

Chapter 8

Conclusions

1. Conclusions

In this dissertation, I have studied affixal quantification with special reference to three Cantonese suffixal quantifiers *-hoi1* ‘open’, *saai3* ‘all’ and *maai4* ‘add’, adopting a syntax-semantics mapping approach.

I have shown that the basic facts about verbal suffixes in Cantonese are neither correctly nor completely presented in previous literature. Based on an in-depth examination on *-hoi1*, *maai4* and *saai3*, I have generalized the basic facts for the three suffixes in the following table.

Table 1: Some Basic Facts concerning Suffixal Quantifiers

	<i>-Hoi1</i>	<i>Saai3</i>	<i>Maai4</i>
Unselective binder	+	+	+
Constrained by the plurality condition	+	+	—
Able to quantify over subjects	—	+	—
Blocking effect over subject quantification by <i>m4</i> and <i>dak1</i>	/	+	/

Able to quantify over indefinite numeral object NPs	Numeral object NPs are interpreted as quantified NPs	Incompatible with indefinite numeral object NPs	Incompatible with indefinite numeral object NPs
Able to license wh-indefinites	—	—	—
Subject to the locality constraint	+	+	+
Scope	vP	vP or TP	vP

The above table shows that *-hoi1*, *maai4* and *saai3* are unselective binders. Moreover, *saai3* and *-hoi1* are constrained by the plurality condition, which is stated below.

(1) A Plurality condition for Suffixal Quantifiers

Suffixal quantifiers like *saai3* and *-hoi1* must satisfy the plurality condition, and this requirement can be satisfied by one of the following:

(i) *A plurality of events or situations*

A situation or an event is said to be semantically plural, when neither the verb nor any verbal argument in the sentence forces a unique interpretation.

(ii) *Plurality denoted by subevents or [+divisible] objects*

The plurality condition can be satisfied by (a) a sub-event property of the event; or (b) objects with the feature [+part] or [+divisible].

(iii) *A plurality indicated by time points and degree*

This is restricted to case where we have the suffixal quantifier binding the temporal variable or binding the points in a degree predicate.

Apart from the above facts, one important contribution of this dissertation is the derivation of a grammatical function hierarchy for the interpretation of verbal suffixes. I have come up with the general hierarchy below to predict the quantification of verbal suffixes.

(2) A General Hierarchical Order of Association in Suffixal Quantifiers

DO/IO arguments > dative arguments/postverbal PPs > preverbal PPs (V-licensed PP)
> subjects > verbal predicates/adjectival predicates/stative verbs/VOs

The verbal suffix selects its quantified constituent within its scope from the grammatical function hierarchy.

Furthermore, as mentioned in the very beginning of this dissertation, what is peculiar about the verbal suffixes is that they are morphologically attached to verbs, but are semantically possible to interpret with all verbal arguments. Hence, these suffixes are essentially quantificational, since it is from the suffix that the quantificational meaning of the sentence in question is derived. However, being quantificational in nature, the status of these suffixes is still open to various possibilities, making them not necessarily quantifiers. Out of these possibilities, two have been mentioned as follows: (i) treating them on a par with verbal complements, like 完 ‘finish’, 好 ‘good’; and (ii) considering them as performing predication over events.

However, I have argued against both possibilities, since neither can capture the

semantics of the suffixes. Firstly, from the general hierarchy, we can see that the scope of these suffixes can be extended as far as to the subject. This demonstrates their non-complement nature. Since if they are complements, they should be frozen in form and non-scope taking, which is not consistent with the fact. In fact, the hierarchy reveals that the quantification of suffixal quantifier not only can apply to arguments, but also possible to extend to locative adjuncts, preverbal PPs and even the verbal/adjectival predicates. Secondly, if we consider these suffixes predicating over events, it will be predicted that the relevant meaning conveyed by these suffixes will be applied to the event. Such a prediction is ruled out by the following.

(3) 佢 食晒 啲嘢.

s/he eat-SAAI the-food

(a) “S/he has completed the event of eating the things, but there is still some food remaining.”

(b) “S/he has finished all the food.”

Predication over events will give the interpretation in (3a), where *saai3* will give a completive sense to the event. Hence, what is required in (3a) is the eating event has completed, and whether the food is completely consumed or not is not at issue here. On the other hand, adopting the quantificational approach, we can see that *saai3* is taken to be a universal quantifier, which quantifies over the object NP, as predicted by the general hierarchy. Hence, what is required in (3b) is a total consumption of the food, and whether the eating event is completed or not is not at issue here. The interpretation of sentence (3) confirms that only (3b) not (3a) will give a correct interpretation to (3), and hence, *saai3*, and *maai4* and *-hoi1* at large, should be considered as quantifiers.

