gaa3 muigo sinsaangi dou*
 only care-about him/herself CL student SFP every teacher all
 'Every teacher_i cares only about his_i own students.'
- d. *gwaansam keoizigei di hoksaang gaa3 muigo sinsaangi dou zinghai*
 care-about him/herself CL student SFP every teacher all only
 'Every teacher_i cares only about his_i own students.'
- e. *keoizigei di hoksaang gaa3 muigo sinsaangi dou zinghai gwaansam*
 him/herself CL student SFP every teacher all only care-about
 'Every teacher_i cares only about his_i own students.'

Y. Cheung (1997) briefly discusses scopal dependency in RD structures. His examples (given below) seem to suggest that there is scope reconstruction (though he does not explicitly make this claim).

- (28) a. *fung singkeijat jau gei go pangjau lei taamWong taai gaa3 (=80a)*
 every Sunday have few CL friend come visit Wong Mrs. SFP
 'Every Sunday, some friends come to visit Mrs. Wong.'
 [every > some : unambiguous]

- b. jau gei go pangjau fung singkeijat lei taam Wong taai gaa3(=(80b))
 have few CL friend every Sunday come visit Wong Mrs. SFP
 ‘Several friends come to visit Mrs. Wong every Sunday.’
 [some > every : unambiguous]

RD structures apparently preserve the scopal dependency in the canonical order and no ambiguity arises. As noted in Y. Cheung (1997), the correspondence of linear and scopal ordering of quantifiers cannot explain the scopal dependencies in RD structures. This is shown in the following RD counterparts of (28).

- (29) a. jau gei go pangjau lei taam Wong taai gaa3 fung singkeijat (=(81a))
 have few CL friend come visit Wong Mrs. SFP every Sunday
 ‘Every Sunday, some friends come to visit Mrs. Wong.’
 [every > some : unambiguous]
- b. fung singkeijat lei taam Wong taai gaa3 jau gei go pangjau(=(81b))
 every Sunday come visit Wong Mrs. SFP have few CL friend
 ‘Several friends come to visit Mrs. Wong every Sunday.’
 [some > every : unambiguous]

In both cases, the scopal order in the RD structure is the same as in the canonical word order. Moreover, the two sentences remain unambiguous.

For ambiguous sentences, Right Dislocation does not seem to have any effect either. Passive sentences in Chinese containing two quantifiers are known to be ambiguous. (Cf. Aoun and Li 1993, etc.) Here is an example.

- (30) a. muigo hoksaang dou bei jat go sinsaang gaau gwo gaa3
 every student all by one CL teacher teach EXP SFP
 ‘Every student is taught by a teacher.’
 [$\forall > \exists$ or $\exists > \forall$]

- b. bei jat go sinsaang gaau gwo gaa3 muigo hoksaang dou
 by one CL teacher teach EXP SFP every student all
 ‘Every student is taught by a teacher.’
 [$\forall > \exists$ or $\exists > \forall$]

(30a) is ambiguous. *Muigo hoksaang* (‘every student’) can have scope over *jatgo sinsaang* (‘a teacher’) or vice versa. The corresponding Right Dislocation structure in (30b) shows the same ambiguity. Whichever mechanism one employs to explain such scope ambiguity, Right Dislocation does not seem to have any logical effect on it.

4.2.4. D(islocation)-Adjacency Constraint

Y. Cheung (1997) proposes the D(islocation)-Adjacency Constraint to account for the observation that the moved constituent must immediately precede the sentence-final particle. In other words, a constituent which is not adjacent to the SFP cannot undergo movement. Some of Y. Cheung’s examples are given below (the judgements are his).

- (31) a. keoi zinghai heoi faantong wan Aaming lo4/zaa3
 s/he only go canteen find Aaming SFP
 ‘S/he only went to the canteen to find Aaming.’
- b. *faantong lo4/zaa3 keoi zinghai heoi _ wan Aaming (=5)
 canteen SFP s/he only go find Aaming
- (32) a. keoi ze cin maai lau aa1maa3
 s/he borrow money buy flat SFP
 ‘S/he borrowed money to buy a flat.’
- b. *ze cin aa1maa3 keoi _ maai lau (=16)
 borrow money SFP s/he buy flat

- (33) a. ngo zinghai sung zo loeng gin saam bei keoi lo4
I only give ASP two CL clothes to him/her SFP
'I only gave two clothes to him/her.'
- b. *loeng gin saam lo4 ngo zinghai sung zo _ bei keoi (=6)
two CL clothes SFP I only give ASP to him/her
- (34) a. Aaming sik dak Aafan wo3
Aaming know PRT Aafan SFP
'Aaming knows Aafan.'
- b. ??Aaming wo3 _ sik dak Aafan (=7)
Aaming SFP _ know PRT Aafan
- (35) a. Aafan jau Baalai heoi zo Saibaanngaa lo3wo3
Aafan from Paris go ASP Spain SFP
'Aafan went to Spain from Paris.'
- b. *jau Baalai lo3wo3 Aafan _ heoi zo Saibaanngaa (=10)
from Paris SFP Aafan go ASP Spain
- (36) a. ngodei hai ukkei tai syu zi1maa3
we at home read book SFP
'We were only reading books at home.'
- b. *hai ukkei zi1maa3 ngodei _ tai syu (=11)
at home SFP we read book
- (37) a. keoi siusamgam se go fung seon wo3
s/he carefully write that CL letter SFP
'S/he carefully wrote the letter.'

- b. *siusamgam wo3 keoi _ se go fung seon (=12)
 carefully SFP s/he write that CL letter

As shown above, it appears that movement of non-adjacent constituents, such as the complement of the first VP or the first VP in a Serial Verb Construction (SVC) ((31) and (32)), the direct object of a double object construction (33), a subject NP (34), or a preverbal PP ((35), (36) and (37)), is prohibited. These examples thus motivate the postulation of the D-Adjacency Constraint for RD structures. However, this *ad hoc* constraint actually does no more than give a generalised description of ill-formed RD structures such as the above. While I agree with most of Y. Cheung's judgements, I shall show below that the D-Adjacency Constraint is not really well motivated.

First, the SVC examples above seem to be compelling cases for the D-Adjacency Constraint. However, it is not true that these are without exceptions. Consider the following example.

- (38) a. Billy sung zo loeng go daangou lai aa3
 Billy send ASP two CL cake come SFP
 'Billy sent two cakes here.'
- b. loeng go daangou aa3 Billy sung zo _ lai
 two CL cakes SFP Billy send ASP come
 'Billy sent two cakes here.'

(38) is also an SVC; however, the extraction of the object *loeng go daangou* ('two cakes') in the first VP, which is not adjacent to the sentence-final particle, is legitimate but would have violated the D-Adjacency Constraint. Similar examples where one verb is transitive and the other is ergative are fine, such as (39) below.

- (39) a. Billy daai zo loeng bun syu zau aa3
 Billy take ASP two CL book go SFP
 'Billy took away two books.'

- b. loeng bun syu aa3 Billy daai zo _ zau
 two CL book SFP Billy take ASP go
 ‘Billy took away two books.’

Nevertheless, extraction of constituents that are not adjacent to the SFP in other types of SVC is indeed more restricted, such as those that take a purpose clause.

- (40) a. keoi heoi Baalai tai zinlaam aa3
 s/he go Paris see exhibition SFP
 ‘S/he went to Paris to see the exhibition.’
- b. tai zinlaam aa3 keoi heoi Baalai _
 see exhibition SFP s/he go Paris
 ‘S/he went to Paris to see the exhibition.’
- c. *heoi Baalai aa3 keoi _ tai zinlaam
 go Paris SFP s/he see exhibition
- d. *Baalai aa3 keoi heoi _ tai zinlaam
 Paris SFP s/he go see exhibition

In (40), movement of neither the first VP (c) nor the object in the first VP (d) is possible. This seems to support the D-Adjacency Constraint. However, note that topicalisation is not possible either, as shown in the following.

- (41) a. *heoi Baalai le1, keoi _ tai zinlaam
 go Paris TOP s/he see exhibition
- b. *Baalai le1, keoi heoi _ tai zinlaam
 Paris TOP s/he go see exhibition

So it seems that the impossibility of fronting the first VP or part thereof out of a purpose SVC is not idiosyncratic to Right Dislocation. For topicalisation, no such

adjacency constraint has been proposed; in fact, topicalising constituents that are non-adjacent to the sentence-final particle is widespread. Hence, there is reason to believe that the phenomenon may not be due to the *ad hoc* D-Adjacency Constraint specifically proposed for RD structures.

Moreover, extraction in the English counterparts of (40) (not SVC) is fine, as illustrated in the following wh-questions.

(42) What did he do to see the exhibition?

(43) Where did he go to see the exhibition?

So it seems that the ungrammaticality of (40c) and (40d) in Cantonese could be due to the structure of SVC, rather than the moved constituent being non-adjacent to the SFP. The following contrasts provide support for this contention.

- (44) a. ngo maai zo bou dinnou lai sung bei keoi lo1
 I buy ASP CL computer to give to s/he SFP
 ‘I bought a computer for him/her.’
- b. bou dinnou le1, ngo maai zo _ lai sung bei keoi lo1
 CL computer TOP I buy ASP to give to s/he SFP
 ‘The computer, I bought it for him/her.’
- c. bou dinnou lo1 ngo maai zo _ lai sung bei keoi
 CL computer SFP I buy ASP to give to s/he
 ‘The computer, I bought it for him/her.’

As shown in (44) above, extraction of the object *bou dinnou* ‘the computer’ in both topicalisation (44b) and Right Dislocation (44c) is actually possible in a non-SVC,² even if it is not adjacent to the SFP. The RD utterance could be a natural response to the question: *What is it? (pointing at a carton)* This is, in fact, also a

² *lai* in the example (44) is, according to Chao (1968), a ‘particle of purpose’ (340). Although *lai* can also be a verb which means ‘come’, Chao notes that in these cases ‘it is practically a particle like English ‘to’ in the infinitive verb, which expresses the purpose.’ (340) He explicitly

counterexample to the D-Adjacency Constraint, as the object *bou dinnou* ('the computer') does not originate in the position immediately preceding the SFP. The following is an SVC version of the sentences above, which shows a striking contrast with (44). Extraction of *bou dinnou* ('the computer') in (45) is bad, no matter whether it is topicalisation (45b) or RD (45c).

- (45) a. ngo maai zo bou dinnou sung bei keoi lo1
 I buy ASP CL computer give to s/he SFP
 'I bought a computer for him/her.'
- b. *bou dinnou le1, ngo maai zo sung bei keoi lo1
 CL computer TOP I buy ASP give to s/he SFP
- c. *bou dinnou lo1 ngo maai zo sung bei keoi
 CL computer SFP I buy ASP give to s/he

So, the D-Adjacency Constraint cannot really explain the ban on extracting the first VP or part thereof of some SVCs in an RD construction. If it were necessary, it would have to be invoked to explain topicalisation as well, which has never been independently claimed to be subject to a constraint of this kind. Such ill-formedness should probably be better explained by some independent reasons (unknown at the moment).

As for examples (35), (36) and (37), in which preverbal adjuncts are prohibited from being dislocated, I suspect that the ungrammaticality (or unacceptability rather) is due to unsatisfactory choices of either the sentence-final particles or some lexical items. Consider (35). If we change the sentence-final particle to *aalmaa3*, the sentence sounds much better, in fact grammatical, according to an informant's and my judgement. This could be a natural answer to the question 'From where did Aafan go to Spain?'

states that the particle is inserted between two verbal expressions. Hence, *lai* should not be analysed as a verb, and therefore (44) is not a Serial Verb Construction.

- (46) jau Baalai aa1maa3 Aafan_ heoi zo Saibaanngaa
 from Paris SFP Aafan go ASP Spain
 ‘Aafan went to Spain from Paris. (Didn’t you know?)’

For (36), if we try another complement such as *daa maazoe* (‘play mahjong’), again the sentence becomes acceptable (and presumably grammatical).

- (47) hai ukkei zaa1maa3 ngodei_ daa maazoe
 at home SFP we hit mahjong
 ‘We only play mahjong **at home**.’

(47) could be a response from a wife to her husband’s accusation that she has been playing mahjong in some dodgy mahjong clubs; so it is only **at home** that she plays the game but not in those places. (37) probably also suffers from some pragmatic oddity. The following is better, at least in our judgement.

- (48) tautaudeigam aa3 keoi_ zaujap go cyufong tau je sik
 secretly SFP s/he enter CL kitchen steal thing eat
 ‘S/he sneaked into the kitchen to steal food.’

My judgement for (33) is different from Y. Cheung’s, so extraction of the direct object from a double object construction is actually fine for me. The subject extraction in (34) is indeed bad, but if the subject is made heavy by using a complex NP, for instance, grammaticality improves. This is shown in the following example.

- (49) ?zoek jyulau go go naamjan aa1maa3_ laudai zo go peigip haidou
 wear raincoat that CL man SFP leave ASP CL suitcase here
 ‘The man who wore a raincoat left a suitcase here.’

It has been shown that Y. Cheung’s D-Adjacency Constraint is not well motivated because of its *ad hoc* nature and numerous counterexamples which suggest that constituents non-adjacent to the SFP can also be fronted. The

ungrammaticality of some remaining cases, such as in the SVC, is better explained by some independent principle(s). Hence, I suggest that such a constraint is not necessary.

4.2.5. The size of the dislocated string

It has been assumed that in Right Dislocation structures, the fronted string has to be a maximal projection, ranging from a DP to something as big as the whole VP. However, there seem to exist certain cases where the dislocated string can be smaller than a DP, in fact a head noun (apparently).

It is well-known that some languages allow movement of some constituents out of a DP, e.g. Russian (Gouskova 2001), German (van Riemsdijk 1989), Modern Greek (Androutsopoulou 1997), Mandarin Chinese (Pan and Hu 2000) and Cantonese, under a variety of terminology such as split scrambling, split DP, split topicalisation and head noun movement. Some examples are given below.

- (50) Gorillu my videli včera bol'shuju _ [Russian, from Gouskova 2001]
 gorilla we saw yesterday big
 'As for gorillas, yesterday we saw a big one.'
- (51) Bücher hat John viele _ gelesen [German]
 books has John many read
 'John has read many books (not magazines).' [Focus reading]
 'As for books, John has read many.' [Topic: but only with a big pause after *Bücher*]
- (52) to kokkino idha forema [Modern Greek, from Androutsopoulou 1997]
 the red saw-1s dress
 'It is the RED dress that I saw.'

(53) shu, wo mai le yi ben [Mandarin]
 book I buy LE one CL
 'I bought a book.'

(54) syu, Billy tai zo loeng bun laa3 [Cantonese]
 book Billy read ASP two CL SFP
 'Billy read two books.'

In these examples, the moved fragment of a DP is usually the topic or focus. However, in languages like English, such movement is disallowed.

(55) *Books, I have read two

(56) *Apples, John ate two

(57) *Tie, John bought the

This kind of split-DP phenomenon can also be found in Cantonese Right Dislocation. As Cantonese is a classifier language, a noun phrase can contain a demonstrative, numeral, classifier and noun in the order Dem-Num-CL-N. The occurrence of the functional categories depends on definiteness, specificity and genericity, etc. (For various proposals of Mandarin Chinese and Cantonese noun phrases, see C. Tang 1990, Li 1998, L. Cheng and Sybesma 1999 and B. Chan 1999.) It is interesting to see in what way a Cantonese noun phrase can be 'split' in an RD structure. Below is a list of the (im)possibilities.

