

Chapter 7

Discussions: Are Suffixal Quantifiers A-quantifiers or D-quantifiers?

1. Overview

Despite the differences concerning the relative grammaticalisation of the relevant domain of restriction and focus effects in D-quantification and A-quantification, as suggested in Hajićová, Partee and Sgall (1998), what determiner quantifiers like “most” and adverbial quantifiers like “always” have in common is that at some semantic level, they can be described as operators taking two set-type arguments and participate in tripartite structures. They differ only in the relative contributions of different aspects of linguistic and non-linguistic structure to the determination of the understood content of the two arguments. In the case of adverbial quantification, the relevant domain of quantification is crucially determined by topic-focus structure, while in the case of determiner quantification, the relevant domain is strongly grammaticalised, determined mainly by syntactic structures.

In previous chapters, I have presented the basic facts concerning some Cantonese verbal suffixes and have claimed that verbal suffixes *-hoi1*, *saai3* and *maai4* are quantifiers and unselective binders. Moreover, suffixal quantifiers have scopes of either TP or vP. Based on their scope interaction with other operators, we can explain the blocking effect of subject quantification by verbal operators. Furthermore, as suffixal quantifiers, their quantification is determined by a syntactic hierarchy, with the order of constituents crucially relying on their syntactic prominence. Such a syntactic hierarchy is the factor determining the syntax-semantics mapping of the suffixal quantifiers. That is, suffixal quantifiers demonstrate a mapping different from the TP-vP splitting mechanism proposed in Diesing (1992) and the TP-syntactic predicate splitting mechanism proposed in Tsai (1994, 2001). The quantified constituent is determined by

the grammatical function hierarchy proposed in this dissertation, with its mapping to the restrictor or the nuclear scope determined by individual suffixal quantifiers, as there is no unified mapping for all suffixal quantifiers.

Concerning the role of focus in such a mapping, suffixal quantifiers vary from being focus-sensitive to being partially focus-sensitive. For those focus-sensitive suffixal quantifiers, focus can override the syntactic hierarchy, and focus association will take place when there is a focus scope of the suffixal quantifier in question. Contrarily, for those semi-focus-sensitive suffixal quantifiers, focus fails to override the syntactic hierarchy. Focal mapping will occur only when the selected constituent from the syntactic hierarchy is in focus. If the focused constituent in question is not the selected constituent, the relevant tripartite structure mapping is triggered by the mapping mechanism of the suffixal quantifier in question, while the focus will be interpreted by some other operator in the sentence, like the assertion operator.

After discussing the semantics of the suffixal quantifiers, their syntax-semantics mappings and their interactions with focus, now the question is what type of quantifiers suffixal quantifiers belong to. Previous analyses consider affixal quantifiers as lexical quantifiers, which are categorized under A-quantifiers. D-quantification is a kind of nominal quantification and A-quantification adverbial quantification performed by adverbs, auxiliaries, affixes and argument-structure adjusters. Traditional studies relate D-quantification and A-quantification by tripartite structures where the former is represented as $\text{Det}'(\text{CNP}')(\text{VP}')$ and the latter $\text{OP}(\text{restrictor})(\text{nuclear scope})$, with D-quantification also treated as a kind of predication, represented as $[\text{Det}'(\text{CNP}')](\text{VP}')$. Hence, do suffixal quantifiers behave like A-quantifiers, D-quantifiers, or neither of them? Comparing the quantification performed by suffixal quantifiers with that by D-quantifiers, we need to determine whether suffixal quantifiers behave like strong determiners or weak ones. Moreover, for those semi-focus-sensitive suffixal quantifiers, does their relatively focus-insensitive nature make them distinct from A-quantifiers and

more like D-quantifiers?

This chapter will focus on issues like the above. I will argue that suffixal quantifiers are not pure A-quantifiers, since they combine properties of D-quantifiers and A-quantifiers. Hence, it is more appropriate to consider suffixal quantifiers as a distinct type of quantifiers, which belongs to neither D-quantifiers nor A-quantifiers.

Before going into the discussion, the basic facts of suffixal quantifiers obtained from previous chapters are summarized below.

Table 1: The Basic Facts concerning Suffixal Quantifiers

	<i>-Hoi1</i>	<i>Saai3</i>	<i>Maai4</i>
Selective or unselective binders	Unselective binder	Unselective binder	Unselective binder
Subject to syntactic constraint	+	+	+
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	Nominal 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 locality constraint	+	+	+
Scopes	vP	vP or TP	vP
Focus-sensitivity	Partially focus-sensitive: focal mapping comes into play when the selected constituent is in focus	Partially focus-sensitive: focal mapping comes into play when the selected constituent is in focus	Sensitive, with focus expands its scope from vP to TP

2. Properties Shared by Suffixal quantifiers and D-quantifiers

Suffixal quantifiers share some properties of D-quantifiers. *Saai3* and *maai4* have priorities in selecting verbal arguments from the general hierarchy as its restrictor and its nuclear scope, respectively, where in the case of *maai4*, an additional existential presupposition is triggered. However, there are two important differences between the two: (a) the scope of *maai4* is strictly vP while that of *saai3* is wider than vP but confined within TP; (b) *maai4* is focus-sensitive, with its focus domain expanded to TP, while *saai3* is only partially focus-sensitive.

2.1 Unselective binder *saai3*

Saai3 can be considered as an A-quantifier due to the following two reasons: (i) it is a verbal suffix; and (ii) its quantification can be extended to V-/v-licensed adjuncts denoting locations and time. However, as a universal quantifier, it patterns in some way

like a determiner quantifier and a strong determiner.

2.1.1 *Saai3* is not a pure A-quantifier

Although *saai3* appears in a postverbal position, it behaves in the way determiners are supposed to be in analogous configurations taking the verbal argument determined by the syntactic hierarchy as its restrictor. Its quantificational structure patterns semantically like D-quantifiers, which is supported by the various facts already discussed in Chapter 4.

To begin with, assume event quantification is one way of realizing adverbial quantification, we can first rule out such a possibility, since quantification by *saai3* over verbal arguments cannot be explained in terms of event quantification. If it was via event quantification that *saai3* binds the verbal arguments, *saai3* will require an event variable to shape its quantificational structure. However, as I have shown in Chapter 4, *saai3* is an unselective binder, and its only interaction with the events/situations is the plurality or non-uniqueness condition of events/situations. However, such a requirement is due to its universal meaning, which requires its quantified constituents to be plural. Moreover, the mapping mechanism of *saai3* has the predicate which denotes the event/situation mapped to the nuclear scope, and the selected verbal argument to the restrictor. Hence, the event or situation in question is bound by other operators, like existential operator, giving it an existential meaning, as exemplified below.

(1) 佢哋 食晒飯.

they eat-SAAI-rice

“All of them have had meals.”

SAAIx [x ∈ [[they|]]] ∃e[Having-meal(e) & Subject(x, e)]

The event variable in (1) is bound by the existential closure, suggesting that it is not

saai3 that binds the event or situation variable. Instead of performing event quantification, *saai3* quantifies over the verbal argument directly, revealing a mechanism on a par with nominal quantification performed by D-quantifiers. The non-uniqueness of event/situation is simply a natural consequence imposed by the plurality condition. Since *saai3* requires plurality, a plural verbal argument will make the relevant event/situation plural. Therefore, the crucial role of the plurality of events/situations has nothing to do with event quantification, and what is crucial is the plurality requirement imposed by the lexical meaning of *saai3* - universality. Another piece of evidence showing the non-event quantification of *saai3* is that *saai3* demonstrates no predicate selection. It can occur with individual-level statives, as what it requires is simply a restrictive domain for it to perform universal quantification, be it a boundary, degree or a set of individuals/things.