Therefore, I have instead argued that *-hoi1*, *saai3* and *maai4* are all quantifiers, performing generic, universal and additive quantification, respectively. Considering verbal suffixes as quantifiers, I have made two important proposals in this dissertation. The first one concerns the syntax-semantics mapping of these suffixal quantifiers. Apart from Diesing's (1992) Mapping Hypothesis and Tsai's (1994, 2001) Extended Mapping Hypothesis, I have argued for a third kind of mapping in suffixal quantifiers, that is, suffixal quantifiers select their quantified constituents from the general hierarchy. The quantified constituent selected from the grammatical function hierarchy is then mapped either to the restrictor or the nuclear scope. There is no unified mapping for all suffixal quantifiers, and the exact mapping of each suffixal quantifier is determined by their own mapping mechanism. The generalized semantic representations and the relevant syntax-semantics mappings of *saai3*, *maai4* and *-hoi1* are repeated as follows:

(4) Syntax-semantics mapping for *saai3*:

(a) Generalised Representations for Universal Suffixal Quantifier *saai3*

For any predicate P, its selected argument y or degree q,

Semantic representations:

(i) $\lambda P \exists y \forall x [x \in y \rightarrow P(x)]$

(ii) $\lambda P \exists Q \forall q [q \in Q \rightarrow P(q)]$

(b) Quantificational structure derived from the relevant semantic representations:

(i) SAAIx [x ∈ y] [P(x)]

(ii) SAAIq [q ∈ Q] [P(q)]

(5) Syntax-semantics mapping for *maai4*:(a) Addition of individuals/things:(i) Semantic representation:

$$\lambda P \text{ADD} x \in X = |\{y | P(y)\}| > 1 [P(x)] [x = \text{Arg}]$$

(ii) Syntax-semantics mapping:

$$\text{ADD} x [\text{vP (Including Arg)}] [x = \text{Arg}]$$

(b) Addition of events/situations:(i) Semantic representation:

$$\text{ADD} e/s \in E/S = |\{e'/s' | P(e'/s')\}| > 1 [\text{verbal/adjectival predicates}(e/s)]$$

(ii) Syntax-semantics mapping:

$$\text{ADD} e/s [\text{vP (e/s)}]$$

(6) Syntax-semantics mapping for *-hoi1*:(a) A Generalised Semantic Representation of the Generic Suffixal Quantifier *-hoi1*

For any predicate P, its selected constituent x, or the event e or the situation s it denotes, we have the following:

$$\lambda P \lambda y \text{HOI} x [P(x)] [x = y] \text{ Or}$$

$$\lambda P \lambda Q \text{HOI} \langle P \rangle [P(\text{Subject})] [P = Q]$$

(b) Syntax-semantics mapping:

$$\text{HOI} x \quad [\text{vP (including Arg)}] \quad [\text{Arg} x]$$

$$\text{OP} \quad \text{RESTRICTOR} \quad \text{NUCLEUS}$$

where x is the constituent selected according to the syntactic hierarchy.

Based on the above three mapping mechanisms, I have come up with a general mapping hypothesis for suffixal quantifiers as follows:

(7) A General Mapping Hypothesis for Suffixal Quantifiers

Verbal suffixes, as suffixal quantifiers, trigger a tripartite structure mapping, which map the selected constituent to the restrictor or the nuclear scope, depending on individual suffixal quantifiers, with the rest of the sentence mapped to the nuclear scope or the restrictor, correspondingly. The quantified constituent is selected according to the general hierarchy of grammatical functions below.