[Num-CL-N]

(58) a. syu aa3 Billy tai zo loeng bun _
 book SFP Billy read ASP two CL
 'Billy read two books.'

b. *bun syu aa3 Billy tai zo loeng _
 CL book SFP Billy read ASP two

- c. loeng bun syu aa3 Billy tai zo _
two CL book SFP Billy read ASP

In a noun phrase which contains Num-CL-N, the noun can be extracted, but [CL-N] cannot. The whole NP ([Num-CL-N]) can of course be moved.

[Dem-CL-N]

- (59) a. syu aa3 Billy tai zo ni bun _
book SFP Billy read ASP this CL
'Billy read this book.'

- b. *bun syu aa3 Billy tai zo ni _
CL book SFP Billy read ASP this

- c. ni bun syu aa3 Billy tai zo _
this CL book SFP Billy read ASP
'Billy read this book.'

Similarly, in a noun phrase containing [Dem-CL-N], the demonstrative and classifier cannot be separated.

[Dem-Num-CL-N]

- (60) a. syu aa3 Billy tai zo ni loeng bun _
book SFP Billy read ASP this two CL
'Billy read these two books.'

- b. *bun syu aa3 Billy tai zo ni loeng _
CL book SFP Billy read ASP this two

- c. *loeng bun syu aa3 Billy tai zo ni _
two CL book SFP Billy read ASP this

- d. ni loeng bun syu aa3 Billy tai zo _
 this two CL book SFP Billy read ASP
 ‘Billy read these two books.’

In the case of [Dem-Num-CL-N], it seems that the three functional categories Dem, Num and Cl cannot be split.

[CL-N] is also a legitimate string in Cantonese. Movement of just the noun is fine in Right Dislocation, as shown in the following.

- (61) a. bun syu lo1 Billy maai zo _
 CL book SFP Billy buy ASP
 ‘Billy bought the book.’
- b. syu lo1 Billy maai zo bun _
 book SFP Billy buy ASP CL
 ‘Billy bought the book.’

So, from this survey, whenever part of an NP is extracted, this can only be the head noun. This is also true even in NPs that take a relative clause. Note that in (62c) below, the relative clause *Mary maai* (‘Mary bought’) cannot be stranded, even if the functional categories Dem, Num and CL are not separated in the moved string.

- (62) a. Billy tai zo Mary maai go bun syu lo1
 Billy read ASP Mary buy that CL book SFP
 ‘Billy read the book that Mary bought.’
- b. syu lo1 Billy tai zo Mary maai go bun _
 book SFP Billy read ASP Mary buy that CL
 ‘Billy read the book that Mary bought.’
- c. *go bun syu lo1 Billy tai zo Mary maai _
 that CL book SFP Billy read ASP Mary buy

However, moving the head noun out of an NP that takes a complement clause does not seem to be permitted.

- (63) a. Billy mou zeonsau keoi jiu zeonsi waan cin ge singnok aa3
 Billy not obey s/he must on-time return money GE promise SFP
 ‘Billy broke the promise that he would return the money on time.’
- b. *singnok aa3 Billy mou zeonsau keoi jiu zeonsi waan cin ge _
 promise SFP Billy not obey s/he must on-time return money GE

But if a demonstrative and classifier are inserted, grammaticality improves. This is also observed in Mandarin topicalisation (Pan and Hu 2000).

- (64) a. Billy mou zeonsau go go keoi jiu zeonsi waan cin ge singnok
 Billy not obey that CL s/he must on-time return money GE promise
 ‘Billy broke the promise that he would return the money on time.’
- b. ?singnok aa3 Billy mou zeonsau go go keoi jiu zeonsi waan cin ge _
 promise SFP Billy not obey that CL s/he must on-time return money GE
 ‘Billy broke the promise that he would return the money on time.’

It remains unclear why extraction of the head noun from a complement complex NP results in ungrammaticality. Pan and Hu (2000) suggest that the predication relation between the topicalised NP and the XP predicate can be established only when they are adjacent. Hence, if we adopt their idea, (63b) is bad because *singnok* (‘promise’) and the predicate *keoi jiu zeonsi waan cin* (‘s/he must return the money on time’) are not adjacent. Mandarin topicalisation counterparts of (64) are also found to be better and the explanation provided by Pan and Hu (2000) is that the demonstrative and classifier set the relevant NP (*go go keoi jiu zeonsi waan cin ge singnok* ‘the promise that he would return the money on time’) in focus. They argue that this NP with an empty head noun is assigned the [+Focus] feature and undergoes LF movement to [Spec,FocusP], which is immediately

below the Topic Phrase whose specifier hosts the moved head noun. The head noun and the predicate are now adjacent and so grammaticality improves.

Nevertheless, Pan and Hu's (2000) idea is not immediately transferable to Cantonese Right Dislocation structures because, firstly, the moved head noun in RD is not the topic but focus. As argued in the current discussion, the head noun is moved to the FocusP in my proposal. If LF movement of the phrase with an empty head noun were to take place, it could not move to [Spec,FocusP] because the position would have been occupied by the head noun. Secondly, my framework does not postulate any [Focus] feature, so there doesn't seem to be any motivation for such LF movement. Thirdly, with respect to interpretation, what is really in focus in the RD structure is the moved head noun rather than the complement clause or the whole complex NP. So, to say that the complex NP is in focus would miss this fact.

To summarise, the split-DP phenomenon is attested in Cantonese Right Dislocation; however, only the head noun can be dislocated whereas the DP-internal functional categories and/or relative/complement clauses, if any, have to be stranded together. The question now is whether the fronted noun is just the head noun or something larger (an NP). I suggest that, adopting any of the current proposals of Chinese/Cantonese noun phrases (e.g. Li 1998, L. Cheng & Sybesma 1999, B. Chan 1999), the apparent head noun is in fact an NP selected by the classifier. I shall tentatively assume that what is being moved is an NP rather than just the N, though more evidence is perhaps needed.

4.2.6. Focus marking

As mentioned earlier, I suggest that the fronted phrase in RD is moved to the Focus field and must be interpreted as the identificational focus. We have two pieces of evidence to support this.

First, as mentioned in Y. Cheung (1997) as well, the focus operator *zinghai* ('only') or the focus SFP *zaa3* ('only') must associate with the fronted phrase. So in both (65) and (66), the only reading available is (a) where the fronted phrase *zukkau* ('football') is associated with *zinghai* ('only') and *zaa3* ('only') respectively. The (b) reading where the verb *tai* ('watch') is in focus is

unavailable, even though the verb is in the scope of *zinghai* ('only') and *zaa3* ('only'), whereas in the canonical order when RD does not take place, this interpretation is possible.

- (65) *zukkau lo1 Billy zinghai zungji tai _*
 football SFP Billy only like watch
 a. 'Billy only likes to watch football (not cricket).'
 b. # 'Billy only likes to watch football (not play football)'

- (66) *zukkau zaa3 Billy zungji tai _*
 football SFP Billy like watch
 a. 'Billy only likes to watch football (not cricket).'
 b. # 'Billy only likes to watch football (not play football)'

We can see that Right Dislocation serves as a disambiguation device in the sense that it identifies the intended focus among all the possible foci. Functionally, it is on a par with contrastive stress placement. So, for instance, if we put stress on *zukkau* ('football') in (67) which is in the canonical word order, again the (b) reading is unavailable due to the fact that the intended focused element (*zukkau* 'football') has been identified by contrastive stress.

- (67) *Billy zungji tai ZUKKAU zaa3*
 Billy like watch football SFP
 a. 'Billy only likes to watch football (not cricket).'
 b. # 'Billy only likes to watch football (not play football)'

The fact that the alternative readings involving other possible foci are unavailable shows that RD picks out the focus which is to be associated with the focus operator. This is reminiscent of focalisation in Italian. The example below can only have the reading 'John only likes to eat sushi (not pasta)'. Again, focalisation picks out the intended focused element (*sushi*) which is associated with the focus operator *solo* ('only').

- (68) Sushi, a Giovanni piace solo mangiare
 sushi to John like only eat
 ‘John only likes to eat sushi (not pasta).’

For a focus operator to associate with a constituent, the set of possible foci has to be in its c-command domain. The Right Dislocation structures (65) and (66) fulfil this requirement since it has been shown in section 4.2.3 that reconstruction takes place in RD structures. The constituent *zukkau* (‘football’) originates in a position in the c-command domain of *zinghai* (‘only’) in (65) and *zaa3* (‘only’) in (66). If we compare RD with topicalisation, we can see a difference. In (69) and (70) where the fronted *zukkau* (‘football’) is the topic, this c-command requirement is not fulfilled because topics occur in a position higher than the VP adverb *zinghai* (‘only’) and the sentence-final particle *zaa3* (‘only’). So it is not c-commanded by either of the focus operators. Moreover, reconstruction does not seem to take place.

- (69) *zukkau le1, Billy zinghai zungji tai _*
 football TOP Billy only like watch
 a. # ‘Billy only likes to watch football (not cricket).’
 b. ‘Billy only likes to watch football (not play football).’
- (70) *zukkau le1, Billy zungji tai _ zaa3*
 football TOP Billy like watch SFP
 a. # ‘Billy only likes to watch football (not cricket).’
 b. ‘Billy only likes to watch football (not play football).’

(69) is acceptable when *zungji tai* (‘likes to watch’) or *tai* (‘watch’) is associated with the focus operator *zinghai* (‘only’). Hence, reading (b) ‘Billy only likes to watch football (not play football)’ is available. However, associating *zinghai* (‘only’) with *zukkau* (‘football’) is not possible, so (69) cannot mean ‘Billy only likes to watch football (not cricket)’ (reading a). This also holds true for the case in (70) where the sentence-final particle *zaa3* cannot focus *zukkau* (‘football’).

This shows that Right Dislocation and topicalisation in Cantonese involve different mechanisms and functions and that the dislocated phrase and topicalised phrase probably occupy different positions in the syntactic structure, despite their superficial similarity.

Another piece of evidence for the focus-marking function of RD comes from negation. Consider the following example.

- (71) sausi lo1 keoi m zungji zing
 sushi SFP s/he not like make
 a. 'S/he doesn't like to make **SUSHI** (as opposed to dumplings).'
 b. # 'S/he doesn't like to **MAKE** sushi (but s/he likes to **EAT** sushi).'

Assuming that negation is focus-sensitive and associates with focus (cf. Lee & Pan 2001), the unavailability of reading (b) can be accounted for by the fact that RD identifies the focus (*sausi* 'sushi') and negation obligatorily associates with it. Reading (b) is otherwise possible when the sentence is in the normal word order. So (72) in the canonical word order is actually ambiguous.

- (72) keoi m zungji zing sausi lo1
 s/he not like make sushi SFP
 b. 'S/he doesn't like to make **SUSHI** (as opposed to dumplings).'
 b. 'S/he doesn't like to **MAKE** sushi (but s/he likes to **EAT** sushi).'

4.2.7. Ordering

The present proposal predicts that it is possible to have both topicalisation and Right Dislocation at the same time and that the topic and the fronted phrase are in a fixed linear order. An example is given here.

- (73) dungmat le1, cungsyu aa3 keoi zeoi zungji _
 animal TOP squirrel SFP s/he best like
 'As for animals, s/he likes squirrels best.'

Dungmat ('animal') is the topic (Top_1), marked by the topic marker *le1* while *cungsyu* ('squirrel') cannot be the second topic because it is followed by a sentence-final particle *aa3* and sentence-final particles do not mark topics. The different markers used serve as a good indicator of whether one is a case of topicalisation or Right Dislocation. Furthermore, as Focus is lower than the higher Topic as shown in (13), the dislocated constituent should not be able to cross the Topic. So, it predicts that the topic *dungmat* ('animal') must precede the focused element *cungsyu* ('squirrel') and this is indeed true. (74) is impossible.

- (74) **cungsyu aa3 dungmat le1 keoi zeoi zungji _*
 squirrel SFP animal TOP s/he best like

This is also true in cases where the topic is associated with a gap in the sentence.

- (75) a. [*go zaat faa*]_i *le1* [*sung t_i bei Cindy gaa3*]_j *Mary t_j*
 that CL flower TOP give to Cindy SFP Mary
 'As for that bunch of flowers, Mary gave it to Cindy.'
- b. **[sung t_i bei Cindy gaa3]*_j [*go zaat faa*]_i *le1 Mary t_j*
 give to Cindy SFP that CL flower TOP Mary

While Y. Cheung (1997) also contrasts Right Dislocation with topicalisation with respect to their (lack of) focusing properties, his Generalised Dislocation Adjunction Rule makes no prediction with regard to the ordering of the topic and the fronted focused phrase.³

³ Actually, Y. Cheung (1997) does allow the fronted phrase to be adjoined to a topic. For example, in the following RD structure, the NP *loeng gaa baasi* ('the two buses') is assumed to be the topic, for it can only have a definite reading.

- (i) *ngo gin dou lo3 loeng gaa baasi (=16b)*
 I see PRT SFP two CL bus
 'I can see the two buses.'

However, he also takes note of the difference in grammaticality between sentences similar to (73) and (74), i.e. when the topic marker *le1* is present, the topic phrase cannot follow the fronted phrase and the SFP. This seems to be in conflict with the observation of (i). His speculation is that 'with the use of topic markers, the topic is normally stressed and is followed by a slight pause' which 'conflicts with the general tendency to unstress the β -string in dislocation and the absence of

My proposal predicts that the dislocated string cannot precede sentential adverbs which express speech acts or speaker-oriented evaluation which occupy the position of the highest Force projection. (Cf. Cinque 1999, Mui & Chao 1999, Chao & Mui 2000) The following examples illustrate the fact that the sentential adverbs *loulousatsat* ('honestly') and *houcoi* ('luckily') cannot occur after the SFP, which shows that the fronted phrase cannot cross the adverbs.

- (76) a. *loulousatsat jiging ding zo gaa3 laa3 go zyuzik wai _*
 honestly already fix ASP SFP SFP CL president post
 'Honestly, the presidential post has been assigned already.'
- b. **jiging ding zo gaa3 laa3 loulousatsat go zyuzik wai _*
 already fix ASP SFP SFP honestly CL president post
- (77) a. *houcoi bei zo Billy go sailou zaa3 go zyuzik wai _*
 luckily give ASP Billy CL younger-brother SFP CL president post
 'Luckily, Billy's younger brother has been elected president.'
- b. **bei zo Billy go sailou zaa3 houcoi go zyuzik wai _*
 give ASP Billy CL younger-brother SFP luckily CL president post

Consider the following examples which pose problems for Y. Cheung's (1997) analysis.