(2) 你 錯晒.

you wrong-SAAI

“You are completely wrong.”

SAAIq [q∈[[Degree of being wrong]]] [Be-wrong(you) & Be-wrong(q)]

(2) gives an example where we have *saai3* occurring with the stative predicate 錯 ‘wrong’, with the Degree predicate being the restrictor.

So far, I have only discussed event quantification. Although we have ruled out event quantification, this does not necessarily mean that *saai3* cannot perform pure A-quantification. The claim that *saai3* does not perform pure A-quantification can be further asserted if we consider its interaction with focus. However, before doing that, we need to elaborate on the interaction between indefinites and adverbial quantifiers. Indefinite noun phrases in event or adverbial quantification demonstrates a quantificational variability effect (QVE) which is a phenomenon depending on the

quantificational structure of adverbs. The link between the interpretation of the indefinite noun phrase and that of the adverb is first pointed out in Lewis (1975).

(3) Riders on the Thirteenth Avenue line seldom find seats.

(3) can be true when during the few peak hours most of the riders in these hours do not get seats. It is irrelevant if during most other hours all of the passengers do in fact get seats. In other words, (3) is similar in meaning to “few riders on the Thirteenth Avenue line ever find seats”. Lewis takes the dependence of “riders” on “seldom” to show that “seldom” here is quantifying not only over times, but unselectively over both times and riders. He proposes that indefinites like “riders” are devoid of any quantificational force and instead they introduce a free variable that can be unselectively bound by adverbs like “seldom”. (3) is now interpreted as follows:

(4) Few $\langle x, y \rangle$ where x is a rider on the Thirteenth Avenue line and y is a stretch of time are such that x finds a seat at y .

Lewis’s analysis becomes the basis of adverbial quantification in the coming years. Extending from the Lewis-style analysis, Heim (1982) views adverbs as having a tripartite structure with a restrictive clause and a nuclear scope. She considers that indefinites are not quantificational and they only introduce a free variable that needs to be bound. All the indefinites that are interpreted in the restrictive clause of the adverb are unselectively bound by the adverb thus showing quantificational variability. This is referred to as the “quantificational variability effect” (QVE). As for indefinites that only appear in the nuclear scope, they receive their quantificational force through existential closure; consequently, they do not show quantificational variability.

QVE is tied to the quantificational structure of the adverb, and this structure in turn

depends on focus. On the unselective binding account, adverbs bind variables over both times and individuals; the effects of focus on the QVE can be handled by mapping the non-focused indefinites into the restrictive clause and the focused indefinites into the matrix. An example demonstrating the effect of focus on QVE is illustrated below (cited from Herburger 2000).

(5) (a) [**A claustrophobic**]f usually avoids an elevator.

(b) A claustrophobic usually avoids [**an elevator**]f.

(c) A claustrophobic usually [**avoids**]f an elevator.

Varying with the assignment of focus, the adverb quantifies over instances of avoiding elevators in (5a), counting claustrophobics in (5b); and counting pairs of claustrophobics and elevators in (5c). Relevant representations are given below.

(6) (a) Most $\langle x, y \rangle$ where x is a time, y is an elevator, and y is being avoided are such that the one avoiding at x is a claustrophobic.

(b) Most $\langle x, y \rangle$ where x is a time, y is a claustrophobic avoids something are such that what is being avoided at x is an elevator.

(c) Most $\langle x, y, z \rangle$ where x is a time, y is a claustrophobic, and z is an elevator are such that y avoids z at x .

To summarize, the QVE on indefinites initially observed by Lewis, which motivated the unselective binding analysis, depends on the quantificational structure of adverbs, which in turn depends on focus. Non-focused indefinites show quantificational variability because they appear in the restrictive domain of an adverb; focused ones do not, because they appear only in the matrix or the nuclear scope of the quantifier.

The above Lewis-Heim style analysis treats adverbs as unselective quantifiers over

events, with indefinites treated as free variables. There is another approach which treats quantification as unselective quantifiers over n-tuples. On this view, indefinites are genuine quantifiers and do not introduce free variables. The QVE can be captured when we consider an indefinite quantifier being interpreted in the restriction of an event quantifier, with the assignments to the indefinite's variable varying with the assignments to the event variable of the adverb.

I will not go into the details of QVE anymore. There are several points important to the current analysis here. *Saai3* can never bind indefinites, since it requires specific NPs. The mapping of *saai3* requires its quantified argument to be mapped to the restrictor, and quantification is done over a specific set, whereas A-quantification need not quantify over a specific set, and it can quantify over any variable, including indefinites, unselectively. Hence, if *saai3* fails to interpret with indefinites in its quantificational structure, it behaves differently semantically from typical A-quantifiers like “always”, “often”. Moreover, the verbal argument has to be selected according to the syntactic hierarchy. Most importantly, the case where the focused indefinites are mapped to the nuclear scope never occurs in the case of *saai3*, since these indefinites, if not interpreted specifically, are never compatible with *saai3*-sentences.

Furthermore, the insensitivity of *saai3* toward focus also demonstrates that focus plays no role in shaping the quantificational structure of *saai3*. *Saai3* can associate with focus only when the focused item is the one chosen by the syntactic hierarchy. Hence, the semantics of *saai3* is different from that of pure A-quantifiers. The quantification of *saai3* is highly grammaticalized, which is determined by the relevant syntactic hierarchy, and hence, its quantificational structure cannot be patterned with that of pure adverbial quantification, since A-quantification is shaped by focal mapping, which is what differentiates it from D-quantification (cf. Rooth 1985, 1992, 1995, Partee 1991, 1992, 1998, etc.).

2.1.2 Does *saai3* Behave Like a Strong Determiner or a Weak Determiner?

Adopting the above assumption that *saai3* does not behave like a pure A-quantifier, I will now show that *saai3* behaves like a strong determiner.

As I have already mentioned in Chapter 2, the crucial difference between strong determiners and weak determiners lies in their realizations of unary and binary interpretation (cf. Herburger 2000). Strong determiners only allow binary interpretation, since they always move together with the quantified NP by QR (Quantifier Raising). On the other hand, weak determiners can have both unary and binary interpretations, which, in the former case, is the focus-affected reading resembling that of “only” and “even” and the latter the strong(like) reading. In weak determiners, the noun phrases take scope by Q-raising¹, and they give a structure where the determiner behaves in relevant respects like adverbial quantifiers “only” and “even”.

Considering the similar properties between *saai3* and the D-quantifiers and based on such a distinction of unary and binary interpretations, it will be interesting to see whether *saai3* behaves like a strong determiner or a weak determiner. Assuming that *saai3* behaves like a strong determiner, this would mean that *saai3* allows only binary readings where the verbal argument denotes the restrictor and the vP (with the quantified verbal argument replaced by a variable) its scope. On the other hand, considering *saai3* on a par with a weak determiner, it means that (i) *saai3* gives a binary interpretation in the form of a Quantified Phrase through QR; and (ii) *saai3* gives both unary and binary readings, in the form of the Q-raised structure. In other words, it is surface adjoined to the verbal argument, and gives the unary reading, which can be interpreted as is – with the determiner lacking the restrictor. Or it receives the restrictor through focal mapping, as a result of which the non-focused material in the domain of

¹ As already mentioned in Chapter 2, Herburger (2000) distinguishes Quantifier Raising (QR) from Q-raising, with the former describing strong determiners where the quantifier raises together with the NP, while the latter has the quantifier raised alone, without the NP. The terminology I adopted here follows Herburger’s distinction between QR and Q-raising.

the determiner is interpreted as the restriction in a binary reading of the determiner in question.