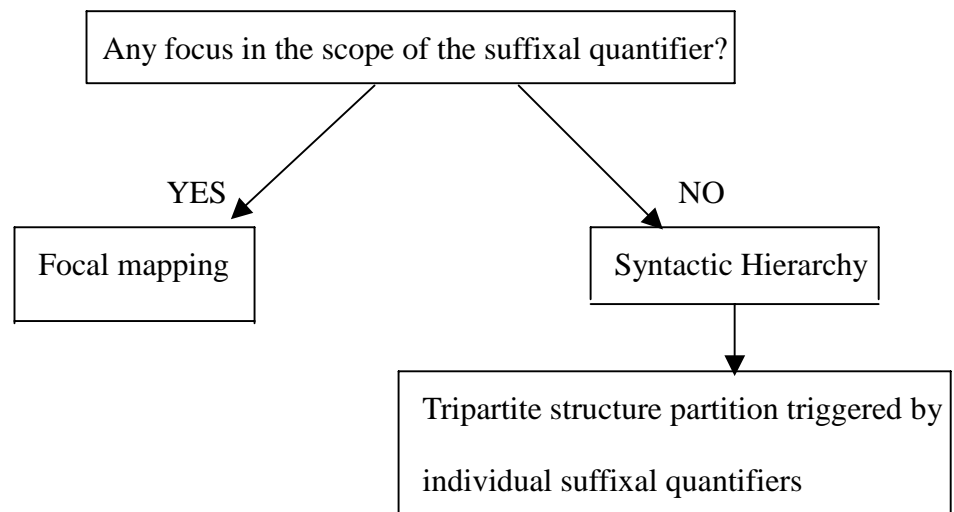
DO/IO arguments > dative arguments/postverbal PPs > preverbal PPs (v-licensed PPs) > subjects > verbal predicates/adjectival predicates/stative verbs/VOs

No matter where the selected constituent is mapped, the mapping demonstrated by affixal quantification differs significantly from the TP-vP and the TP-syntactic predicate partitions in Diesing's Mapping Hypothesis and Tsai's Extended Mapping Hypothesis. Hence, a third kind of mapping, on top of those proposed by Diesing and Tsai, needs to be identified.

Another important proposal of this dissertation concerns the division of labour among the syntactic hierarchy, focal mapping and the tripartite structure mapping in each suffixal quantifier. Suffixal quantifiers differ in their focus-sensitive nature. I have shown that, while *maai4* is sensitive to focus, both *-hoi1* and *saai3* are partially sensitive to focus. Their differences can be captured below. Based on their different behaviors toward focus, suffixal quantifiers can be divided into two types.

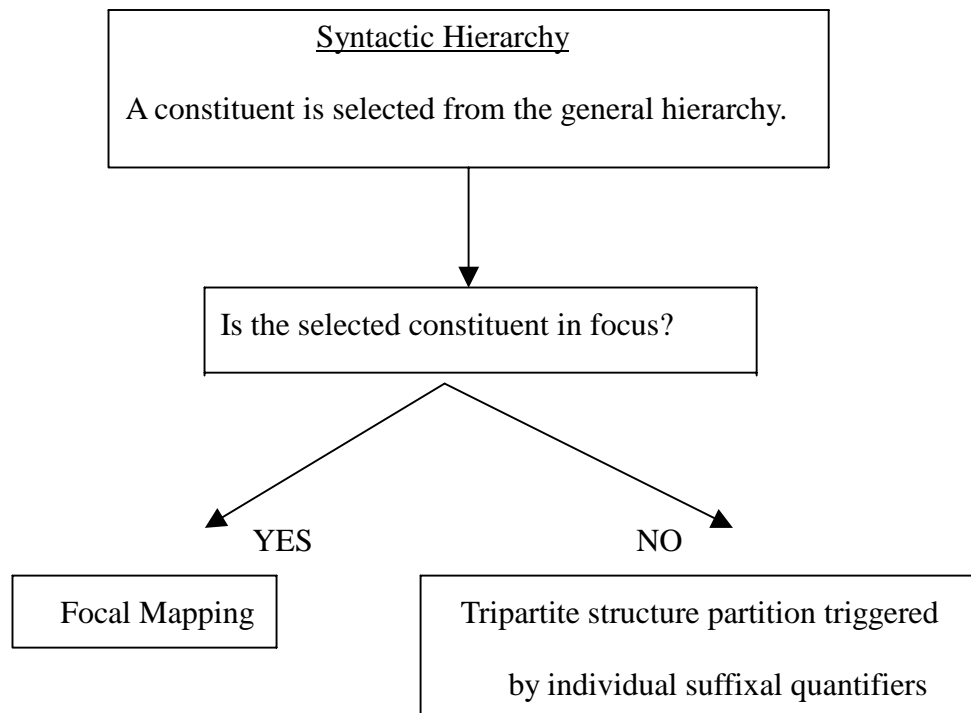
(8) Type (i): Focus-sensitive suffixal quantifiers

Focus-sensitive suffixal quantifiers have their interpretation predicted according to the following procedure.