- (78) *jaudi jan mou tai saai jisap bun syu aalmaa3*
 some person not read all 20 CL book SFP
 'Some people didn't read all the twenty books.'

pause between α -string and β -string'. (fn. 23) First, I disagree with his observation that topics are stressed. Second, his reasoning implies that there can never be a pause in the string following the sentence-final particle. While it is true that this part of an RD structure normally has a low and level intonation and pauses are seldom attested, if we impose a pause at a legitimate position, say, the edge of a phonological phrase, the result only sounds unnatural rather than totally ungrammatical. With respect to (i), I would hesitate to analyse the NP *loeng gaa baasi* ('the two buses') as the topic. Its definite reading is likely to be forced by the fact that the NP is in the non-focus position (or background) and the indefinite reading is hard to get.

(79) jisap bun syu aa1maa3 jaudi jan mou tai saai
 20 CL book SFP some person not read all
 ‘Some people didn’t read all the twenty books.’

(80) ??/*jaudi jan jisap bun syu aa1maa3 mou tai saai
 some person 20 CL book SFP not read all

(78) is the normal word order and (79) is a legitimate RD structure. However, (80) is marginal. According to Y. Cheung’s (1997) GDA Rule, (80) should have been fine because the GDA Rule allows the fronted phrase to be adjoined to a VP. The subject NP *jaudi jan* (‘some people’) is indefinite and is guaranteed to be within IP, i.e. it cannot be a topic. The present proposal, however, rules (80) out on the ground that the fronted phrase *jisap bun syu* (‘20 books’) fails to move to the focus position, which is located higher than the subject, and correctly predicts that (79) is grammatical where the fronted phrase is now higher than the subject.

Allowing the fronted phrase to be adjoined to a VP also wrongly renders sentences like (81) grammatical where the fronted phrase *jisap bun syu* (‘20 books’) is adjoined to the VP *tai saai* (‘read all’) while the negation *mou* remains in a higher position than the fronted phrase.

(81) *jaudi jan mou jisap bun syu aa1maa3 tai saai
 some person not 20 CL book SFP read all

This problem is avoided if we posit that the fronted phrase is moved to the Focus position, since Focus is structurally higher than Negation.

4.2.8. The status of the SFP

Y. Cheung (1997) does not propose any mechanism by which the sentence-final particle gets into the sentence-medial position in an RD structure. He has resort to the stipulation that ‘in dislocation, the SP [SFP] immediately follows the fronted XP which is D-Adjacent to the SP in the underlying sentence’. (94) He also observes that a second sentence-final particle (cluster) is not allowed at the end of

an RD sentence. Hence, the following sentence with two sentence-final particles is ungrammatical, unless construed as two separate utterances, of course.

- (82) *cungsyu aa1maa3 keoi zeoi zungji lo1
 squirrel SFP s/he best like SFP
 ‘S/he likes squirrels best.’

One may argue that the ungrammaticality of (82) is due to the occurrence of two SFP₁s (*aa1maa3* and *lo1*) which are shown earlier not to be able to co-occur in the sentence-final position anyway. However, an SFP₂ such as *zaa3* (‘only’), which is normally able to co-occur with *lo1*, is not possible either after *cungsyu* (‘squirrel’), as shown in the following example.

- (83) *cungsyu zaa3 keoi zeoi zungji lo1
 squirrel SFP s/he best like SFP
 ‘S/he likes squirrels best.’

So, it doesn’t look as if a sentence-medial particle is generated to act as some kind of focus marker for the fronted phrase. Moreover, it is possible to have virtually any sentence-final particle following the dislocated constituent, irrespective of its semantics. I do not have a fully satisfactory explanation for this mystery, but offer the following speculation. The occurrence of the SFP in that particular position is perhaps due to a phonological reason (apart from its semantic and pragmatic contribution). A sentence-final particle typically occurs at the final position which coincides with the right edge of an intonational phrase. Its occurrence in a sentence-medial position may serve the function of marking the edge of an intonational phrase so that the string following the SFP constitutes a separate intonational phrase. This at least correctly describes the fact that the string after the SFP has a low and level intonation, which is also characteristic of Right-dislocated phrases in Germanic and Romance languages. Whether this speculation is plausible or not is subject to further investigation. Alternatively, if we assume an antisymmetric structure as discussed in Chapter 3 section 3.1.2, this mystery

can apparently be solved (to an extent) but at the cost of making additional stipulations. I shall leave the issue open here.

4.3. The cleft *hai* ('be')-construction

The copula *shi* in Mandarin is often said to function as a focus marker. (Hashimoto 1969, Chao 1968, Teng 1979, Li & Thompson 1981, Huang 1988, Shi 1994, etc.) Various syntactic accounts have been proposed. The Cantonese counterpart *hai* ('be') has identical distribution and discourse functions, so although not much work has been done specifically on *hai* ('be'), the literature on the Mandarin *shi* ('be') can be used as a point of reference. I shall review several accounts of *shi* ('be') and propose, for both Mandarin and Cantonese, that these constructions involving the copula have a biclausal structure, comparable to the English *it*-clefts. The function of these constructions is to mark the clefted element as the identificational focus of a sentence.

The copula *shi* is often discussed in the *shi ... de* context, as in (84), where *de* has a controversial status: it can be a nominaliser, sentence-final particle or a postverbal particle.

- (84) shi baba dai wo shangxue de
 be father bring I go-to-school DE
 'It is my father who takes me to school.'

Shi ... de sentences in Mandarin, sometimes referred to as 'cleft' sentences (Teng 1979, etc.), express a focus function, and the copula *shi* typically precedes the focused element. Although in these so-called 'cleft' sentences, the copula *shi* often occurs with *de*, Shi (1994) observes that the two elements do not necessarily co-occur to convey the focusing function and he claims that it is really the copula *shi* that marks focus. The following sentences, without *de*, are all fine (taken from Huang (1988)).

(85) shi Zhangsan mingtian dao Niuyue qu (=7)
 be Zhangsan tomorrow go New York go
 ‘It is Zhangsan who is going to New York tomorrow.’

(86) Zhangsan shi mingtian dao Niuyue qu (=8)
 Zhangsan be tomorrow go New York go
 ‘It is tomorrow that Zhangsan is going to New York.’

(87) Zhangsan mingtian shi dao Niuyue qu (=9)
 Zhangsan tomorrow be go New York go
 ‘It is New York that Zhangsan is going to tomorrow.’

The three sentences express the same basic proposition: ‘Zhangsan is going to New York tomorrow’. However, they differ in the way that different elements are in contrastive focus: in (85), *Zhangsan* (as opposed to ‘other people’); in (86) *mingtian* (‘tomorrow’) (as opposed to ‘next Friday’); and in (87) *Niuyue* (‘New York’) (as opposed to ‘London’). Huang (1988) draws a parallel between these sentences and the English cleft-sentences.

(88) It is John who will go to New York tomorrow. (=15)

(89) It is tomorrow that John will go to New York. (=16)

(90) It is to New York that John will go tomorrow. (=17)

Since many (early) studies focus on the *shi ... de* construction and *de* in other contexts functions as a nominaliser, these sentences receive a nominalisation account, i.e., the post-copular constituent is a headless nominal (Zhu 1978, etc.). However, as we now acknowledge that *de* is not obligatory in these ‘cleft’ sentences and the post-copular string can be gapless, the nominalisation approach does not seem to be desirable. (But see Lee & Yiu 1998b for a revival.)

That issue aside, there is also a dispute between whether *shi*-sentences should be analysed as simplex or complex. Interestingly, most studies adopt a simplex sentence account, even though they are frequently compared to English cleft-sentences in terms of their functions. For example, the copula *shi* is often

conveniently assumed to be a focus marker (Teng 1979 and many others that follow) which precedes the intended focused constituent. However, Teng (1979) and Huang (1988) notice that this analysis fails to capture the fact that *shi* ('be') shows verbal properties in these sentences. For instance, *shi* ('be') can be the *A* in A-not-A questions where *A* is usually verbal.

- (91) shi-bu-shi ta zuotian zhe le nidi shu? (=39a)
 be-not-be s/he yesterday borrow ASP your book
 'Was it him/her who borrowed your book yesterday?'

Shi ('be') also has limited distributions: it can only appear before a subject, between the subject and predicate, and before or after a pre-verbal adverb. Teng (1979) also states that it cannot occur before an object, as shown in the following example.

- (92) *wo zuotian zai xuexiao pengjian le shi ta (de) (=46)
 I yesterday at school meet ASP be s/he DE

However, the description is actually not entirely accurate. It is not really the case that *shi* ('be') cannot occur before an object. In this example, what is crucial is the fact that *shi* ('be') cannot occur after an aspect marker (*le*), which typically follows a verb in the language.

It is also observed that *shi* ('be') cannot occur before a clausal verb complement.

- (93) *wo shefa shi dakai chuangzi le (=48)
 I try be open window ASP

These distributions are typical of verbal elements. Nevertheless, the simplex sentence analysis can still be maintained, even if the focus marker account fails to capture the verbal properties of *shi* ('be') in *shi*-sentences. In Huang (1988), he observes that *shi* ('be') can occur either before or after an epistemic modal but cannot be placed after a deontic modal.

- (94) tai shi keneng dao Niuyue qu le (=54a)
 s/he be possibly go New York go ASP
 'It is possible that s/he has gone to New York.'
- (95) tai keneng shi dao Niuyue qu le (=54b)
 s/he possibly be go New York go ASP
 'It is possible that s/he has gone to New York.'
- (96) *ta neng shi san tian bu shuijiao (=56)
 s/he can be three day not sleep
- (97) ta shi neng san tian bu shuijiao
 s/he be can three day not sleep
 'S/he can not sleep for three days.'

From these observations, Huang (1988) believes that it is best not to analyse *shi* ('be') as the main verb or a focus marker. He suggests that *shi* ('be') in these cases is a raising auxiliary that subcategorises for a clause. *Shi* ('be') occupies the position of I and selects an IP. The subject in the IP can optionally raise to the subject position of the matrix clause. He gives the following example.

- (98) [IP e [I' shi [IP wo da le ta]]]
 be I hit ASP s/he
 'It is I who hit him/her.'
- (99) [IP wo [I' shi [IP da le ta]]]
 I be hit ASP s/he
 'I did hit him/her.'

If the subject *wo* ('I') stays in the lower clause, we get (98). If it raises, we get (99). The advantage of this analysis is that it can explain why *shi* ('be') cannot appear in front of a verbal complement. Auxiliaries must be pre-verbal, so *shi*

(‘be’) can never occur after a verb. Other observations also fall into place. Huang (1988) assumes that epistemic modals have the same status as *shi* (‘be’). Sentences containing an epistemic modal express a proposition and do not involve ‘action’. Hence, epistemic modals and *shi* (‘be’) can take a proposition as complement and *shi* (‘be’) can occur on either side of an epistemic modal because the modal can be in the higher clause or lower clause relative to *shi* (‘be’). Deontic modals, on the other hand, are different because these modals must take an ‘actional’ complement but not a proposition. So if a deontic modal co-occurs with *shi* (‘be’), it must appear in the lower clause, thus giving rise to the fact that a deontic must follow *shi* (‘be’) in the surface order.

Huang (1988) stipulates that the first constituent following *shi* (‘be’), or the constituent governed by it, is the focus. He also suggests that *shi* (‘be’) is more aptly analysed as an auxiliary. If it were a main verb, then *shi*-sentences would become complex sentences, which is ‘not quite in accord with native speakers’ intuition’. Huang also draws a parallel between *shi* and the English *do*, which is no doubt an auxiliary. He gives these examples to support his claim.

- (100) wo shi kangjian le Wang Xiaojie (=98a)
 I be see ASP Wang Miss
 ‘I did see Miss Wang.’

- (101) I did see Miss Wang. (=98b)

Moreover, *shi* (‘be’) is required in ellipsis.

- (102) *Zhangsan hen xihuan Li Xiaojie, wo ye (=100)
 Zhangsan very like Li Miss I also

- (103) Zhangsan hen xihuan Li Xiaojie, wo ye shi (=111)
 Zhangsan very like Li Miss I also be
 ‘Zhangsan likes Miss Li, and so do I.’

Parallels can be found in the function of *do* in English.

(104) *John comes every day, and so Bill. (=114))

(105) John comes every day, and so does Bill. (=115))

However, as noted by Xu (2003), the Mandarin *shi* ('be') and the English *do* are not exactly parallel: for instance, *shi* ('be') cannot be used when the first clause is negative and the second clause is positive. This is shown in the following example.

(106) *John bu xihuan Mary, er Bill shi (=ii)
 John not like Mary but Bill be

In the discussion of the *shi ... de* constructions, Shi (1994) proposes that *shi* ('be') is a modal verb, rather than an auxiliary or the copula (i.e., a main verb), while *de* only has a secondary function and is most likely an aspect marker. He notes that the modal verb analysis may pose a potential problem for the occurrence of *shi* ('be') in the sentence-initial position, e.g. in (85). But he says that modals actually do appear in that position, e.g. *yinggai* ('should'), as in the following example.

(107) Yinggai Yaoqi qu (=13a)
 should Yaoqi go
 'It should be the case that Yaoqi goes (there).'

One observation that he brings to our attention is the fact that *shi* ('be') cannot occur in the main clause of a relative clause (also cf. Teng 1979).

(108) *ta juegui bu chi [[shi Tan Guangdou zuo de] cai] (= Shi's (14a))
 s/he absolutely not eat be Tan Guangdou cook DE dish

But it can occur in the embedded clause of a relative clause, as in (109). So we have the following contrasts.

(109) wo mai le na ben [_{NP} [_{CP} ni yiwei [_{CP} Laoshe shi zai Beijing xie] de] shu]
 I buy ASP that CL you think Laoshe be at Beijing write DE book
 'I bought the book which you say it is in Beijing that Laoshe wrote (it).'

(=(31b))

(110) *wo qu canguan le [_{NP} [_{CP} Bajin shi zai nar chusheng de] fangzi] (= (23b))
 I go visit ASP Bajin be at there born DE house

Shi's analysis assumes that *shi* is an operator which must take scope over the CP immediately dominating it. It is raised at LF to a position c-commanding everything in that CP to take the right scope. Since *shi* ('be') is a modal head, it is subject to the Head Movement Constraint (Chomsky 1986) and the highest position it can move to is the head of CP. The *shi* ('be') operator assigns its index to the C node and by Spec-Head agreement, the [Spec,CP] also gets the same index. In a relative clause, however, the [Spec,CP] bears the index identical to the NP. If *shi* ('be') occurs in a relative clause, there will be a clash of indices, rendering the sentences ungrammatical. On the other hand, if *shi* ('be') occurs in the embedded clause of a relative clause, *shi* ('be') need only move to the embedded C head to take scope and there will be no clash of indices.

The problem with this analysis is that it is not clear in what sense *shi* ('be') is an operator. Why does it have to take scope over the CP immediately dominating it? These seem to be some stipulative properties that are tailored to fit into his particular analysis.

With regard to questions, Shi (1994) and others observe that *shi* ('be') cannot occur in a wh-question and A-not-A question either, unless *shi* ('be') is the *A*, as mentioned earlier.

(111) *ni zai nali shi mai de zhe zhong yao? (= (15a))
 you at where be buy DE this CL medicine

(112) *ni shi zai Xian chi-mei-chi jiaozi? (= (16a))
 you be at Xian eat-not-eat dumpling

However, *shi* ('be') can occur in a wh- or A-not-A question as long as the focused element following *shi* ('be') and the wh- or A-not-A element are in different clauses; more precisely, *shi* ('be') must occur in a clause subordinate to the clause containing the wh- or A-not-A element.