According to the syntactic hierarchy, it is obligatory for *saai3* to quantify over the verbal arguments or the adjuncts, making binary interpretation its only option. The only chance where *saai3* is possible to have a unary interpretation is when it can quantify over the verbal or the adjectival predicates directly to trigger a unary interpretation. However, such kind of quantification is not possible in *saai3*, since *saai3* is required to quantify over the degree or the extent triggered by these predicates, but never over the predicates directly. This shows the obligatory occurrence of a restrictor, making binary interpretation the only possible interpretation in *saai3*. Under such a case, the degree or extent predicate will be mapped to the restrictor, with the nuclear scope asserting that the relevant property or situation denoted by the predicate has reached its maximum degree or its fullest extent. Hence, we can conclude that *saai3* only allows binary interpretation, but never unary ones. Based on the distinction between weak and strong determiners in realizing binary and unary interpretations, we can say that *saai3* behaves more like strong determiners instead of weak ones, since only binary interpretation is possible in *saai3*.

Based on such a quantificational pattern, it is reasonable to consider that *saai3* behaves like a strong determiner. This gains further support when we consider the way *saai3* maps its tripartite structure. As I have shown in Chapter 6, *saai3* is only partially sensitive to focus, and focus association is possible only when the constituent selected from the syntactic hierarchy is in focus. Hence, compared with that of *maai4* which is completely focus-sensitive, the quantification of *saai3* represents a relatively grammaticalised one, resembling that of D-quantifiers. Considering the way *saai3* interacts with focus and its obligatory binary interpretation, we can claim that quantification of *saai3* resembles that of strong determiners.

However, despite the similarities between *saai3* and strong determiners, the two

still have three differences.

Firstly, although the selection of restrictors by both strong determiners and *saai3* is strictly structurally constrained, they differ in their ways of selecting restrictors. While *saai3* selects its quantified argument from the general hierarchy, strong determiners like “all” select the CNP it c-commands.

Secondly, strong determiners and *saai3* differ in how they interact with focus. In the case of strong determiners, focus will not affect their mapping. On the other hand, *saai3* is partially focus-sensitive, and focus association is possible when the quantified argument selected from the general hierarchy is in focus.

Thirdly, 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 it. The CNP that is c-commanded by the strong determiner is mapped to the restrictor, and the VP to the nuclear scope. The relevant representations for strong determiners are given below.

(7) The Syntax-semantics Mapping in Strong Determiners

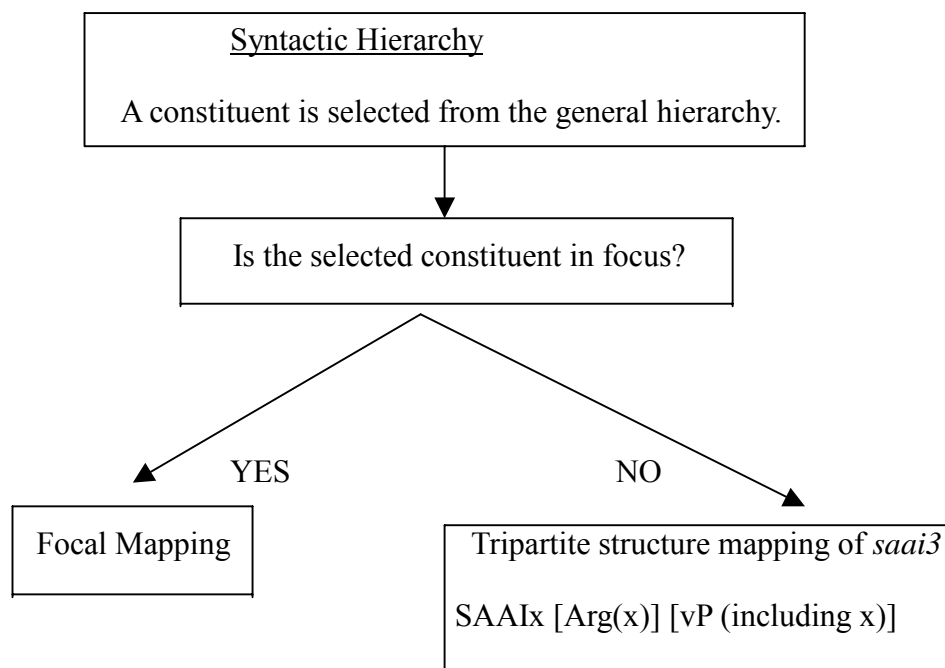
[Det' (CNP')](VP')

In (7), in terms of generalized quantifier, the determiner takes the set denoted by the common noun phrase (CNP) as its first argument or its restrictor, and the denotation of the combination [Det (CNP')] is a set of sets. [Det (CNP')], being a set of sets, then takes the VP', which denotes a set of one-place predicates, as its arguments, resulting in a set of propositions. The relevant quantificational structure will not be reshaped by focus.

On the other hand, in the case of *saai3*, focal mapping may come into play under certain syntactic constraint. *Saai3* selects its quantified argument from a grammatical function hierarchy. If such an argument is in focus, then focal mapping comes into play;

otherwise, the tripartite structure mapping in the relevant sentence is determined by the specific mapping mechanism of *saai3*. The relevant mapping mechanism is represented below.

(8) The Syntax-semantics Mapping in *saai3*



Despite the above differences between “all” and *saai3*, there is a meaning overlapping between the pre-nominal universal quantifier “all” and *saai3* when both map the same constituent to the restrictor. Examples are given below.

(9) (a) 嗰啲學生 食晒飯.

those-students eat-SAAI-meal

“All of the students have meal.”

SAAIx [x ∈ [students]] [Having-meal(x)]

(b) All the students have their meals.

[ALL' ([the students]')][[have meals]']

(10) (a) 佢 做晒 啲嘢.

s/he do-SAAI those-stuff

“S/he has done all the work.”

SAAIx [x ∈ [those stuff]] [Work(s/he, x)]

(b) She has done all the work.

[ALL' ([the work]')]([s/he has done]')

The *saai3*-sentences in (9a) and (10a) have *saai3* associated with the subject and object arguments, respectively, which overlaps with the quantification done by the universal quantifier “all” in (9b) and (10b). The representations in (9) and (10) reveal similar representations. However, what is interesting is the contrast between the preverbal “all”, which is an A-quantifier, and *saai3*.

(11) (a) We all have bought our own book.

ALL [[we]'] [[bought our own book]'] (“all” as an A-quantifier)

(b) 我哋 買晒 自己本書.

we buy-SAAI our-CL-book

“All of us have bought our own book.”

SAAIx [x ∈ [we]] [Buy(x, our own book)]

(11a) and (11b) reveal a basic difference between *saai3* and preverbal “all”: while *saai3* in (11b) quantifies over the subject NP, “all” occurred in a preverbal position in (11a) also interprets with the subject argument, giving a reading of “we all have performed the event of ‘buying our own book’”. Hence, the two sentences seem to suggest a similarity between *saai3* and the preverbal A-quantifier “all”. However, their difference can be obviously observed. *Saai3* quantifies over the subject in (11a) as required by the syntactic hierarchy, while “all” quantifies over the subject in (11b), owing to the TP-vP splitting suggested by Diesing. Hence, although there may be overlapping in meaning between the two types of quantification in some cases, they are obtained through

different quantificational structures, due to their different mapping mechanisms. This reveals that these two kinds of quantification are different underlyingly.

2.2 Unselective binder *maai4*

In section 2.1, I have argued that *saai3* does not behave like a pure A-quantifier, and it demonstrates properties of strong determiners. Like *saai3*, *maai4* is also not a pure A-quantifier. Its quantification demonstrates a combination of D-quantification and A-quantification. Its direct quantification over verbal arguments according to the syntactic hierarchy reveals its D-quantification property. On the other hand, its A-quantification properties can be shown by its direct quantification over verbal/adjectival predicates, and the role of focus in shaping its quantificational structure.