Type (ii): Semi-focus-sensitive quantifiers

Partially focus-sensitive suffixal quantifiers have their interpretation predicted according to the following procedure.



The two types of focus-sensitive operators depend on whether focus can override the syntactic hierarchy or not. In the case of *maai4*, focus can override the syntactic hierarchy, triggering a focus-background partition and with its scope expanded from

vP to TP when there is a focus in the sentence.

On the other hand, in the case of *saai3* and *-hoi1*, focus fails to override the syntactic hierarchy, as focus association in these two suffixal quantifiers occur only when the selected constituent from the hierarchy is in focus. Under such a case, the tripartite structure will be shaped by focal mapping; otherwise, *saai3* and *-hoi1* will trigger their own mapping mechanisms.

Based on the syntax-semantics mappings of suffixal quantifiers, their interaction with focus and the basic facts shown in Table 1, I have argued that suffixal quantifiers are neither pure D-quantifiers nor pure A-quantifiers. Suffixal quantifiers exhibit properties of both A-quantifiers and D-quantifiers, and should be treated separately as “affixal quantifiers”. They can be considered as A-quantifiers due to the following facts: (i) they are verbal suffixes, and their morphological properties determine them to be A-quantifiers; (ii) they can quantify over adjuncts; and (iii) in the case of *maai4*, focal mapping reshapes its quantificational structure.

However, suffixal quantifiers, though at best being categorized as A-quantifiers, demonstrate some D-quantification properties. In the case of *saai3*, besides its syntactic category being a suffix, its quantificational pattern suggests that it behaves more like a D-quantifier and a strong determiner. It fails to directly quantify over verbal/adjectival predicates, and it is only partially focus-sensitive, as focus fails to override the syntactic hierarchy. Moreover, the fact that *saai3* allows only binary reading but not unary one suggests that it behaves like a strong determiner. However, *saai3* still differs from strong determiners in the following ways: (i) the way to select a restrictor: while *saai3* selects its quantified argument from the general hierarchy, strong determiners like “every” select the CNP it c-commands; (ii) strong determiners and *saai3* differ in how they interact with focus: in the case of strong determiners, focus will not affect their mapping, while *saai3* is partially

focus-sensitive; and (iii) strong determiners and *saai3* differ in their syntax-semantics mappings: in the case of strong determiners, the mapping is strictly syntactic, with focal mapping playing no role in its mapping, while in the case of *saai3*, focal mapping may come into play under certain syntactic constraint, e.g. the selected constituent from the hierarchy is in focus.

On the other hand, *maai4* and *-hoi1* share a common property that they both demonstrate a combination of a D-quantifier and A-quantifier. Their A-quantification properties are demonstrated in the way that they are both verbal suffixes and can quantify directly over verbal/adjectival predicates and adjuncts. However, the two differ in the way that *maai4* is focus-sensitive, while *-hoi1*, like *saai3*, is only partially focus-sensitive. This suggests that *maai4* demonstrates more A-quantification properties than *-hoi1*. Moreover, the different behaviors of *saai3*, *maai4* and *-hoi1* toward focus suggest that suffixal quantifiers, if they are sensitive to focus, are focalizers by their lexical meanings, like *maai4*, demonstrating the importance of lexical meanings in determining their quantifications.

Therefore, based on the discussion above, I have put forward the claim that suffixal quantifiers are not pure A-quantifiers, and they cannot be D-quantifiers due to their syntactic category as verbal suffixes. Hence, suffixal quantifiers are neither pure A-quantifiers nor D-quantifiers, and they should be treated separately under the category “affixal quantifiers”.

2. Explanations and Implications

The account to suffixal quantification proposed in this dissertation provides a third kind of mapping to quantification in natural language. Moreover, having comparing among suffixal quantifiers, D-quantifiers and A-quantifiers, I have tried to answer the question: what type of quantifiers do suffixal quantifiers belong to. The

proposal that it belongs neither to pure A-quantifiers nor pure D-quantifiers can help us explain why previous analyses, even though having categorized suffixal quantifiers as A-quantifiers, put them under a category “lexical quantifiers”, separating them from genuine A-quantifiers, as proposed in Lewis (1975).

Furthermore, having examined the role of focus in the three Cantonese suffixal quantifiers, we can see that the division of labor between syntax and semantics vary across the suffixal quantifiers, which, to a certain extent, has something to do with the lexical meaning of the suffixal quantifiers themselves.