- (113) shei shuo shi wo de le guanjun? (=24)
 who say be I win ASP championship
 'Who says that it is I who has won the championship?'
- (114) *ni yiwei shi wo da le shei? (=27)
 you think be I beat ASP who
 'Who is the person x such that you think that it is I who beat x?'
- (115) ni shuo-mei-shuo guo shi wo tou le nide che? (=29)
 you say-not-say ASP be I steal ASP your car
 'Did you say or not that it is I who stole your car?'
- (116) *ni shuo guo shi wo tou-mei-tou nide che? (=30a)
 you say ASP be I steal-not-steal your car

To the best of my knowledge, only Paris (1979) and Hedberg (1999) adopt a complex sentence analysis for *shi*-sentences. In Hedberg (1999), *shi*-sentences have a structure similar to the English *it*-cleft sentences, where the cleft clause is adjoined to the clefted constituent. So far, no serious objections have been raised against them, except Huang's (1988) remark of 'speakers' intuition', but then that does not sound like a very good reason to dismiss such a possibility.

Along the lines of Chomsky (1977) and Heggie (1993) on analyses of the English cleft sentences, I propose here a bi-clausal structure for Cantonese *hai* ('be')-sentences (and also Mandarin *shi*-sentences), as represented in (117).

- (117) [_{IP} hai sidobelei_i [_{CP} Op_i [_{IP} Mary zeoi zungji sik t_i]]]
 be strawberry Mary most like eat
 'It is strawberries that Mary likes to eat most.'

The clefted or focused element, *sidobelei* ('strawberries') in (117), is base-generated in its surface position and a null operator is moved to the [Spec,CP] of the lower clause. The null operator is identified with the clefted element by predication.

This configuration allows us to explain the properties of *hai* ('be')-sentences. Since *hai* ('be') is taken as a verb here, it is no surprise that it shows all verbal properties as discussed earlier, namely its possibility of being the *A* of an A-not-A question and the impossibility of its occurring after an aspect marker or before a verbal complement.

As for the ordering with respect to modals, *hai* must precede a deontic modal but can be on either side of an epistemic modal, just like the Mandarin counterpart. Since the current proposal assumes two clauses, in theory both epistemic and deontic modals can be generated in either the higher or lower clause. I suggest that deontic modals must be in the lower clause, and since *hai* ('be') is in the higher clause, it therefore must precede a deontic modal in the surface order. Epistemic modals, on the other hand, may be generated in either the higher or lower clause, and so we have both surface orders. I do not have a fully satisfactory explanation for this, but in English at least, we find something parallel.

(118) It is probably strawberries that Mary likes best.

In (118), *probably*, an epistemic modal adverb, can occur in the higher clause. However, a deontic modal adverb *willingly* is impossible.

(119) ??/*It is willingly strawberries that Mary likes best.

It is clear in English that cleft-sentences have a biclausal structure, but for some independent reason, epistemic and deontic modals have different distributions. Also, if we assume *hai* ('be') is the main verb of the matrix clause, then it is not at all odd to find that it occurs in the sentence-initial position since Cantonese allows null subjects and the 'potential problem' observed by Shi (1994) disappears.

Returning to the puzzling problem about relative clauses, my judgements with regard to the contrast between the main clause and embedded clause deviate from Shi's (1994). If the focused/clefted element does not coincide with the head of the relative clause, *hai* ('be') is possible even in the main clause of the relative clause.

- (120) ngo zing zo hai hai Daaiwaan sik gwo ge go zung sausi
 I make ASP be at Osaka eat EXP GE that kind sushi
 'I made the kind of sushi that it was in Osaka that I tried.'

However, *hai* ('be') is impossible if the focused/clefted element coincides with the head of the relative clause.

- (121) *ngo maai zo [[hai [_{CP} Jenny zeoi zungji sik *t*] ge Op] sidobeiei]
 I buy ASP be Jenny most like eat GE strawberry

Moreover, even if *hai* ('be') occurs in the embedded clause of a relative clause, the sentence is still out when the focused element coincides with the head of the relative clause.

- (122) *ngo maai zo [[nei waa [hai [_{CP} Jenny zeoi zungji sik *t*]] ge Op] sidobeiei]
 I buy ASP you say be Jenny most like eat GE strawberry

So, the contrast here is not really between the main clause and the embedded clause of a relative clause, but between whether or not the focused element coincides with the head of a relative clause.

Interestingly, this puzzle is not specific to Mandarin or Cantonese. This seems to show up in sentences involving *it*-clefts in English too.

- (123) ?I made the kind of sushi that it was in Osaka that I tried.

- (124) *I bought the strawberries [_{CP} Op that it is [_{CP} that Jenny likes *t* best]]

In (123), *in Osaka* is the focused constituent but the head of the relative clause is *kind of sushi*. On the other hand, in (124), *strawberries* is both the focused/clefted constituent and head of the relative clause and we can see the difference in the judgements. If we assume Cantonese *hai* ('be')-sentences have a structure comparable to that of English *it*-clefts, then the ungrammaticality of (121), (122) and (124) can be explained by a violation of Subjacency. On the contrary, when the focused/clefted element does not coincide with the head of the relative clause, the operator need not move to a higher clause and so (120) and (123) are grammatical.

I have argued that the *hai* ('be')-sentences in Cantonese have a bi-clausal syntactic structure that is similar to that of English *it*-clefts. Functionally, the *hai* ('be')-sentences are also comparable to *it*-clefts in the sense that the former marks the element following *hai* as the identificational focus. (Cf. É. Kiss 1999, Lambrecht 2001 among others for English.) Like Right Dislocation and contrastive stress discussed earlier, the extra processing effort required in the marked structure of *hai* ('be')-sentences is offset by cognitive effects, i.e. a set of alternatives corresponding to the focus element is invoked. Also, when focus operators like the adverb *zinghai* ('only') and the SFP *zaa3* ('only') occur in these sentences, they must associate with the focused element. This is illustrated in the following examples.

(125) *hai joengmou pei ngo zinghai wui maai ge3 lo4*
 be fleece blanket I only will buy SFP SFP
 'It is fleece blankets that I will only buy.'

(126) *hai joengmou pei ngo wui maai ge3 zaa3*
 be fleece blanket I will buy SFP SFP
 'It is fleece blankets that I will only buy.'

The focus operator cannot associate with anything else, e.g. the verb *maai* ('buy'), in these examples, even if it falls in the scope of *zinghai* ('only') and *zaa3* ('only').

4.4. Summary

In this chapter, I have discussed three devices to mark identificational focus in Cantonese – contrastive stress, Right Dislocation and the cleft *hai* ('be')-construction. Moreover, it has been shown that focus operators must associate with the focused element identified by any of these focus-marking devices.

CHAPTER 5 MEANING OF FOCUS PARTICLES

In the previous chapters, I have suggested that focus operators associate with identificational focus and have discussed several focus-marking devices in Cantonese. In this chapter I shall examine the meaning and use of two sentence-final focus particles: *zaa3* ('only') and *tim1* ('also').

5.1. Meaning of *zaa3* ('only')

The Cantonese sentence-final particle *zaa3* ('only') has a meaning similar to the English *only*. I propose that it has the meaning given below:

(1) $(\forall x) [\alpha(x) \rightarrow (x=\beta)]$ where α is a propositional schema and β is the focused value.

(2) is an example.

(2) Mary camjat heoi zo waan jyugaa zaa3
 Mary yesterday go ASP play yoga SFP
 'Mary only went to do yoga yesterday.'

The propositional schema α is Mary VP and the focused value β is 'went to do yoga yesterday'. For all the x that is predicated of Mary, x is 'went to do yoga yesterday'. In other words, Mary only went to do yoga yesterday, and did nothing else.

This characterises the so-called 'non-scalar' meaning of the SFP *zaa3* ('only'). *Zaa3* ('only') is also said to have a 'scalar' meaning, as shown in the following example. (Cf. Kwok 1984, Lee 2000, Fung 2000, etc.)

- (3) John hai jingau zolei zaa3
 John be research assistant SFP
 ‘John is only a research assistant.’

This has the interpretation that John is only a research assistant but not of any rank higher than that, e.g. a professor. I propose that this kind of ‘scalar’ interpretation is given by the procedural meaning (Blakemore 1987, 2000, 2002) encoded in *zaa3* (‘only’). The procedural meaning is given in (4).

- (4) Interpret the focused element as the highest member in the scale.

The exact nature of the scale is context-dependent and follows from the relevance-theoretic comprehension strategy, i.e. follow the path of least effort in computing cognitive effects: test interpretive hypotheses in order of accessibility, and stop when your expectations of relevance are satisfied (Sperber & Wilson 1986/95, Wilson & Sperber 2002). Consider the above example. The procedural meaning of *zaa3* (‘only’) says that the focused element *jingau zolei* (‘research assistant’) is to be interpreted as the highest member on a relevant scale, i.e. a scale of academic rankings in this case, which is arguably the most accessible. So, we arrive at the interpretation ‘John is a research assistant and is not of a higher rank (e.g. a professor)’.

The advantage of making use of the notion of procedural meaning and adopting the relevance-theoretic comprehension strategy is that it can capture all instantiations of the pragmatic scale. Encoding just one dimension, e.g. cardinality as in Lee’s (2000) account, would miss the generalisation. Here are some examples containing pragmatic scales of different natures.

- (5) zek toigoek laan zo zaa3
 CL table-leg break ASP SFP
 ‘Only the table leg is broken (not the whole table).’

(6) keoi go joeng leng zaa3
 s/he CL face pretty SFP
 ‘She is only pretty.’

(7) zek joeng di mou baak zaa3
 CL sheep CL wool white SFP
 ‘Only the sheep’s wool is white.’

With regard to cardinal numbers, consider (8).

(8) ngo hoji bei sei bong nei zaa3
 I can give four pounds you SFP
 ‘I can only give you four pounds.’

In this example, the utterance not only expresses the proposition that ‘I can only give you four pounds’ but also conveys the sense ‘I can only give you *at most* four pounds’. If we insert *zeoido* (‘at most’), as in (9), the utterance is fine. However, if we replace it with *zeoisiu* (‘at least’), as in (10), it becomes totally unacceptable.

(9) ngo zeoido hoji bei sei bong nei zaa3
 I at-most can give four pounds you SFP
 ‘I can only give you at most four pounds.’

(10) ??ngo zeoisiu hoji bei sei bong nei zaa3
 I at-least can give four pounds you SFP
 ‘I can only give you at least four pounds.’

Carston (1998) observes that cardinal numbers are special in the sense that *n* does not specify any one of the interpretations – *at least n*, *at most n* and *exactly n*. The precise interpretation has to be pragmatically determined. Here we have a case – the restrictive focus particle *zaa3* (‘only’) or the focus adverb *zinghai* (‘only’) – which can constrain the interpretation in such a way that the cardinal number is to be interpreted as *at most n*. As formulated in (4), the procedural meaning of *zaa3*

(‘only’) guides the hearer to interpret the focused element (here the cardinal number n) as the highest member in the scale (of numbers). Thus we obtain the meaning of *at most n*.

The use of negation of a higher element in the scale as a possible continuation to an utterance containing *only*, *zinghai* (‘only’) or *zaa3* (‘only’), is frequently found in linguistic examples, e.g. Herburger’s (2000) example.

(11) Juliet was only drugged (not dead).

or Lee’s (2000) example in Cantonese.

(12) John maai zo saam bun syu zaa3, mhai maai zo sei bun
 John buy ASP three CL book SFP not-be buy ASP four CL
 ‘John only bought three books, not four.’

The negation here is just a metalinguistic negation of an expectation involving an element higher in the scale. The frequent use of such a construction to continue a sentence containing a restrictive focus element is probably because the procedural meaning of *only*, *zinghai* (‘only’) and *zaa3* (‘only’) places the focused element as the highest rank on a scale. Working backwards, it is easy to construct such a context where an expectation is rectified. The continuations in these examples merely spell out this contrariness.

In fact, these examples can also be continued with a negation of an element lower in the rank. For example,

(13) Juliet was only drugged. She was not asleep.

This may sound less natural than the previous ones, but nevertheless it is true. Negation here operates on truth-conditional elements rather than expectations. As the focus operator excludes all other alternatives, that the truth of ‘Juliet was drugged’ excludes the possibility of the truth of ‘Juliet was asleep’.

Lee (2000) suggests that the adverb *zinghai* (‘only’) cannot express the scalar meaning. I (and my informants) disagree. Examples (5) – (7) can actually

contain the adverb *zinghai* ('only') without the sentence-final particle *zaa3* ('only') and they can all be interpreted in the same way, i.e. a scalar meaning is expressed.

(14) *zinghai zek toigoek laan zo lo4*
 only CL table-leg break ASP SFP
 'Only the table leg is broken (not the whole table).'

(15) *keoi zinghai go joeng leng lo4*
 s/he only CL face pretty SFP
 'She is only pretty.'

(16) *zek joeng zinghai di mou baak lo4*
 CL sheep only CL wool white SFP
 'Only the sheep's wool is white.'

So, it is not true that the adverb *zinghai* ('only') and the SFP *zaa3* ('only') differ in their 'scalarity'. Moreover, stipulating that one is scalar and one is non-scalar, as in Lee (2000), would pose potential problems for cases when the two focus elements co-occur. I suggest that they both encode the same procedural meaning as in (4). My proposal thus does not suffer the co-occurrence problem because both the adverb *zinghai* ('only') and the sentence-final particle *zaa3* ('only') have the same procedural meaning and can convey either scalar or non-scalar interpretations, depending on the context. So it is perfectly fine for them to co-occur and indeed they frequently do. There is also no question of *zinghai* ('only') or *zaa3* ('only') being lexically ambiguous between a scalar and non-scalar representations: they have only one semantic meaning and encode the same procedural information.

Then a question arises: if *zinghai* ('only') and *zaa3* ('only') can express both scalar and non-scalar meanings, how do we determine which one is chosen? To illustrate how scalar and non-scalar interpretations arise, consider the following exchange between A and B in three different scenarios.

- (17) A: Who came to the meeting?
 B1: Only a/the secretary came.
 B2: go beisyu lai zo zaa3
 CL secretary come ASP SFP
 ‘Only a/the secretary came.’
 B3: zinghai go beisyu lai zo
 only CL secretary come ASP
 ‘Only a/the secretary came.’
- (18) Scenario 1: A does not have much knowledge about the meeting, i.e. does not know who or how many people came.
- (19) Scenario 2: A knows that there was more than one person in the meeting.
- (20) Scenario 3: A knows that there was only one person present in the meeting.