2.2.1 *Maai4* is not a pure A-quantifier

Maai4 has scope over vP. Within such a scope, *maai4* always quantifies over the verbal arguments, with quantification over the verbal/adjectival predicates being the last resort. This will give rise to an interpretation of either an addition of individuals/objects or an addition of situations/events, and *maai4* will trigger a presupposition of the existence of a set of individuals or situations/events, correspondingly. Moreover, when there is no focus, quantification of *maai4*, which is determined by the grammatical function hierarchy, is relatively grammaticalised. Hence, based on such a quantificational pattern of *maai4*, it is reasonable to predict that *maai4*, like *saai3*, also shares properties of D-quantifiers. However, what remains to be yet explained are the following two differences: (a) *maai4* can directly quantify over the verbal/adjectival predicates, while *saai3* quantifies over the degree/extent/boundary denoted by these predicates; and (b) while *saai3* is focus-insensitive, *maai4* is focus-sensitive, with its quantification domain expanded from vP to TP when there is a focus. I will first show

that like *saai3*, the quantificational structure of *maai4* in some cases patterns semantically with D-quantifiers.

Firstly, like *saai3*, the nominal quantification by *maai4* cannot be explained in terms of event quantification. If it is via event quantification that *maai4* binds the verbal arguments, what *maai4* performs should be event quantification. This is definitely not the case, since *maai4* does not require an event variable to shape its quantificational structure. The picture of *maai4* is even simpler than *saai3*, since it is not restricted by the plurality condition. Moreover, like *saai3*, *maai4* imposes no restriction on its co-occurring predicates, and can interpret with individual-level statives, showing that it is not required to bind an event or a situation variable. However, unlike *saai3*, the quantificational structure of *maai4* has the associated verbal argument mapped to the nuclear scope and the vP to the restrictor, while *saai3* gives an opposite mapping. An example is repeated below.

(12) 佢 去埋 日本.

s/he go-MAAI Japan

“For all the places s/he has gone to, Japan is one of them.”

$\text{ADD}_{x \in X} = |\{y | \text{Go}(s/\text{he}, y)\}| > 1 [\text{Go}(s/\text{he}, x)] [x = \text{Japan}]$

Therefore, event quantification is not the kind of quantification that *maai4* performs. What it requires is a presupposed set and a constituent that can be added to such a set, and the quantified constituent can denote an individual, an object, a situation and a property. Hence, the quantification by *maai4* is not obligatory to be a temporal one, but can be both temporal and atemporal.

2.2.2 Similarities and differences between *maai4* and English “even”

According to Herburger, the English “even” demonstrates properties of

D-quantifiers and A-quantifiers, cf. Chapter 2. Cantonese *maai4* is similar to English “even” regarding this, and both have the lexical meaning of additivity. However, an in-depth comparison between the two reveals their different and similar meanings and quantificational structures.

Syntactically, “even” is very flexible, and can attach to a variety of phrases. Relevant examples of “even” are shown below.

- (13) (a) He even gave his sister ten dollars.
 (b) He gave even his sister ten dollars.
 (c) He gave his sister even ten dollars.
 (d) Even he gave his sister ten dollars.
 (e) He put his books even in the fridge.
 (f) He writes fast, but he speaks even faster.
 (g) Even if you do not admit that he is very talented, he is definitely clever.

The sentences in (13) have different interpretations according to the different positions of “even”. (13a) has “even” interpreted with the VP “gave his sister ten dollars”; (13b) has “even” interpreted with the indirect object “his sister”; (13c) has “even” interpreted with the direct object “ten dollars”; and (13d) has “even” interpreted with the subject NP “he”. From the above examples, we can see that, although the typical position of “even” is the adverbial position, “even” is not limited to such a position, and can be extended to a noun phrase, as in (13b), (13c) and (13d). Further, “even” is found to attach to PP (cf. (13e), AdvP (cf. (13f)) and an entire sentence (cf. (13g)). Therefore, the floating position of “even” reveals that no matter what syntactic category we would like to classify “even”, it is definitely not a pure determiner, since it can interpret with AdvP and the entire sentence. All cases above can have “even” performing adverbial quantification. An exception may be (13b), (13c) and (13d) where “even” is found to

directly quantify over an NP, revealing a quantificational pattern very similar to determiners. However, the association of “even” with the NP can also be achieved by placing focus on the selected NP in (13a) where “even” is an adverbial quantifier. Previous analyses (cf. Herburger 2000) assume that in the cases where we have “even” associating with NPs directly, as in (13b-d), “even” moves on its own to a local adverbial position via a process of Q-raising. It will be syntactically unary under such a case. The Q-raising here is a movement of an adjoined head “even” to the specifier of an appropriate local functional projection, or as adjunction to some local XP.

“Even” associates with a particular argument or the VP by floating its position or focus placement, and hence, interpretation of “even” is determined by scope and focus. On the other hand, as a suffixal quantifier, *maai4* is, on the one hand, an unselective binder, and on the other hand, it is highly sensitive to verbal arguments, and can associate with them directly, according to the syntactic hierarchy, without floating in position or appealing to focus.

Like the case of “even” in (13a), (13e), (13f) and (13g), *maai4* also demonstrates properties of A-quantification. It quantifies over the verbal/adjectival predicates, when there is no verbal argument matching the feature required by *maai4*, and hence, what is left over is only the verbal/adjectival predicate. The result will be an addition of a situation or an event, and the quantification performed by *maai4* under such a case is more like an adverbial quantification, since *maai4* quantifies over situations and events denoted by the vP. Hence, *maai4* can be considered as neither a pure D-quantifier nor a pure A-quantifier, as it is a quantifier combining both D-quantification and A-quantification, like the case of “even”.

However, comparing *maai4* with the English “even”, we also find differences between the two. It is argued in the previous literature that “even” gives two

implicatures; namely the existential implicature and the scalar implicature.² Relevant examples are given below.

(14) (a) She scolded even **[Claire]f**.

(b) Someone other than Claire is scolded by her. [existential implicature]

(c) Claire was the least likely to be scolded. [scalar implicature]

(14b) is the existential implicature triggered by “even”. On the other hand, the scalar implicature is also triggered by “even”, and hence, (14a), if without “even”, will lose the implicature indicated in (14c). The scalar implicature or the likelihood is argued against by Kay (1990) who suggests to replace it by a different notion “noteworthiness”.

(15) A: It looks as if Mary is doing well at Consolidated Widget. George [the second vice president] likes her work.

B: That’s nothing. Even BILL [the president] likes her work.

Kay argues that (15) can be used felicitously in a context where Bill may actually not have been the least likely to appreciate the work Mary is doing. Rather, given that he is the president of the company, his approving of Mary’s work is more “informative” than George’s because it ranks higher on a scale that indicates how well Mary is doing at Consolidated Widget. Kay refers to “more informative” as “more noteworthy”.

Comparing “even” and *maai4*, we can see that only the existential presupposition not the scalar implicature is present in *maai4*. I will discuss the absence of scalar

² Although some linguists argue against these two implicatures (cf. Herburger (2000)), for the sake of discussion, we assume these two implicatures to be true in the meantime.

implicature in *maai4* first. Semantically, *maai4* is a pure additive quantifier, and it differs from “even” in that *maai4* does not convey a scalar implicature. Examine the examples below.

(16) (a) 佢 連[Claire]f 都 鬧埋.

she even Claire also scold-MAAI

“She scolded even Claire.”