B’s answer, containing *only*, *zaa3* (‘only’) and *zinghai* (‘only’) in B1, B2 and B3 respectively, should be ambiguous between a scalar and non-scalar reading if the contextual assumptions are not known. However, putting this exchange in different scenarios gives us different interpretations. In Scenario 1, the interpretation of B’s answer is a non-scalar one, i.e. ‘only a secretary and no one else came to the meeting’. Since A doesn’t have much prior knowledge about the meeting, the non-scalar interpretation, i.e. all other alternatives are excluded, in B’s answer (obtained by virtue of the semantics of the focus operator) is good enough to satisfy A’s expectations of relevance. According to the relevance-theoretic comprehension procedure (Sperber & Wilson 1986/95, Wilson & Sperber 2002), one stops when the expectations of relevance are satisfied. On the other hand, the scalar interpretation involves the construction of a relevant scale and arguably requires more effort. Hence, the first interpretation that arises is the non-scalar one rather than the scalar one. Note that this does not amount to saying that the decoding of lexical items is performed first and hence the non-scalar meaning is arrived at prior to the scalar one, as Wilson & Sperber (2002) state that the sub-tasks in a comprehension procedure should not be thought of as sequentially ordered. We have reason to believe that constructing such a relevant pragmatic scale and positioning the focused element as the highest member of the

scale in this particular context where speaker A has not much knowledge about the meeting should require more cognitive efforts.

In Scenario 2, B's answer must be interpreted as scalar, i.e. no one of a higher rank than the secretary came. It is because the non-scalar reading cannot satisfy A's expectations of relevance since she holds the assumption that there was more than one person in the meeting which is in conflict with the exclusive reading. This reading is not good enough to yield cognitive effects and so the comprehension procedure cannot stop there. As *only*, *zinghai* ('only') and *zaa3* ('only') have a procedural meaning that constrains the interpretation in such a way that the focused element is to be interpreted as the highest member in the scale, the focused element 'the secretary' is interpreted as ranking the highest in some scale, giving rise to the scalar reading that 'no one of a higher rank than the secretary came'. Now, adequate cognitive effects have been achieved and the comprehension procedure stops.

The same reasoning can be applied to Scenario 3 where A knows that only one person turned up to the meeting. The non-scalar interpretation that only one person came cannot satisfy her expectations of relevance because it is not relevant enough to yield cognitive effects as 'only one person came' is already in her set of contextual assumptions. So, as predicted, a scalar reading is arrived at which adds to her knowledge that no one of a higher rank than the secretary came to the meeting.

5.1.1. *zaa3* vs. *ze1*

The particle *zaa3* ('only') is often said to convey a sense of insufficiency, e.g. Kwok (1984) states that '*zaa3* seems to have a negative value in the sense that its presence indicates that what is being stated is not more, or bigger, or longer, or better or more desirable, and so on' and 'is made to convey the idea of insufficiency.' (51-52) 'As a result it is sometimes associated with an attitude of disdain, of scorn and of disapproval. ... However, it is necessary to point out that disapproval or disdain is not an essential component of the particle's meaning.' (52-53) Although Kwok (1984) is careful to dissociate the attitudinal component of disdain and scorn from the core meaning of *zaa3* ('only'), she seems to ascribe

‘a negative value’ to it but does not state explicitly in what sense it has this ‘negative value’. Her few examples that putatively illustrate this ‘negative value’ seem to express some kind of negative attitude particular to some contexts. Moreover, the idea of ‘insufficiency’ most likely has something to do with expectations and as discussed earlier, these are highly context-dependent.

Fung (2000), following Kwok (1984), also suggests that *zaa3* (‘only’) conveys the idea of ‘insufficiency’ while *ze1* (downplay), which she contrasts with *zaa3* (‘only’), conveys the idea of ‘not excessive’. (60) She gives the following examples.

- (21) *jatbaak man zaa3* (=61a)
 hundred dollar SFP
 ‘It’s only one hundred dollars, (much cheaper than I expected).’

- (22) *jatbaak man ze1* (=61b)
 hundred dollar SFP
 ‘It’s only one hundred dollars, (not too excessive).’

In (21), the speaker assumes a higher price but the real value turns out to be lower and so the particle is claimed to convey a sense of insufficiency. On the other hand, in (22), the speaker assumes a lower price but the actual price turns out to be higher and so *ze1* (downplay) expresses a sense of ‘not excessive’ and performs a downplaying function.

But then the contrast between *zaa3* (‘only’) and *ze1* (downplay) does not seem to be always true. Consider the following example.

- (23) Context: A wants to borrow money from B.
 A: (after being repeatedly turned down)
 jatbaak man ze1/zaa3, hou laa.
 hundred dollar SFP/SFP please
 ‘It’s only one hundred dollars - please.’

Here, both *zaa3* ('only') and *ze1* (downplay) are fine. In this case, the speaker has the assumption that \$100 should not be too much for the hearer (i.e. 'not excessive'). So, if the contrast between *zaa3* ('only') and *ze1* (downplay) did exist, then only *ze1* (downplay) should be acceptable. However, both *zaa3* ('only') and *ze1* (downplay) are fine in this example.

The counterexample shows that the association of *zaa3* ('only') with the so-called 'insufficiency' is not absolute. I suspect it is only that *zaa3* ('only') frequently occurs in situations where something is perceived as 'insufficient' but then that doesn't warrant the claim that the particle conveys the idea of 'insufficiency'. It is likely to be an implicature derived from some expectation conflicts in some particular contexts.

5.2. Meaning of *tim1* ('also')

Among the previous studies of the sentence-final particle *tim1* ('also'), it has been claimed that the particle expresses the meaning of 'in addition to' or 'also' (H. Cheung 1972, Kwok 1984, Leung 1992, S. Law 1990, Zhan 1958). Below is an example.

- (24) Mary sik zo loeng wun min tim1
 Mary eat ASP two bowl noodles SFP
 'Mary also ate two bowls of noodles.'

Depending on where the focus is, (24) can mean '(in addition to one bowl of noodles,) Mary also ate two bowls of noodles' or '(in addition to two plates of rice,) Mary also ate two bowls of noodles'. In other words, the presence of *tim1* ('also') presupposes the truth of an alternative predicate that holds of *Mary*. The focused constituent can be anything within the predicate, i.e. the numeral *loeng* 'two', the classifier *wun* 'bowl', the noun *min* 'noodles', the numeral-classifier *loeng wun* 'two bowls', the NP *loeng wun min* 'two bowls of noodles', the verb *sik* 'eat' and the entire VP *sik zo loeng wun min* 'ate two bowls of noodles'. Hence, (24) is fine in all the following contexts.

(25) In addition to

- | | |
|------------------------------------|----------------------|
| (a) one bowl of noodles, | [numeral] |
| (b) two plates of noodles, | [classifier] |
| (c) two bowls of rice, | [noun] |
| (d) one plate of noodles, | [numeral-classifier] |
| (e) one plate of rice, | [NP] |
| (f) ordering two bowls of noodles, | [verb] |
| (g) drinking a glass of water, | [VP] |

Mary also ate two bowls of noodles.

Another property that is often said to hold of *timl* ('also') is that the particle frequently co-occurs with the adverb *zung* ('also'), which has an additive focus meaning 'also' and a temporal meaning 'still' or 'again' (S. Law 1990, Leung 1992), as in example (26).

- (26) Mary zung sik zo loeng wun min timl
 Mary also eat ASP two bowl noodles SFP
 'Mary also ate two bowls of noodles.'

As we can see, since (26) and its minimal pair (24) have the same meaning, this has led to the conclusion by some researchers that the adverb *zung* ('also') is optional (e.g. H. Cheung 1972). S. Law (1990) also mentions that *zung* ('also') can be optionally deleted. However, she at the same time claims that the particle *timl* ('also') is actually part of the discontinuous construction *zung ... timl*. If *zung* ('also') can be omitted, it is hard to see the significance of positing the discontinuous construction *zung ... timl*. This optionality claim doesn't seem to have won agreement, though. Lee (1995), for instance, (implicitly) rejects this contention. But unfortunately, all claims from both sides lack convincing support.

I shall examine the optionality issue and discuss the similarities and differences between *zung* ('also') and *timl* ('also') in the next section and conclude that they do not form a discontinuous construction and neither of them is

optional. Then in section 5.2.2, I shall propose semantic representations for *tim1* ('also') and *zung* ('also') respectively. In section 5.2.3, some semantic constraints encoded by *tim1* ('also') and *zung* ('also') are discussed and I shall propose that both of them have the same procedural meaning.

5.2.1. *Zung* ('also') is distinct from *tim1* ('also')

Since the sentence-final particle *tim1* ('also') is said to frequently co-occur with the additive focus adverb *zung* ('also') in the literature, it is worth examining whether they form a discontinuous construction and are optional (S. Law 1990) or actually make independent contributions.

Apart from the adverb *zung* ('also'), the particle *tim1* ('also') can also co-occur with the additive focus adverbs *dou* ('also'), *jau* ('again'/'also') and *zoi* ('again') as in the following examples.

- (27) (a) Gina dou soeng sik zyugwulik tim1
 Gina also want eat chocolate SFP
 '(Besides Mary,) Gina also wanted to eat chocolate.'
 'Even Gina (also) wanted to eat chocolate.'
- (b) Gina dou soeng sik zyugwulik (aa3)
 Gina also want eat chocolate SFP
 '(Besides Mary,) Gina also wanted to eat chocolate.'

The most natural reading of (27a) is '(apart from Mary,) Gina also wanted to eat chocolate' as the adverb *dou* ('also') can quantify over the subject. As in the case of *zung* ('also'), (27a) can also be interpreted as 'even Gina wanted to eat chocolate' with stress on *Gina* and a lengthened *tim1* ('also'), after enumerating several other people who also wanted to eat chocolate. (27b), where the particle *tim1* ('also') is missing, expresses the meaning 'Gina also wanted to eat chocolate' with focus on *Gina*. However, the meaning 'even Gina wanted to eat chocolate' is unavailable.

Unlike *zung* ('also') and *dou* ('also'), the adverbs *jau* ('again') and *zoi* ('again') quantify over events instead of entities in the predicate. Below I show how the particle *tim1* ('also') interacts with these two adverbs.

- (28) (a) Gina jau soeng sik zyugwulik tim1
 Gina again want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'
- (b) Gina jau soeng sik zyugwulik
 Gina again want eat chocolate
 'Gina wanted to eat chocolate again.'
- (29) (a) Gina zoi soeng sik zyugwulik tim1
 Gina again want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'
- (b) Gina zoi soeng sik zyugwulik
 Gina again want eat chocolate
 'Gina wanted to eat chocolate again.'

Both (28a) and (29a) can express either 'Gina wanted to eat chocolate again' or 'Gina even wanted to eat chocolate again'. In the latter case, the reading is more readily available when the adverb *jau* ('again')/*zoi* ('again') is stressed and the particle *tim1* ('also') lengthened. The 'even' reading is again impossible in the (b) sentences where the particle *tim1* ('also') is omitted or replaced by the neutral sentence-final particle *aa3*.

If *zung* ('also') and *tim1* ('also') form a discontinuous construction and either one of them can be omitted, as suggested by S. Law (1990), then it should be possible to re-insert *zung* ('also') in the above sentences where other focus adverbs are present. However, as we see from the examples below, in most cases,

when *zung* ('also') occurs with another focus adverb, the sentences are marginal if not ungrammatical.

- (30) ??/*Gina zung dou soeng sik zyugwulik tim1
 Gina also also want eat chocolate SFP
 '(Besides Mary,) Gina also wanted to eat chocolate.'
 'Even Gina (also) wanted to eat chocolate.'
- (31) ?Gina dou zung soeng sik zyugwulik tim1
 Gina also also want eat chocolate SFP
 '(Besides Mary,) Gina also wanted to eat chocolate.'
 'Even Gina (also) wanted to eat chocolate.'
- (32) ??/*Gina jau zung soeng sik zyugwulik tim1
 Gina again also want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'
- (33) ??/*Gina zung jau soeng sik zyugwulik tim1
 Gina also again want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'
- (34) *Gina zung zoi soeng sik zyugwulik tim1
 Gina also again want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'
- (35) *Gina zoi zung soeng sik zyugwulik tim1
 Gina again also want eat chocolate SFP
 'Gina wanted to eat chocolate again.'
 'Gina even wanted to eat chocolate again.'

Summarising from this survey of co-occurrences of different focus adverbs with the particle *tim1* ('also'): if *zung* ('also') and *tim1* ('also') indeed formed a discontinuous construction and either of them could be optional, then it is hard to explain why most of the sentences in (30) – (35) are ungrammatical.

Apart from having the meaning of 'also', the adverb *zung* ('also') can also act as an aspectual operator that has a meaning akin to the temporal use of the English *still*. So, the following example can have two different interpretations.

- (36) Mary *zung* sik gan faan aa3
 Mary still eat ASP rice SFP
 (a) 'Mary is still having dinner.'
 (b) 'Mary is also having dinner (apart from watching TV).'

In (36a), *zung* ('also') is interpreted as an aspectual operator while in (36b), it is a focus operator meaning 'also'. Using the particle *tim1* ('also') instead of the neutral particle *aa3* in the above utterance yields some interesting results.

- (37) Mary *zung* sik gan faan tim1
 Mary still eat ASP rice SFP
 (a) 'Mary is still also having dinner.'
 (b) 'Mary is also having dinner (apart from watching TV).'

As described earlier, the particle *tim1* ('also') does not seem to alter the meaning of the utterance when *zung* ('also') is interpreted as 'also'. Thus, (37b) has the same meaning as (36b), i.e. 'Mary is also having dinner (apart from watching TV)'. However, when *zung* ('also') is interpreted as 'still', the utterance (37) now means 'Mary is still also having dinner' (reading a). A possible context could be that Mary has been watching TV and having dinner for half an hour. At the time of utterance, she is still watching TV and the utterance asserts that the other thing that she is still doing is having dinner. Here, in this example, one obtains a compositional meaning of 'also' and 'still' contributed by *tim1* ('also') and *zung* ('also') respectively. This invalidates the optionality claim that either the adverb or the particle can be omitted as suggested in previous studies, at least when *zung*

(‘also’) expresses the temporal meaning ‘still’. It can be established at this point that *tim1* (‘also’) only carries a focus meaning ‘also’ whereas *zung* (‘also’) is lexically ambiguous between a focus and an aspectual meaning (which will be elaborated shortly). Thus they are not equivalent and neither of them is optional.

5.2.2. Semantics of *zung* (‘also’) and *tim1* (‘also’)

Recall that one widely accepted use of the adverb *zung* (‘also’) and the SFP *tim1* (‘also’) is to express the meaning of ‘also’. They act as additive focus operators quantifying over either entities within the predicate or the whole predicate. Informally, I claim that they have following semantics (cf. König 1991b):

(38) $(\exists x) x \neq \beta \alpha(x)$

where β is the focus and α the propositional schema.

Taking example (24) to illustrate, repeated here,

(24) Mary sik zo loeng wun min tim1
 Mary eat ASP two bowl noodles SFP
 ‘Mary also ate two bowls of noodles.’

for the propositional schema α , which is ‘Mary VP’, there exists an x , which is not the focus β (i.e. *sik zo loeng wun min* ‘ate two bowls of noodles’), that is also true of α , e.g. ‘Mary drank a cup of tea’.

Since both the adverb *zung* (‘also’) and the SFP *tim1* (‘also’) make the same semantic contribution, it is no surprise that either one of them is sufficient to express the meaning of ‘also’ and is seemingly no different from when both occur together. So, the following examples are all grammatical and mean ‘Mary also ate a box of chocolates’.