(b) 佢 鬧埋 Claire.

she scold-MAAI Claire

“S/he scolded Claire as well.”

Contrasting the meanings conveyed in (16a) and (16b), we can see that *maai4* conveys the same semantic meaning to the relevant sentences. The additional scalar implicature in (16a) is conveyed by the scalar construction *lin4...dou1* ‘even...also’, and has nothing to do with *maai4* which is a pure additive quantifier.

However, both *maai4* and “even” carries an existential implicature or presupposition, which presupposes the existence of a set of entities, which contains at least one member. This is revealed in the semantic representation of *maai4* below.

(17) Syntax-semantics mapping for *maai4*:

(a) Addition of individuals/things:

(i) Semantic representation:

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

(ii) Syntax-semantics mapping:

ADDx [vP (Including Arg)] [x = Arg]

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

ADDe/s ∈ E/S = |{e'/s' P(e'/s')}| ≥ 1 [verbal/adjectival predicates(e/s)]

(ii) Syntax-semantics mapping:

ADDe/s [vP (e/s)]

The semantics of *maai4* presupposes the existence of a set of events or individuals, which contains at least one member, as shown in the boldfaced underlined parts. This can be illustrated by the oddness of sentences (18a) and (19b) below.

(18) (a) *第一隻 死埋.

the-first-CL die-MAAI

(b) 最後一隻 死埋.

the-last-one-CL die-MAAI

“The last one as well died.”

(19) (a) %佢 修埋 第一年嘅課程, 就 畢業 啦.

s/he study-MAAI the-first-year courses then graduate SFP

(b) 佢 修埋 呢科, 就 畢業 啦.

s/he study-MAAI this-subject then graduate SFP

“S/he will graduate after s/he has taken this course as well.”

Assume that (18) is uttered during a game. (18a) is odd, since we cannot use *maai4* when no character has died beforehand, while (18b), with an addition of the last character, is acceptable. Contrasted with (19b), (19a) will only make sense under the interpretation that “s/he has studied courses in year two and onwards, and is not required to take back the credits of year one”. *Maai4* associates with the DO in (19b), conveying a meaning that “s/he has taken some courses already, and there is only one

left for graduation”. Hence, both *maai4* and “even” conveys an existential implicature or presupposition.

All in all, “even” and *maai4* share a common point in both demonstrating properties of D-quantification and A-quantification in the sense that they can directly quantify over both nominals and adjuncts. The meaning differences demonstrated between them are due to their different semantic meanings.

2.2.3 *Maai4* vs A-quantifiers

Considering the way how *maai4* directly quantifies over verbal arguments under the general hierarchy, I have suggested in the above discussion that *maai4* cannot be a pure A-quantifier, as its quantification under these cases patterns with determiners. However, *maai4* behaves like an A-quantifier in two cases, that is when it quantifies over the verbal/adjectival predicates directly, and when it interacts with focus.

When there is no verbal argument in the syntactic hierarchy for *maai4* to quantify over, *maai4* will quantify over adjectival and verbal predicates directly, giving an addition of events/situations, as exemplified below.

(20) 佢 帶埋書 去上堂.

s/he bring-MAAI-books go attend-classes

“For the things s/he has done for the classes, having brought his/her books is one of them.”

$ADDe \in E = |\{e' | \text{Subject}(s/he, e')\}| > 1$ [Bring-books(e) & Subject(s/he, e)]

Since there is no verbal argument in (20) over which *maai4* can quantify, *maai4* will quantify over the verbal predicate 帶書 ‘bring books’ in (20), due to its locality constraint. The interpretation of (20) then becomes “s/he has also brought books, apart from doing other things, for the classes”, with a set of events related to the subject

“s/he” being presupposed. The relevant representation is given in (20).

Such quantification resembles that of adverbial quantification, when we compare it with English “also”.

(21) S/he has also bought his/her books for the lessons.

ALSO_e [Bring-books(e) & Subject(s/he, e)]

The representation for “also” in (21) represents a simplified version. Comparing (21) with (20), we can see that the two quantificational structures share a common feature of having the additive particle quantifying over the event denoted by the predicate directly.

Moreover, unlike *saai3*, *maai4* is sensitive to focus. Focus will affect the mapping of *maai4*, which is a distinct feature demonstrated by A-quantifiers. Focus plays a role in expanding the scope of *maai4*, which has already been pointed out before.

(22) Scope of *maai4* under focus association

Maai4, as a focus-sensitive quantifier, will interpret with the focus and trigger a focus-background structure. Moreover, focus expands the scope of *maai4* from vP to TP.

Hence, when focus is placed on the subject, *maai4* is found to quantify over the focused subject and thus has its scope expanded from vP to TP. Relevant examples are repeated below.

(23) [我]f 睇埋 本書 啦.

I also read-MAAI CL-book SFP

“It is I as well who have read the book.”

(24) [阿 John]f 擺埋 我本書 比佢細佬.

John take-MAAI my-CL-book to-his-brother

“It is John as well who has taken my book to his brother.”

(25) [我]f 游埋水.

I swim-MAAI-water

“It is I as well who have swum.”

When there is no focus, *maai4* will not associate with the subject in the above sentences. They will quantify over the DOs in (23) and (24), and the VO in (25), as predicted by the general hierarchy. However, when focus is placed on the subjects, *maai4* will associate with the focused subject in all sentences, and trigger a focus-background partition, demonstrating their focus-sensitivity. Hence, the quantification of *maai4* is reshaped by focal mapping, which is a distinct feature demonstrated by A-quantifiers.

I have already demonstrated above that although *saai3* and *maai4*, as verbal suffixes, are generally considered to be A-quantifiers, their semantic properties suggest that they cannot be pure A-quantifiers, as they illustrate many properties similar to D-quantifiers. In the coming section, I will examine *-hoi1* to see whether it, as a generic quantifier and a habitual marker according to previous Cantonese studies, is a pure A-quantifier or not.

3. Unselective Binder *-Hoi1*

Like *maai4* and *saai3*, *-hoi1*, as a generic quantifier, is also an unselective binder. I will show that like the other two suffixal quantifiers, *-hoi1* also cannot be a pure A-quantifier. *-Hoi1* demonstrates significant differences from adverbial quantification. Firstly, like *maai4* and *saai3*, the quantification by *-hoi1* is highly grammaticalised, with its quantification determined by the syntactic hierarchy. Secondly, the highly

grammaticalised quantification performed by *-hoil* is even more obvious when considering its partial sensitivity towards focus, while quantification of preverbal A-quantifiers is shaped by focus.

In the following sections, I will demonstrate the significant role of syntax in *hoil*-quantification by giving a more detailed comparison between *-hoil* and the Q-adverbs/habitual markers.

3.1 A Comparison between Preverbal Q-adverbs and *-hoil*: How a Division of Labor between Semantics and Syntax is Achieved

The semantic partition of typical adverbial quantifiers, including generic operators and habitual markers, is determined by syntax via the Mapping Hypothesis, as suggested by Diesing, when there is no focus. However, focus will completely reshape such a partition, showing that the semantic partition can be changed by semantic focus. However, the partition by *-hoil* demonstrates something otherwise. As a proportional quantifier, *-hoil* triggers a tripartite partition, with constituents mapped to the nuclear scope determined by the general hierarchy. The tripartite partition triggered by *-hoil* is strictly syntactic, and semantic focus fails to override the syntactic hierarchy. Such a difference can be captured by the following generalization.

(26) A division of labour between syntax and semantics in A-quantifiers and generic suffixal quantifiers

For general A-quantifiers, semantics comes into play first before syntax in determining their tripartite partitions. On the other hand, for generic suffixal quantifiers like *-hoil*, syntax always determines their tripartite structure partitions, and semantics fails to override the syntax.