(39) (a) Mary zung sik zo hap zyugwulik tim1
 Mary also eat ASP box chocolate SFP
 ‘Mary also ate a box of chocolates.’

- (b) Mary sik zo hap zyugwulik tim1
 Mary eat ASP box chocolate SFP
 ‘Mary also ate a box of chocolates.’
- (c) Mary zung sik zo hap zyugwulik (aa3)
 Mary also eat ASP box chocolate SFP
 ‘Mary also ate a box of chocolates.’

It is probably because of this usage of *zung* (‘also’) as ‘also’ that some previous studies have claimed that the particle *tim1* (‘also’) or *zung* (‘also’) can be optional. But as argued in the previous section, the optionality claim cannot really stand up. Also, when we discuss the pragmatic constraints of the SFP *tim1* (‘also’), we will see more differences between the adverb *zung* (‘also’) and *tim1* (‘also’).

We have seen that the adverb *zung* (‘also’) can also mean ‘still’. An immediate question is whether there are two separate *zung*’s for the two uses ‘also’ and ‘still’. Mandarin has a particle *hai*¹ that has a diverse meaning: it can express the meanings ‘also’, ‘still’, ‘even’ and ‘again’. Liu (2000) tries to unify the various meanings of the Mandarin focus element *hai* using the scalar model framework, along the lines of Fillmore, Kay and O’Connor (1988) and Kay (1990). According to him, his account is able to explain the different uses of *hai*, namely expressing the meanings ‘also’, ‘still’, ‘even’ and ‘again’, as a comparison marker, and indicating a counter-to-expectation situation. He claims that the particle *hai* has a basic meaning, which is that it is persistent and evokes a relation between two propositions, with the particle being associated with the stronger (more informative) proposition, i.e. the one that entails the other. The different uses of the particle differ in their semantic dimensions. For instance, the respective semantic dimensions for the meanings ‘still’ and ‘again’ are continuation of state/persistence through time and frequency. For the meaning ‘also’, the dimension is the relevant entity in context. Those for comparison and counter-to-expectation situations are degree and what actually is and what is

¹ Although the meanings of the Mandarin *hai* and the Cantonese *zung* overlap to some extent and both have a focus use ‘also’ and ‘even’, and a temporal use ‘still’, other uses of *hai* are not translatable by the Cantonese *zung*. So, I do not consider them equivalent.

expected respectively. The ‘already/yet’ meaning is said to arise from conversational implicatures.

Although Liu (2000) has seemingly provided a unified account for the Mandarin particle *hai*, it is doubtful if all the uses of the particle are really ‘scalar’ in nature. In particular, it is not clear whether the Mandarin particle *hai* is ‘scalar’ when it is interpreted as ‘also’ and ‘still’. Most previous studies on elements in different languages that express these two meanings do not consider ‘also’ and ‘still’ as scalar, and intuitively, it is hard to see in what sense they are. Using the scalar model framework that Liu adopts, it is controversial that the particle *hai* (as ‘also’) is associated with the stronger (more informative) proposition that **entails** the weaker (less informative) one. Conventional wisdom has it that the two propositions are in a presuppositional relation rather than an entailment relation. It seems that Liu (2000), in the attempt to give a basic meaning to such a wide range of interpretations of the particle *hai*, has missed certain fundamental properties of the meanings that *hai* conveys.

In the discussion of the German particles *noch* (‘still’) and *schon* (‘already’), Löbner (1989, 1999) proposes that these temporal particles are instances of phase quantifiers and that the underlying scale is the time scale. For the particle *noch* (t_e, P), where t_e stands for the time of evaluation and P is the proposition, its truth conditions are as follows (Löbner 1999:54):

- (40) a. It triggers the presupposition that there is a phase of P starting before t_e and that up to t_e at most one change between not- P and P has occurred.
 b. *noch*(t_e, P) is true iff the presupposition in (a) is fulfilled and $P(t_e)$ is true.
 c. *noch*(t_e, P) is false iff the presupposition in (a) is fulfilled and $P(t_e)$ is false.

(40) basically says that the proposition P containing *noch* is true when the time of evaluation falls in the phase of P which precedes the phase of not- P . Intuitively, this formulation sounds right but the clause in (a) seems somewhat problematic in that one is not sure if it is really a *presupposition* that there is at most one change of phase. Take a simple case such as

- (41) Er wohnt noch in England.
 He lives still in England
 ‘He still lives in England.’

It is implausible that there is a presupposed change of phase from ‘he lives in England’ to ‘he does not live in England’ after the time of evaluation t_e . Indeed, (40a) only states that there is *at most* one change of phase from P to not-P; so, it is not obligatory that there has to be such a change. If so, it is not clear in what sense this presupposition is significant. Later on, Löbner seems to offer something different from the truth conditions for *noch*(t_e, P) set out in (40). He says that *noch* triggers a conversational implicature to the effect that the polarity will eventually change. This is due to the (Gricean) maxim of relevance. Since phase quantification defines the polarity contrast of the sentence on the basis of the premise of a possible transition from P to not-P, there would be no point in choosing that way of expression if the fulfilment of the premise were ruled out in the given context. In that case, a future change from P to not-P is not presupposed but conversationally implicated. This sounds like a contradiction if the presupposition of such a change of phase is included in the truth conditions for the particle *noch*.

The phase approach does not seem to be ideal. Also, if *zung* (‘also’) is a phase quantifier in the sense of Löbner (1989, 1999), it is not immediately clear what is shared by the semantics of ‘still’ and its focus use ‘also’, as outlined in (38). Liu’s (2000) treatment of the Mandarin *hai* couched in the scalar model framework is not desirable either for reasons given earlier. I propose that, instead of quantifying over entities in the predicate, *zung* (‘also’) when used as ‘still’ quantifies over times. Its semantics is tentatively given as follows:

- (42) $\exists t, e, t < t_0, e = e_0, \text{Hold}(e_0, t_0) \ \& \ \text{Hold}(e, t)$
 where e_0 is the event expressed by the proposition containing *zung* at time t_0

Basically, (42) says that there exists an event e identical to e_0 and a time t which is earlier than t_0 such that e_0 holds at t_0 and e holds at t . (‘Holding’ is in Parsons’s

1990 sense.) This formulation differs from that of Löbner in that there is no presupposition or implicature stipulated in the semantics of *zung* ('also') that says that there is a change of phase of the holding of an event to the negation of it. As explained earlier, such a presupposition is dubious. Another advantage of giving the meaning of *zung* ('still') as in (42) is that it is in some way parallel to that of *zung* ('also') when it is interpreted as 'also'. The time variable t here resembles the focus β in (38) in the sense that there exists a t or β that is different from the respective variable in the proposition. The propositional schema α in (38), on the other hand, is like the holding of the two identical events in that they are both held constant taking different variables. In some way, the two meanings 'still' and 'also' of *zung* ('also') can thus be related in the sense that they are actually additive in nature but differ in the variable being quantified over.

This formulation is, to a certain extent, similar to that of König (1977) (cited in Barker 1991). He analyses the German *noch* as an operator taking a sentence P with reference time t as its scope and the reference time t itself as its argument. There exists a presupposition of a temporal scale or ordering of times (ordered by the relation 'before than') such that t is an element in the ordering. It is also presupposed that P holds at every time t' , from a time t_0 before t , up to t . The second presupposition may pose a problem for habitual cases, such as *I still play the piano*. It is hard to calibrate t' in these situations as the occurrences of habitual events are often not contiguous and no strict regularity is really necessary. In light of this, I shall adopt the semantics for the temporal *zung* ('also') given in (42) for the time being.

As the SFP *timl* ('also') does not have the meaning 'still', there is no question of whether it can quantify over times or not. So, after examining the different uses of *zung* ('also') and *timl* ('also'), I propose that both of them are additive focus operators but have different semantic representations. *Zung* ('also') is able to quantify over either the entities in the predicate or the whole predicate, in which case it is interpreted as 'also' (43a), or the time variable, in which case it is interpreted as 'still' (43b). Its semantics is repeated as follows:

(43) Semantics of *zung*:

(a) $(\exists x) x \neq \beta \alpha(x)$

where β is the focus and α the propositional schema.

(b) $\exists t, e, t < t_0, e = e_0, \text{Hold}(e_0, t_0) \ \& \ \text{Hold}(e, t)$

where e_0 is the event expressed by the proposition containing *zung* at time t_0

On the other hand, *timl* ('also') can only quantify over entities but not times, as the occurrence of *timl* ('also') alone cannot give rise to a 'still' meaning. Its semantics essentially just consists of the representation given in (43a).

(44) Semantics of *timl*:

(a) $(\exists x) x \neq \beta \alpha(x)$

where β is the focus and α the propositional schema.

5.2.3. Procedural meaning of *timl* ('also')

This section attempts to pinpoint the procedural meaning (Blakemore 1987, 2000, 2002) encoded in the sentence-final particle *timl* ('also') and the pragmatic constraints that license its use.

In her discussion of some English discourse markers, Blakemore (1987) suggests that *moreover* indicates that the propositions it connects are combined as premises in the same argument, or that the two propositions are connected by the fact that they are premises for the same conclusion. (95) The first use is exemplified by the example below.

(45) Tom's here. Moreover, he's brought his guitar. (=53))

The use of *moreover* instructs the hearer to combine the two propositions that *moreover* connects – 'Tom's here' and 'He's brought his guitar' – and draw a conclusion, namely 'we can have some music', which is otherwise unobtainable. The second use differs from the first in the sense that the two propositions can lead

to the same conclusion separately and that they are connected by this fact. She gives the following example.

(46) Susan has bought a tracksuit. Moreover, she had salad for lunch. (=46)

The two propositions ‘Susan has bought a tracksuit’ and ‘Susan had salad for lunch’ can be taken separately to be premises for the conclusion ‘Susan intends to lose weight’. *Moreover* can be used in this case as they lead to the same conclusion.

It is interesting to note that the Cantonese SFP *tim1* (‘also’) has the same function as the English *moreover*. Consider the following example.

(47) Mary lai zo laa3. keoi daai maai keoi go gittaa tim1
 Mary come ASP SFP s/he bring PRT s/he CL guitar SFP
 ‘Mary has come. Moreover, she has brought her guitar.’

Here, the particle *tim1* (‘also’) cannot be construed as associating with any one particular focused element in the second sentence, i.e. for instance, it does not presuppose that Mary has brought something other than her guitar. Even so, the use of *tim1* (‘also’) is legitimate and is parallel to the first use of *moreover* outlined above – it instructs the hearer to combine the proposition expressed by the sentence containing *tim1* with the previous proposition to arrive at a conclusion, i.e. ‘we can have some music’ in this case.

The next example shows another use of *tim1* (‘also’).

(48) ngo maai zo gaa ce. Billy bong ngo zung zo gei po syu tim1
 I buy ASP CL car Billy help I plant ASP few CL tree SFP
 ‘I bought a car. Moreover, Billy planted a few trees for me.’

Again, *tim1* (‘also’) does not express any presuppositions such as ‘Billy helped me to clean the house’ and yet the occurrence of *tim1* (‘also’) in (48) is fine. This use is similar to the second use of *moreover* – it connects two propositions which are independent premises for the same conclusion. In (48), we can imagine a situation

where the speaker has suddenly got rich, which can be taken as the common conclusion of the proposition ‘I bought a car’ and ‘Billy planted a few trees for me’. The former is straightforward: the speaker bought a car and it shows that she has got rich. The latter proposition may be treated as the premise for the conclusion that the speaker has recently acquired a big piece of land, which in turn can be a premise for the conclusion that she has got rich.

One interesting fact is that these semantic constraints seem to be available to elements taking sentential scope, e.g. *moreover*, *furthermore* and *tim1* (‘also’). Blakemore (1987) observes that *also* used in the sentence-initial position can have the same usage.

(49) Tom’s here. Also he’s brought his guitar. (=57b)

(50) Susan has bought a tracksuit. Also she had salad for lunch. (=57a)

However, when *also* occurs in the pre-verbal position, these constraints are unavailable. Consider (51).

(51) Tom’s here. He’s also brought his guitar.

(51) cannot be used in the same situation as in (45). The construal can only be the case that Tom has brought something other than his guitar, e.g. some wine. Interestingly, if we compare the Cantonese adverb *zung* (‘also’) with the SFP *tim1* (‘also’), we find the same contrast.

(52) Mary lai zo laa3. keoi zung daai maai keoi go gittaa
 Mary come ASP SFP s/he also bring PRT s/he CL guitar
 ‘Mary has come. She has also brought her guitar.’

(52) differs from (47) only in the fact that the former contains the adverb *zung* (‘also’) while the latter contains the SFP *tim1* (‘also’). We can see that, like (51), (52) can only be appropriate if Mary has also brought something else. However, (47) does not have this requirement and the use of *tim1* (‘also’) instructs the hearer to infer the conclusion that ‘we can have some music’. This probably lends

support to the fact that *timl* ('also') is really sentential (as argued in Chapter 3) and takes scope over the whole sentence rather than just the VP. Perhaps these constraints are available to sentential additive focus operators cross-linguistically, but more research is needed to verify this.

Surveying additive focus particles in other languages, we find that the Japanese *mo* ('too') has an interesting property. Shudo (2002) gives the following example.

- (53) a. Kyoo wa minna depaato ni itta.
 today TOP everyone department store to went
 'Everyone went to a department store today.'
- b. J wa Macy's ni itta shi,
 J TOP Macy's to went and
 'J went to Macy's, and'
- c. K mo Bloomingdale's ni itta.
 K too Bloomingdale's to went
 'K went to Bloomingdale's, too.' (= (39))

As *mo* ('too') is an additive focus particle, it should presuppose that there is someone other than K who went to Bloomingdale's. However, (53c) is fine even if K is the only one who went to Bloomingdale's. Shudo (2002) proposes that *mo* ('too') is licensed as long as there is a bridge entailment, which is 'K went to a department store' in this case and is also entailed by the preceding sentence (53a).

(54) is a comparable Cantonese example involving the sentence-final particle *timl* ('also').

- (54) A: neidei camjat heoi zo bin?
 you yesterday go ASP where
 'Where did you go yesterday?'

B: ngo heoi zo tiu jindoi mou
 I go ASP dance modern dance
 ‘I went to do modern dance.’

C: #ngo heoi zo zou jyugaa timl
 I go ASP do yoga SFP
 ‘I went to do yoga, too.’

In this example, *timl* (‘also’) is inappropriate in C’s answer unless she has also done modern dance. We could imagine a bridge entailment, e.g. ‘x did some exercise yesterday’, that is entailed by both B’s and C’s answer. However, it is not sufficient to license the use of the SFP *timl* (‘also’). Even if both the Japanese *mo* (‘too’) and the Cantonese SFP *timl* (‘also’) are additive focus particles, contextual assumptions play a role in determining their legitimacy.