Therefore, (26) reveals a different division of labor between syntax and semantics in the

quantifications of A-quantifiers and generic suffixal quantifiers like *-hoil*. Such a contrast can be further revealed in their contrasting properties. I will first compare the quantificational properties between *-hoil* and the generic A-quantifier to reveal that even though both generic A-quantifiers and *-hoil* relate sets to sets, they are in fact very different from each other.

There are two ways that English can mark habituality: (a) by present tense, with the relevant sentence regarded to be involving a covert generic operator or a “hidden” habitual morpheme, and (b) by Q-adverbs, like “always”, “generally”, “usually”, which can generalize the relevant occurrences of episodic events into a pattern. Comparing these two ways of marking habituality with *-hoil*, we can see the following differences.

3.1.1 *-Hoil* vs Generic Operators and Q-adverbs

According to Chierchia (1995), the interpretation of an adverb of quantification (Q-adverb) and also a generic operator, taken as a propositional operator, requires establishing a relation between a restrictor and a scope, that is, the formation of a tripartite structure. The way the partition is formed is determined by the basic properties of the generic operator, which are also shared by Q-adverbs. These properties are shown below, which reveal their differences from *-hoil*.

Firstly, generic operators and Q-adverbs can quantify over a set of contextually specified situations.

(27) (a) Fred always smokes.

(b) $\forall s[C(\mathbf{f}, s)]$ [**smoke**(\mathbf{f}, s)]

(c) $\exists s\forall s' [\mathbf{Overlap}(s, s') \ \& \ C(\mathbf{f}, s')]$ $\exists s'' [\mathbf{Overlap}(s', s'') \ \& \ \mathbf{smoke}(\mathbf{j}, s'')]$

(27a) is typically understood as quantifying over a set of contextually specified occasions involving Fred (e.g. after meals, during every break, etc.). Chierchia has

assumed the following scenario: suppose that Fred has the habit of spending his frequent breaks in Gennaro's office, where he knows he can smoke. Bill, witnessing one of these scenes, utters (27a). (27b) expresses that "every situation in which Fred is in Gennaro's office is a situation in which Fred smokes." (27c) represents a more complex way of representing (27a), which says the following: there is a situation *s* in the actual world such that every situation *s'* overlaps with it in which Fred is in Gennaro's office overlaps with a situation *s''* of Fred's smoking, where *s* is the external situation, *s'* the internal one (or the restriction situation), and *s''* the scope situation. Hence, the restrictor in "always" above is contextually restricted, with the context determining what should be included in the set of backgrounded situations.

-HoiI is similar to the Q-adverbs in this respect, but as an unselective binder, it is not necessary for *-hoiI* to bind a situation variable. The representation of *-hoiI* corresponds to (27) will be as follows:

(28) (a) 我 食開煙.

I smoke-HOI

(b) HOI<P> **[P(I)]** [P = Smoke]

As a proportional quantifier, *-hoiI* semantically requires a binary interpretation, and hence, the restrictor in (28b) contains all properties related to the subject "I".

Secondly, Q-adverbs and generic operators can bind variables provided by indefinites. Consider the following sentence.

(29) (a) An Italian is usually short.

(b) **Most** x [**Italian**(x)] [**short**(x)]

The Q-adverb "usually" binds the variable introduced by the indefinite "an Italian",

giving the interpretation in (29b). Moreover, Q-adverbs and generic-operators can bind variables provided by kind-denoting definites.³

- (30) (a) This dog is usually easy to train. (pointing at a dog in a pet shop)
 (b) Most x [$x \leq \mathbf{d}$][easy-to-train(x)]
 (c) $x \leq y = x$ is an instance of y

The definite NP “this dog” in (30a) can be understood as referring to a kind of dog salient in the context. The Q-adverb is used to quantify over the instances of such a kind. The term \mathbf{d} in (30b) is taken to refer to the contextually specified kind that the definite “this dog” picks out, and the formula “ $x \leq \mathbf{d}$ ” is interpreted as saying x is an instance of \mathbf{d} . Bare plurals, by contrast, are another type of NPs that can provide variables for Q-adverbs.

- (31) (a) Dogs are usually easy to train.
 (b) **Most** x [$x \leq \mathbf{d}$][**easy-to-train**(x)]
 (c) *狗仔 容易 訓練開.
 Dogs easy train-HOI

-HoiI is similar to A-quantifiers in that it can also bind the indefinite, but such an

³ A definite can be understood as referring to a kind, which can then be bound by Q-adverbs or generic operators. Note that other NPs (i.e. NPs that are not either definites or indefinites) do not provide variables that Q-adverbs can bind. So, sentences like the following have only the interpretation where the Q-adverb binds situations.

- Every man usually smokes.
 (a) $\forall x$ [**man**(x)][**most** s [$C(x, s)$][**smoke**(x, s)]]
 (= every man smokes on most occasions)
 (b) **Most** s [$C(s)$][$\forall x$ [**man**(x)][**smoke**(x, s)]]
 (= on most occasions, every man smokes)

These NPs are usually referred to as ‘quantificational’.

indefinite has to be NPs in the hierarchy of *-hoil* which is DO > IO > preverbal PP. For subjects, even in the case it is the only plural NP in the sentence, *-hoil* fails to quantify over it due to its scope constraint and the structural constraint imposed by the syntactic hierarchy. The relevant sentence will result in ill-formedness, if the plurality condition of *-hoil* cannot be satisfied. Hence, even if the quantification of *-hoil* over indefinites is possible, it is still constrained by the syntactic hierarchy. (31c) is ill-formed, since there are no constituents in the hierarchy which can be selected to be the restrictor of the tripartite structure, and there are no temporal or locative variables which can be the restrictive domain, hence, violating the requirement of *-hoil* as a proportional quantifier.

Thirdly, Q-adverbs and generic-operators demonstrate a variability of binding in the cases of having more than one argument. If there is more than one argument in the sentence, there is a fair amount of variability as to which arguments provide the variables that a Q-adverb or a generic-operator can bind. Below gives the most natural representations of the relevant sentences.

(32) (a) A cat usually chases a mouse.

(b) **Most** x, y, s [**cat**(x) & **mouse**(y) & **C**(x, y, s)] [**chase**(x, y, s)]

(33) (a) A cowboy usually carries a gun.

(b) **Most** x [**cowboy**(x)] $\exists y$ [**gun**(y) & **carry**(x, y)]

(34) (a) A computer usually routes a modern plane.

(b) **Most** y [**modern-plane**(y)] $\exists x$ [**computer**(x) & **route**(x, y)]

In (32), the Q-adverb symmetrically binds all the variables that are available, which are provided by the subject, the object and the situation variable. The natural interpretation of (33) is to have the Q-adverb quantifying over the subject “cowboys”, while that of (34) is to have the Q-adverb quantifying over the object “modern planes”. Unlike

Q-adverbs, the verbal argument that *-hoil* binds is selected by the syntactic hierarchy, and *-hoil* cannot bind all the variables within its scope symmetrically as does the Q-adverb. Moreover, *-hoil* fails to quantify over the subject, due to its structural constraint.

Fourthly, generic A-quantifiers not *-hoil* can bind more than one variable. The former (by and large) freely select the arguments they bind, while the latter performed quantification constrained by the syntactic hierarchy, and hence highly grammaticalised.

From the above, we can see that although both generic A-quantifiers and *-hoil* are A-quantifiers, they differ from each other concerning their quantification due to the highly grammaticalised nature of the quantification performed by *-hoil*. Some defining properties of *-hoil* make it distinct from generic A-quantifiers, as listed below.

- (i) Unlike temporal and atemporal quantification done by generic operators or Q-adverbs, *-hoil* performs atemporal quantification, which does not require an event or a situation variable.
- (ii) As a verbal suffix, the interpretation of *-hoil* is governed by the general hierarchy of verbal arguments, while generic operators/Q-adverbs are associated with elements within their c-commanding domains. Their association with the DO, dative argument/postverbal PP or the preverbal PP requires an introduction of a semantic focus or the help of contexts.
- (iii) As a verbal suffix, the scope of *-hoil* is the vP, while the generic quantifier/Q-adverb has the sentential or vP scope.
- (iv) The general hierarchy of quantification by *-hoil* will predict a hierarchical order of direct arguments over indirect ones. Q-adverbs/generic operators do not demonstrate such a property, since it will simply interpret with elements within its c-commanding domain and is not sensitive to verbal arguments quantificationally when there is no focus.

- (v) In the case of numeral object NPs, Q-adverbs/generic operators will give an indefinite interpretation to them, while *-hoil* will have them interpreted as quantified NPs not indefinites, showing that *-hoil* fails to license them.

3.1.2 A Further Contrast Among Covert Gen, Q-adverbs and *-hoil*

A further contrast between covert generic operator and *-hoil* is revealed in their different behaviours in simple sentences. Such a contrast further confirms that the quantification of *-hoil* is relatively grammaticalised compared to that of generic operators and Q-adverbs.

To begin with, we need to give a brief sketch on how genericity is realized in simple sentences. It is natural for English to express habituality in simplex sentences in the form of present tense, which Smith (1997) regards as derived statives. However, Krifka et. al (1995) mention that although it is natural to assume generalizations over situations in conditional characterizing sentences such as (35), simple sentences such as (36) are more difficult, since it is unclear what should count as the restrictor in these cases, leading to the ambiguity of these sentences in interpretations.

- (35) (a) Mary smokes when she comes home.
 (b) Gen[s, x](x = Mary & x comes home in s; x smokes in s).
- (36) (a) Mary smokes.
 (b) GEN[s, x](x = Mary & s is a normal situation with respect to smoking & s contains x; x smokes in s)

(35) says that in general, if there is a situation of Mary coming home, she will smoke in that situation. One way to handle (36) is to assume that even in sentences like this, there is a restrictor, but this restrictor must be derived pragmatically (cf. Spears 1974, Newton 1979, Conrad 1982, Kleiber 1985, Krifka 1987 and Schubert & Pelletier 1989). In (35),

the restrictor could be situations which contain Mary and which are somehow “normal” situations with respect to smoking. (36b) reads that “In a normal smoking situation, Mary normally smokes”, and hence, it is forced to make reference to “normalcy conditions”. On the other hand, as an alternative, Krifka et. al. suggest that GEN can be interpreted in such a way that only those situations that are relevant for the generalization at hand are taken into account, which in (36) are only those situations that are normal for Mary’s smoking.

Lawler (1973) and Dahl (1975) have pointed out that regarding generic sentences like (36), there might be two different generic interpretations, one “universal” and the other “existential”. In its universal generic reading (a habitual reading), sentences like (37) mean that beer is the (favorite) alcoholic beverage John drinks, while in its existential reading (a dispositional reading), it says that John does not object to drinking beer.

(37) John drinks beer.

Lawler employed two different generic operators to represent these two readings. However, recognizing these two readings, Krifka et. al. instead consider that the precise interpretation of the generic operator is dependent on the context of utterance. Moreover, they consider that Lawler’s “two hidden operators” proposal is problematic when contrasting (37) with the sentences in (38) below where, according to Lawler’s theory, the overt presence of a quantificational adverb requires that there be no unrealized operator.

- (38) (a) John always drinks beer.
 (b) John usually drinks beer.
 (c) John sometimes drinks beer.

(d) John seldom drinks beer.

Owing to the overt presence of a quantificational adverb in the above sentences, Lawler's account of "hidden operators" cannot go through with these sentences. However, according to Krifka et al., like (37), the sentences in (38) in fact have more than one reading, even though they contain an overt quantificational adverb. (38a) has (at least) two interpretations: it can mean either that whenever John drinks something, it is beer, or that he drinks beer on every occasion on which it is available. The other examples behave similarly. Therefore, the analysis of sentences like (37) and (36) above cannot be simply two phonologically unrealized operators with different meanings which give these sentences their two different meanings. Whatever is causing the ambiguity in (37) also occurs in (38), and hence, it cannot be a problem caused by hidden operators. In fact, (37) has another reading besides the "existential" and "universal" reading. It can also mean that John has the habit of drinking beer, not excluding the possibility that he has the habit of drinking other beverages as well, since it is natural for an individual to habitually drink beer and habitually drink wine.

Krifka et al. explain the different interpretations by different accent placements.

(39) (a) John drinks **BEER**.

GEN[x, y, s;](x = John & x drinks y in s)(y is beer)

(b) John **DRINKS** beer.

GEN[x, y, s;](x = John & y is beer & y in s & x in s)(x drinks y in s)

(c) John drinks **BEER**.

GEN[x, s; y](x = John & x in s)(y is beer & x drinks y in s)

The "universal" interpretation of (39a) can be rendered as: In appropriate situations in which John drinks something, it is normally beer. The "existential" interpretation in

(39b) says that in appropriate situations where there is some beer available, John normally drinks it. The “habitual” interpretation in (39c) says that in appropriate situations which contain John, he will drink beer. In the interpretation of (39c), the entire predicate “drink beer” is in focus, even though the accent is on “beer” by the usual rules of focus projection. The advantage is that we can stay with one meaning of the generic operator, the universal one, and account for the different readings by postulating different partitions of the underlying semantic material.

Apart from the above, there are studies which resolve the above problem by appealing to a set of contextually specified occasions. In the same book, Chierchia (1995) points out that both generic operators and Q-adverbs can quantify over a set of contextually specified situations.

(40) (a) Fred always smokes.

(b) $\forall s[C(\mathbf{f}, s)] [\mathbf{smoke}(\mathbf{f}, s)]$

(c) $\exists s \forall s' [\mathbf{Overlap}(s, s') \ \& \ C(\mathbf{f}, s')] \exists s'' [\mathbf{Overlap}(s', s'') \ \& \ \mathbf{smoke}(\mathbf{f}, s'')]$

(40a) is typically understood as quantifying over a set of contextually specified occasions involving Fred (e.g. after meals, during every break, etc.), represented by $[C(\mathbf{f}, s)]$ in the restrictor part. (40c) represents a more complex way of representing (40a), which says the following: there is a situation s in the actual world such that every situation s' overlaps with it in which Fred is in Gennaro’s office overlaps with a situation s'' of Fred’s smoking, where s is the external situation, s' the internal one (or the restriction situation), and s'' the scope situation.

How about the *-hoil* cases? For VPs involving bare nouns, the question “what goes to the restrictor” seems to be difficult to answer, regardless of the cases of transitive verbs or ditransitive verbs. Let us consider the case of transitive verbs first. Following Krifka et. al., we can say that the sentence “John drinks beer” can be

interpreted as the followings from (b) to (d), where (a) is the interpretation of the *hoiI*-sentence.

(41) 佢 飲開 啤酒.

s/he drink-HOI beer

(a) “When s/he drinks something, it is beer.”

HOIx [Drink(s/he, x)] [x = beer]

(b) John drinks BEER.

GEN[x, y, s;](x = John & x drinks y in s)(y is beer)

In appropriate situations in which John drinks something, this is normally beer.

(universal)

(c) John DRINKS beer.

GEN[x, y, s;](x = John & y is beer & y in s & x in s)(x drinks y in s)

In appropriate situations where there is some beer available, John normally drinks it

(existential)

(d) John drinks BEER.