It has been observed in the literature that the SFP *timl* (‘also’) can mean something like the English *even*, in addition to the ‘also’ meaning (Kwok 1984, S. Law 1990, Lee 1995). Lee (1995: footnote 7) glosses the particle *timl* (‘also’) as meaning ‘even’, a scalar operator, which is taken to ‘signal either lesser or greater degree of likelihood or even smaller or greater informational value’, along the lines of Karttunen and Peters (1979) and Kay (1990). But some studies such as H. Cheung (1972) and Leung (1992) do not ascribe the meaning ‘even’ to the particle *timl* (‘also’). So far, the picture as to the meaning of ‘even’ is rather messy and even in studies claiming that *timl* (‘also’) can express the meaning ‘even’, they do not give a satisfying account of its use or specify the conditions under which it occurs.

I adopt Iten’s (2002) account of the English *even* for the SFP *timl* (‘also’) since, as reviewed earlier in Chapter 2, her proposal is superior to other previous accounts in that it can accommodate a wider range of usage of *even*. *Timl* (‘also’) encodes the following procedural meaning, adapted from Iten (2002).

(55) Process S^* in a context in which it is at the extreme end of a scale containing at least one assumption (i.e. fully propositional mental representation) different from S^* in the element in the focus of *timl* (S_i),

such that the truth of S^* makes manifest or more manifest all assumptions on the scale.

S^* is a sentence containing the SFP *tim1* ('also'). Take (56) as an example.

- (56) Jenny sik maai sing hap zisi beng tim1
 Jenny eat PRT whole CL cheese biscuit SFP
 'Jenny has even eaten up the whole box of cheese biscuits.'

The context for the felicity of (56) can be Jenny has already eaten lots of ice-cream, chocolates and flapjacks. The particle *tim1* ('also') instructs the hearer to process the proposition 'Jenny ate up the whole box of cheese biscuits' as being at the extreme end of a scale containing the propositions 'Jenny has eaten ice-cream', 'Jenny has eaten chocolate' and 'Jenny has eaten flapjacks', etc. The truth of (56) (S^*) implies the likely truth of these propositions in the scale. In this case, the scale is of a 'likelihood' nature, i.e. eating a whole box of cheese biscuits is the least likely thing one can do after eating lots of ice-cream, chocolates and flapjacks. But as noted by Iten (2002), the exact nature of the scale is constructed by the hearer using the relevance-theoretic comprehension strategy, i.e. following the path of least effort. In other words, the 'likelihood' nature in this case is not specified in the meaning of *tim1* ('also').

Unlike English, which has distinct lexical items for the meanings 'also' and 'even', the particle *tim1* ('also') is capable of expressing both meanings. So, the next issue we have to tackle is under which conditions the particle *tim1* ('also') expresses which meaning. It is obviously more desirable to tie together the two different meanings than posit two lexical entries for *tim1* ('also'). I shall propose that there is only one entry *tim1* ('also') and the exact meaning is an interaction between its procedural information and contextual assumptions.

Although *tim1* ('also') can mean either 'also' or 'even', there are cases in Cantonese where utterances containing *tim1* ('also') only express the meaning 'even' while the 'also' meaning is unavailable, however the intonation is manipulated. Consider the following examples.

- (57) John daasou saai seng gaan uk, keoi sai maai go ciso tim1
 John clean all whole CL house s/he wash PRT CL toilet SFP
 ‘John cleaned the whole house. He even cleaned the toilet.’

The second part of the utterance in (57) can only express the meaning ‘John even cleaned the toilet’, irrespective of the intonation pattern, while ‘John also cleaned the toilet’ is unavailable, again irrespective of the intonation. The same phenomenon can be found in English as well. As the ‘also’ and ‘even’ meanings are distinctly lexicalised, only *He even cleaned the toilet* in this context is acceptable but *He also cleaned the toilet* is not possible, as shown in (58).

- (58) John cleaned the whole house. He even/#also cleaned the toilet.

Also is acceptable only when the toilet is not interpreted as the toilet inside the same house in the first sentence but somewhere else. This is also true of the Cantonese example in (57). Consider the following two contexts.

- (59) John finished Chomsky’s book. He ??also/even read the last chapter.
- (60) John tai zo Chomsky bun syu. Keoi tai maai zeoihau go chapter tim1
 John read ASP Chomsky CL book s/he read PRT last CL chapter SFP
 ‘John finished Chomsky’s book. He ??also/even read the last chapter.’
- (61) John got on the bus. He ??also/even went upstairs.
- (62) John soeng zo gaa baasi. Keoi soeng zo lausoeng tim1
 John go-up ASP CL bus s/he go-up ASP upstairs SFP
 ‘John got on the bus. He ??also/even went upstairs.’

In the English examples (59) and (61), only *even* is acceptable while *also* is very odd. Similarly, in the Cantonese examples (60) and (62), the sentence-final particle *tim1* (‘also’) can only express the meaning ‘even’ but not ‘also’. We can see from these three contexts that when the two propositions are in a subset

relation, *also* is not good while *even* is fine. One may say that for additive focus particles like the Japanese *mo* ('too') or the English *also*, the two propositions have to be 'similar' in some way. This characterisation may not be able or necessary to account for data like (59) - (62). For example, in (59), it is hard to say whether the proposition 'John finished Chomsky's book' and 'John read the last chapter' are similar or not. But if we look at the semantics of *also* or *tim1* (as 'also'), i.e. the truth of at least one proposition distinct from the one expressed by the sentence containing *also* or *tim1* ('also') is presupposed, we can see why *also* is not good in (59) and (61) and *tim1* cannot mean 'also' in (60) and (62). In (59), the proposition 'John finished Chomsky's book' actually entails 'John read the last chapter', assuming that 'the last chapter' in the second proposition is the last chapter of the same Chomsky's book. So the proposition 'John read the last chapter' cannot be taken as a proposition distinct from the first one. Thus, *also* is not licensed. Examples (60) - (62) can be accounted for along the same lines.

On the other hand, *even* is fine in (59) and (61) and *tim1* can only express the meaning 'even' in (60) and (62). As suggested in (55), *tim1* and *even* instruct the hearer to process the proposition in question as being at the extreme end of some scale and the truth of it makes manifest or more manifest other assumptions on the same scale. For (59), it is easy for the hearer to construct the scale with the elements of 'John read chapter 1' and 'John read chapter 2', etc., and that the truth of 'John read the last chapter' makes (more) manifest the truth of other assumptions on the scale. A suitable context could be that the last chapter of Chomsky's book is notoriously difficult among all the chapters and is the least likely one to be read successfully. The first proposition 'John finished Chomsky's book' presents no contradiction and there is no requirement that it has to be distinct from the one expressed by the sentence containing *even*. Hence, *even* and *tim1* (as 'even') are licensed in these cases.

Recall that the Cantonese adverb *zung* ('also') is said to be very similar in meaning to the SFP *tim1* ('also'). We have seen that the SFP *tim1* ('also') has the procedural meaning (55) giving rise to a meaning similar to the English *even*. However, there is no consensus on whether *zung* ('also') can express the meaning 'even'. Lee (1995) makes it explicit that the adverb *zung* ('also') and the particle *tim1* ('also') have distinct meanings: the former shows the properties of a non-

scalar operator and thus should not be interpreted as having a meaning similar to the English *even*, while the latter can mean ‘even’. He gives the following examples to illustrate his claim.

- (63) (a) keoi maai zo bou ce, zung maai zo cang lau (= Lee’s (19))
 s/he buy ASP CL car also buy ASP CL flat
 ‘S/he bought a car, and also bought a flat.’
- (b) keoi maai zo cang lau, zung maai zo bou ce
 s/he buy ASP CL flat also buy ASP CL car
 ‘S/he bought a flat, and also bought a car.’

Lee conceives that the event ‘buying a flat’ involves greater monetary value than ‘buying a car’ and therefore there is ‘good reason’ to believe that the former event should rank higher than the latter with respect to some scale of value. According to the definition of ‘even’ that Lee adopts, the scalar operator ought to occur in the proposition that is ranked higher. Hence, if the adverb *zung* (‘also’) means ‘even’, (63b) should be unacceptable, as the event ‘buying a car’ is ranked lower than ‘buying a flat’. However, as shown in (63), the fact that *zung* (‘also’) can occur in either of the conjuncts suggests that *zung* (‘also’) does not carry the meaning ‘even’ and is therefore non-scalar.

There are several problems with Lee’s reasoning. First, if his conception were correct, the English counterpart *He bought a flat and even bought a car* ought to be rendered unacceptable too, as Lee essentially borrows Kay’s (1990) definition of the English *even*. However, *He bought a flat and even bought a car* seems to be no less acceptable than *He bought a car and even bought a flat*. In his footnote 7, Lee himself admits that ‘one could of course make (19c) [i.e. *S/he bought a flat and even bought a car*] acceptable by pragmatic accommodation, taking the second conjunct to denote something greater in value than that denoted by the first conjunct’, which seems to undermine his own claim.

The fundamental flaw in Lee’s argument is his misrepresentation of Kay’s (1990) formulation of *even*. The crucial defining feature for Kay’s proposal is that given a scalar model, a proposition *p* is ranked higher or more informational than a

distinct proposition q iff p **entails** q . In Lee's example, it might be true that 'buying a flat' ranks higher than 'buying a car' on the scale of monetary value in our common sense, but it is not immediately clear that the former ranks higher than the latter in Kay's (1990) sense, since 'buying a flat' does **not** entail 'buying a car'. Discrepancies in judgements aside, building on this misrepresented definition, Lee's argument seems unconvincing.

Moreover, for utterances in which the particle *tim1* ('also') and the adverb *zung* ('also') co-occur, Lee seems to acknowledge that they convey the meaning 'even', as in his example (19c) in footnote 7, without clarifying the role of the 'non-scalar' operator *zung* ('also') in those cases.

We have established earlier that certain contexts only license *even* but not *also*, i.e. when the two propositions are in a part-whole relation. The relevant example is repeated here.

(58) John cleaned the whole house. He even/#also cleaned the toilet.

It would be a good test to see whether the Cantonese adverb *zung* ('also') can mean 'even'. If it can occur in this context, then there is reason to believe that *zung* ('also') is capable to convey an 'even' meaning, in addition to 'also'.

(64) John daasou saai seng gaan uk, (keoi) zung sai maai go ciso aa3
 John clean all whole CL house s/he also wash PRT CL toilet SFP
 'John cleaned the whole house. He even cleaned the toilet.'

With an appropriate intonation, a gradual rise instead of a natural declination, and making *zung* ('also') significantly more prominent by an increase in length and pitch range, (64) is fine and the second sentence can only mean 'he even cleaned the toilet'. This shows that Lee's (1995) claim that the adverb *zung* ('also') is non-scalar and only the particle *tim1* ('also') can contribute the meaning of 'even' does not hold.

Another piece of probably indirect evidence is that in Cantonese there is another construction *lin ... dou* which is generally claimed to mean 'even'. Here is an example.

- (65) Mary lin hap zyugwulik dou sik zo aa3
 Mary even box chocolate also eat ASP SFP
 ‘Mary even ate the box of chocolates.’

The *lin ... dou* construction involves object shifting (*zyugwulik* ‘chocolates’ in this case). One could posit that there is a division of labour between *zung* (‘also’) and *lin ... dou* in the sense that the former means ‘also’ and the latter ‘even’, similar to the English counterparts *also* and *even*. If this were true, it would lead to a somewhat odd situation where there would be no way to express the meaning ‘even’ with the *lin ... dou* construction when the predicate did not contain any object to be preposed.² For instance, in example (66) in which *haam* (‘cry’) does not take any object, it is impossible to use the *lin ... dou* construction (66a). On the other hand, *zung* (‘also’) is legitimate and the sentence expresses the meaning ‘I even cried at the end’ (66b).

- (66) (a) *cammaan go gaauhoengngok zanhai zingcoi. Zeoihau ngo lin
 last night CL symphony really wonderful. At-the-end I even
 dou haam zo ceotlai
 all cry ASP out
 ‘The symphony last night was wonderful. I even cried at the end.’
- (b) cammaan go gaauhoengngok zanhai zingcoi. Zeoihau ngo zung
 last night CL symphony really wonderful. At-the-end I also
 haam zo ceotlai aa3.
 cry ASP out SFP
 ‘The symphony last night was wonderful. I even/*also cried at the end.’

² This is not entirely accurate because in Cantonese there is a lexical item *samzi* (‘even’), used in a slightly higher register in my dialect, which means ‘even’ and can precede an intransitive predicate. Nevertheless, it doesn’t affect my claim that *zung* (‘also’) can express the meaning ‘even’.

One has to explain how the ‘even’ meaning is derived in intransitive predicates containing *zung* (‘also’). As shown in this example, it does not seem to be valid to say that *zung* (‘also’) conveys only the meaning ‘also’.

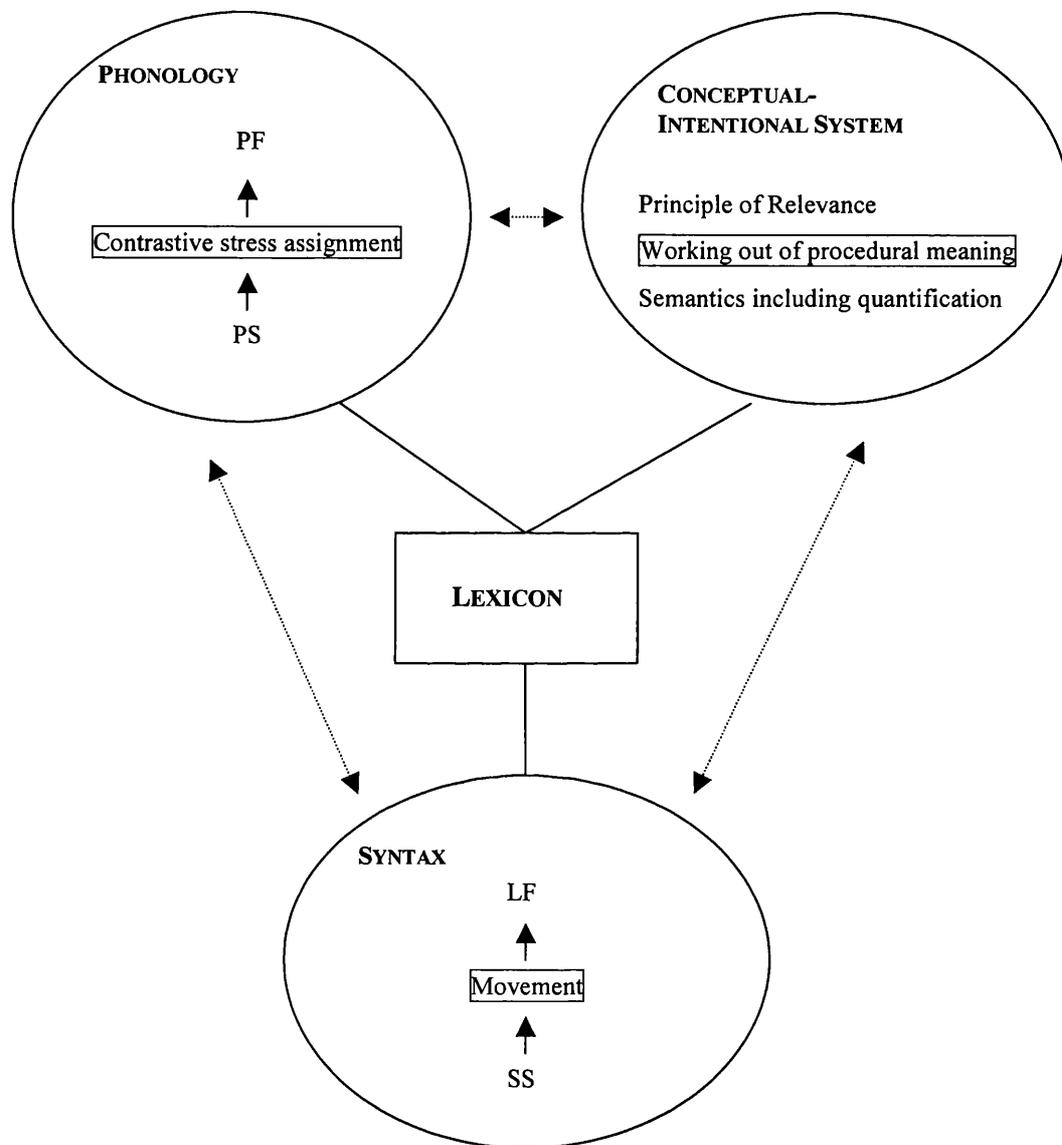
5.3. Summary

I have argued that the restrictive focus particle *zaa3* (‘only’) has a semantic representation that excludes all alternatives corresponding to the focused element. In addition, it encodes a procedural meaning which instructs the hearer to interpret the focused element as the highest member of a scale. The latter gives rise to the traditional ‘scalar’ meaning. It has also been shown that contrary to some previous studies, the adverb *zinghai* (‘only’) does convey a scalar interpretation as well and is argued here to encode the same procedural meaning as *zaa3* (‘only’). Pragmatic conditions are taken into consideration to disambiguate the two interpretations.

As for the additive focus particle *tim1* (‘also’), I suggest that it essentially has the same semantics as the adverb counterpart *zung* (‘also’) but they differ only in the nature of the variable over which they can quantify: *zung* (‘also’) can quantify over entities and times but *tim1* (‘also’) can only quantify over entities. With respect to their pragmatic properties, I argue that both *zung* (‘also’) and *tim1* (‘also’) encode the procedural meaning along the lines of Iten (2002) for the English *even*. This enables us to interpret both *zung* (‘also’) and *tim1* (‘also’) as conveying a meaning similar to the English *even*, contra some previous studies. The exact interpretation of these two focus elements, i.e. whether they mean ‘also’ or ‘even’, is a function of the contextual information, semantic representation and intonation.

To conclude this chapter, I shall take stock and see how the syntax, semantics and pragmatics of the two focus particles are tied together. I repeat here the architecture of the language faculty that I assume, as represented in the following diagram.

Figure 1 Architecture of the language faculty



As established in Chapter 3, the two focus particles have scope over everything except the higher topic in the clause. LF in the syntactic component encodes quantifier scope and c-command relations, as is standardly assumed. Being the interface level between syntax and the conceptual-intentional system, LF in a way partly determines the set of possible foci that the particles can associate with, i.e. anything c-commanded by the particles. So, for example, we have seen that the

particle *zaa3* ('only') cannot associate with a higher topic. The intended focused element within this set of possible foci is in turn marked by one of the focusing devices available in the language, e.g. contrastive stress, Right Dislocation and the cleft *hai* ('be')-construction discussed in Chapter 4. This, though, rests on the assumption that there is communication between the phonological component and the conceptual-intentional system. The contribution of the semantic information encoded in the particle *zaa3* ('only'), as proposed in (1), is to exclude alternatives corresponding to the focus, while that of *tim1* ('also'), as proposed in (44), is to presuppose other alternatives corresponding to the focus. While the syntactic scope determines the set of possible foci, contextual information and the procedural meaning that I have proposed for *zaa3* ('only') and *tim1* ('also') in (4) and (55) respectively further constrains the set of alternatives in the relevant domain. Furthermore, following the relevance-theoretic comprehension strategy, the semantic and procedural information of the particles together contribute to the derivation of scalar and non-scalar interpretations in different contexts. Hence, it is unnecessary to posit ambiguity in the lexical encoding of the particles. This sums up the interplay between the syntax, semantics and pragmatics of the two focus particles.

CHAPTER 6 CONCLUSION

I summarise in this chapter my observations on Cantonese sentence-final particles in the CP domain, specifically the two focus particles *zaa3* ('only') and *tim1* ('also'), and the proposals I have put forward for their syntax, semantics and pragmatics.

Early works on Cantonese sentence-final particles (e.g. H. Cheung 1972, Kwok 1984, Leung 1992, S. Law 1990, Yau 1980) laid the foundations for more investigations of this grammatical category. We know from them that sentence-final particles typically show up at the end of a sentence and can form clusters of two or more particles. The co-occurrence restrictions of these particles and their restricted ordering combinations lead to the contention that there is probably more than one syntactic position for this category. I have proposed in this work an account of the syntax of all sentence-final particles in the CP domain. Essentially, these particles fall into two classes differing in the presence or absence of the feature [Q]. Particles with the feature [\pm Q] are those that encode speech acts, speaker-oriented modality and epistemic knowledge, and are generated in my proposed SFP₁ position, which is in the Force head (Rizzi 1997). The other class of sentence-final particles consists of the two focus particles *zaa3* ('only') and *tim1* ('also') and the inchoative particle *laa3*. They lack the [Q] feature and occupy the SFP₂ position, which is located just below the higher Topic. Schematically, the CP domain in Cantonese is represented in (1).

(1) Force[SFP₁] Topic SFP₂* Focus Topic ...

As the Force head is unique, SFP₁s are predicted to be unable to co-occur with another SFP₁. They can, however, occur with an SFP₂ and the former always follows the latter. Apart from the co-occurrence and ordering restrictions, this proposal also accounts for other observations. First, contra Gibbons (1980), Luke (1990) and others, sentence-final particles are not just utterance-final. Positing the SFP₁ position in the Force head allows us to explain the occurrence of a sentence-

final particle in both the main clause and its subordinate *because*-clause, and also in each of the conjuncts containing the Force head in a coordination structure. As SFP₁s are speaker-oriented, they necessarily occur in the root clause because Force must be anchored to the speaker to be licensed, and root clauses are anchored to the speaker by default (cf. Haegeman 2002). Indeed, we observe that the class of SFP₁s can only appear in the root clause, while focus particles, for example, can be in the root or embedded clause. This is supported by facts about their scopal properties with reference to sentential adverbs and questions. The proposal that SFP₂s occupy a position below the higher topic accounts for the fact that they have clausal scope. In particular, I have shown that the particle *zaa3* ('only') actually has scope over the whole clause, contra some previous studies (e.g. S. Tang 1998). Evidence comes from the limited interpretations of quantified noun phrases occurring with the particle *zaa3* ('only') and its ability to associate with anything in the clause except the topic marked by the topic marker *le1*, which is generated in the higher Topic position. In the course of discussion I have also proposed an account for Cantonese A-not-A questions, based on independent facts about the behaviours of quantified noun phrases in the subject position, modals and adverbs of quantification occurring in these questions. The operator-variable pair is generated in the Neg head and the Q-operator moves to [Spec,ForceP] to check the Q-feature (Chomsky 1995, L. Cheng 1991). The ungrammaticality of pre-A-not-A quantificational elements is accounted for by violation of Relativised Minimality (Rizzi 1990). This proposal, taken together with (1), explains why the sentence-final particle *zaa3* ('only') is incompatible with A-not-A questions: like the other quantificational elements, *zaa3* ('only') intervenes between the Neg head and [Spec,ForceP] and therefore the movement of the Q-operator is banned.

With respect to the meaning of the focus particles *zaa3* ('only') and *tim1* ('also'), I adopt Rooth's (1985, 1992) Association with focus proposal and claim that these two focus operators associate with the focused element in their c-command domain, which is the entire clause. The particle *zaa3* ('only') has the following restrictive focus semantics:

- (2) $(\forall x) [\alpha(x) \rightarrow (x=\beta)]$ where α is a propositional schema and β is the focused value.

This essentially says that if x is true of the propositional schema α , then x must be the focused element β . In other words, all other alternatives are excluded. As for the additive particle *tim1* ('also'), its semantics is given as follows.

$$(3) \quad (\exists x) x \neq \beta \alpha(x)$$

where β is the focus and α the propositional schema.

This presupposes the existence of alternatives corresponding to the focused element β that are also true of the propositional schema α .

While I adopt Rooth's account for the semantics of the two focus particles, I argue against the unitary notion of Focus defended by Selkirk (1984, 1996), Reinhart (1995), Szendrői (2001), etc. I distinguish information focus from identificational focus, in the sense of Ballantyne Cohan (2000) (modified from É. Kiss 1998), and claim that focus operators like *only* and *zaa3* ('only') associate with identificational focus, which merely involves the invocation of a set of alternatives corresponding to the focused element. I have given arguments against the unitary notion of Focus on both conceptual and empirical grounds. Resting on the assumption that there is communication between the phonological component and the conceptual-intentional (C-I) system, and between (narrow) syntax and the C-I system, I claim that the invocation of a set of alternatives is a cognitive effect offset by the extra processing effort in processing marked surface manifestations, e.g. extra prosodic prominence and marked word order, in consistency with the communicative principle of relevance (Sperber & Wilson 1986/95, Wilson & Sperber 2002). To complete the discussion of focus, I have also outlined three (identificational) focus-marking devices employed in Cantonese, namely contrastive stress, Right Dislocation and the cleft *hai* ('be')-construction. Contrastive stress is possibly a universal device to mark focus, even in tonal languages like Cantonese. Right Dislocation is argued to be a phenomenon resulting from fronting of a focused phrase to the Focus position (Rizzi 1997). The motivation is, however, not feature-based but is driven by interpretation needs at the interface of the phonological component and the conceptual-intentional system. It is found that focus elements like *zaa3* ('only') and *zinghai* ('only')

obligatorily associate with the fronted phrase. I have argued that the Cantonese cleft *hai* ('be')-construction has a bi-clausal structure very similar to that of English *it*-clefts, contra most studies on the Mandarin counterpart *shi*-construction (Huang 1988, Shi 1994, Teng 1979, etc.). The clefted or focused element is base-generated in its surface position and a null operator is moved to the [Spec,CP] of the lower clause. The null operator is identified with the clefted element by predication. This not only explains the verbal properties of *hai* ('be') but also some puzzling problems involving relative clauses.

Adopting Blakemore's (1987, 2000, 2002) approach to meaning that lexical entries encode procedural information that constrains the inferential process, I have tried to describe the scalar use of *zaa3* ('only') and *tim1* ('also') along these lines. *Zaa3* ('only') is claimed to encode the following procedural meaning.

- (4) Interpret the focused element as the highest member in the scale.

This allows us to capture the scalar use of *zaa3* ('only'), as exemplified in the following example.

- (5) John hai jingau zolei zaa3
 John be research assistant SFP
 'John is only a research assistant.'

The particle *zaa3* ('only') instructs the hearer to interpret the focused element *jingau zolei* ('research assistant') as being the highest member in some scale, e.g. academic ranking. This gives us the interpretation that John ranks no more than a research assistant. I have also argued that both the adverb *zinghai* ('only') and the sentence-final particle *zaa3* ('only') encode the same procedural meaning as above. In other words, both of them are capable of conveying scalar meanings (contra Lee 2000, for example) and I have given evidence to support this claim. As for *tim1* ('also'), I follow Iten's (2002) proposal for the English *even* and claim that it has the following procedural meaning.

- (6) Process S^* in a context in which it is at the extreme end of a scale containing at least one assumption (i.e. fully propositional mental representation) different from S^* in the element in the focus of *timl* (S_i), such that the truth of S^* makes manifest or more manifest all assumptions on the scale.

S^* is a sentence containing the SFP *timl*. So, in example (7),

- (7) Jenny sik maai sing hap zisi beng timl
 Jenny eat PRT whole CL cheese biscuit SFP
 ‘Jenny has even eaten up the whole box of cheese biscuits.’

the particle *timl* (‘also’) instructs the hearer to process the proposition ‘Jenny ate up the whole box of cheese biscuits’ as being at the extreme end of a scale containing the propositions ‘Jenny has eaten ice-cream’. The truth of (7) (S^*) implies the likely truth of these propositions in the scale. This gives rise to the ‘likelihood’ interpretation that is often associated with the scalar particle *timl* (‘also’/‘even’). But, as noted in Kay (1990) and Iten (2002), the ‘likelihood’ nature is not necessarily present when these scalar additive particles are used. So, specifying ‘likelihood’ in the lexical entry is not desirable. The advantage of making use of the relevance-theoretic approach (Sperber & Wilson 1986/95, Wilson & Sperber 2002) is that a variety of pragmatic scales can be captured so long as the relevance-theoretic comprehension strategy is followed, i.e. follow the path of least effort in computing cognitive effects: test interpretive hypotheses in order of accessibility, and stop when your expectations of relevance are satisfied. I have also given evidence to show that the adverb *zung* (‘also’) also has a scalar meaning similar to *timl* (‘also’), and thus I claim it encodes the same procedural information as in (6). In light of the ambiguity between the ‘also’ and ‘even’ meanings, some licensing conditions for *timl* (‘also’/‘even’) and *zung* (‘also’/‘even’) as ‘even’ or ‘also’ are considered. In the case when *timl* (‘also’/‘even’) connects two propositions, the ‘also’ meaning is unavailable if one proposition entails the other. I claim that *timl* (‘also’) presupposes the existence of at least one other alternative that is distinct from the proposition expressed by

the sentence containing it. Hence, when two propositions are in an entailment relation, the ‘also’ meaning cannot be licensed. This is also true of additive particles in English, but in this language, the ‘also’ and ‘even’ meanings are encoded by distinct lexical items.

In this thesis, I have provided and investigated some previously unobserved facts about sentence-final particles and attempted to account for them in both the syntactic and pragmatic domains. As there is such a rich inventory of sentence-final particles in Cantonese and most of them have only been briefly discussed, much future work is needed to explore this area. In particular, as their meaning and use, as with many discourse markers in other languages, are notoriously difficult to describe, the relevance-theoretic approach is a promising tool for us to gain a better understanding of them. My discussion of *zaa3* (‘only’) and *tim1* (‘also’) couched in these terms is probably the first of its kind and I hope this approach can be extended to other sentence-final particles as well. Another area that is still poorly understood is the acquisition of these sentence-final particles by young children. Since sentence-final particles cut across so many different domains, research on the acquisition of sentence-final particles will certainly shed light on both the cognitive and linguistic development of children. In particular, there has been a growing amount of research on focus and focus particles in other languages such as English and Dutch (e.g. Crain, Ni & Conway 1994, Gennari et al 2001, Gennari, Meroni & Crain in press, Paterson et al 2003, Szendrői 2003). It will be interesting to see what are the similarities and differences in children’s production and comprehension of Cantonese sentence-final focus particles. Furthermore, since the focus particles, unlike the English adverb *only*, can have sentential scope, they can serve as good testing grounds for a number of existing hypotheses, e.g. Reinhart’s (1999) reference-set computation, or open up other investigative possibilities. It is hoped that exploring the properties of these sentence-final particles will also enable them to be used as probes for further theoretical analysis.

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