GEN[x, s; y](x = John & x in s)(y is beer & x drinks y in s)

In appropriate situations which contain John, he will drink beer. (habitual)

(42) 佢 成日 飲啤酒.

s/he always drink-beer

“S/he always drinks beer.”

Always <e> [C(e, s/he)] $\exists x$ [Agent(s/he) & Drink(e) & Beer(x) & Patient(x, e)]

(41b) to (41d) represent the universal, existential and habitual readings shown by Krifka et al. In the case of *-hoiI*, the interpretation of (41) will be (a). (41b) to (41d) are the three interpretations under Krifka’s account of different accent placement. The meaning of the *hoiI*-sentences is that “it is beer that John generally drinks”. Comparing the three

readings posited by Krifka et al., we can see that the *-hoil* reading comes closest to the English counterpart in (41b). *-Hoil* is required to quantify over the DO only, according to the syntactic hierarchy. But this is not possible in the English cases, as the covert generic operator, as an unselective binder, binds all variables indiscriminately within the restrictor. Therefore, while in the case of GEN it requires accent placement on the object to have an object-related reading, the quantification of *-hoil* over the object is determined by the inherent semantics of *-hoil*, due to its syntactic position.

The difference between *-hoil* and Q-adverbs is obvious when we compare (41) with (42) where we have preverbal Q-adverbs replacing *-hoil*. When there is no focus, (42) is ambiguous between all three readings above, and hence, behaving like its English counterpart “John always drinks beer” where there is no accent placement.

We now come to examples like (43), repeated below.

(43) (a) Mary smokes.

(b) GEN[s, x;](x = Mary & s is a normal situation with respect to smoking & s contains x; x smokes in s)

(44) 佢 食開煙.

S/he smoke-HOI-cigarettes

“S/he generally smokes.”

HOI<P> [**P(s/he)**] [P = Smoke]

(44) is the Cantonese counterpart to (43). The counterpart of the English “smoke” is expressed as the VO “食煙” ‘smoke’ in Cantonese. As I have mentioned earlier, the interpretation of *-hoil* in (44) shows that as a proportional quantifier, *-hoil* structurally requires a restrictor, and when *-hoil* quantifies over the VO, the restrictor will include those properties related to the subject. This contrasts with the English case where the

restrictor is either not necessary or restricted contextually. Hence, although (43) and (44) may not differ very much in their readings, since they are both binding the event variable, they in fact involve different quantificational structures.

From the above, we can see that although *-hoil* can be considered as an A-quantifier, its suffixal nature makes it very different from other generic A-quantifiers. The underlying factor causing these differences can be captured by their quantificational structures and a different division of labor between syntax and semantics in their quantification, cf. (26). Concerning the quantificational structure, the generic A-quantifier takes sets of situations as their restrictors and their nuclear scopes, while *-hoil* relates sets of individuals/things with sets of individuals/things, or sets of properties with sets of properties. Moreover, the generic A-quantifier is free to select any variables to bind, while *-hoil* performs quantification strictly determined by the grammatical function hierarchy. Furthermore, concerning the division of labor between syntax and semantics, the quantificational structure of generic A-quantifiers is shaped by focal mapping, while that of *-hoil* is strictly syntactic with focus failing to change the syntactic hierarchy.

3.1.3 *-Hoil* Combines Properties of D-quantifiers and A-quantifiers

From the above, we can see that like *maai4*, *-hoil* also demonstrates a combination of D- and A-quantifiers. Its A-quantification is illustrated in: (a) it is a verbal suffix; and (b) it can quantify over event/situations and preverbal adjuncts directly where there is no verbal argument for it to bind, while its D-quantification is illustrated in: (a) its quantification is highly grammaticalised, which is governed by the syntactic hierarchy; (b) it can quantify over verbal arguments directly; and (c) mostly importantly, it is only partially sensitive to focus, as focus fails to override the syntactic constraint, and focus association is possible only if the selected constituent from the general hierarchy is in focus. Hence, although *-hoil* exhibits both A-quantification and D-quantification,

unlike *maai4*, its semi-focus-sensitivity suggests that it shares more properties of D-quantification than A-quantification, while the focus-sensitivity of *maai4* suggests the opposite.

4. Suffixal Quantifiers Behave like Neither Pure A-quantifiers Nor Pure D-quantifiers

Summarizing from the above, we can see that suffixal quantifiers, even though they are at best categorized as A-quantifiers, due to their syntactic category as a verbal suffix, they cannot be pure A-quantifiers, as their quantificational properties demonstrate some D-quantification properties. In the case of *saai3*, beside its syntactic category being an A-quantifier, 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 partially focus-sensitive, as focus association is possible only when the selected constituent is in focus. On the other hand, *maai4* and *-hoi1* share a common point that they both demonstrate a combination of D-quantifiers and A-quantifiers, since they can quantify directly on verbal/adjectival predicates. However, the two differ in the way that *maai4* is focus-sensitive, while *-hoi1* is only semi-sensitive to focus. This suggests that *maai4* demonstrates more A-quantification properties than *-hoi1*.

Despite the particular differences demonstrated by each suffixal quantifier, suffixal quantification is highly grammaticalised, and in most cases, syntactic hierarchy determines the quantificational structure, and focus fails to change it. Suffixal quantifiers, if they are sensitive to focus, are those which are, by their lexical meanings, focalizers, demonstrating the importance of lexical meanings in determining their quantifications.

Therefore, based on the discussion above, we can conclude that suffixal quantifiers are not pure A-quantifiers. Besides, they cannot be D-quantifiers, either, 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”.

5. Two Remaining Issues

Before wrapping up the dissertation, there are two residual issues which will be discussed in this section: (i) the incompatibility between suffixal quantifiers and aspectual markers; and (ii) the interaction between suffixal quantifiers and wh-indefinites and numeral object NPs.

5.1 The Incompatibility between Suffixal Quantifiers and Aspectual Markers

Suffixal quantifiers, being suffixal in nature, fail to occur with aspectual affixes which typically include the perfective marker *-zo2*, the experiential marker *-gwo3*, the imperfective marker *-zyu6* and the progressive marker *-gan2*. Take *maai4* as an example.

(45) %我 食埋咗/咗埋 啲飯.

I eat-MAAI-Perf/Perf-MAAI these-rice

(46) %你 連 非洲 都 去 過埋/埋過 啦.

you even Africa also go Exp-MAAI/MAAI-Exp SFP

(47) %我 寫 埋緊/緊埋 paper 呀, 唔好 嘈 啦.

I write MAAI-Prog/Prog-MAAI paper SFP not-better noisy SFP

(48) %我 食 埋住/住埋 飯 等 佢 啦.

we eat MAAI-Imp/Imp-MAAI rice wait him/her SFP

The above sentences show the incompatibility between affixes like *maai4* and aspectual markers like *-zo2*, *-gan2*, *-zyu6* and *-gwo3*. Previous analyses assume *maai4* as a

non-aspectual verbal affix, and despite its non-aspectuality, it fails to co-occur with aspectual markers, since both aspectual markers and *maai4* are suffixes attached to the same verb. Such an incompatibility is explained by appealing to the syntactic reason that two suffixes cannot compete for the same position. However, counter-examples have always been found, particularly for the co-occurrence of *saai3* and *maai4*, and *saai3* and *-gwo3*.

In fact, the incompatibility between the aspectual markers and the non-aspectual ones can be readily explained under the current account that verbal suffixes like *maai4* are quantifiers. In the case of typical aspect markers like perfectives *-zo2* and *-gwo3*, progressive marker *-gan2* and imperfective marker *-zyu6*, their aspectual meaning causes them to focus on the internal structure of an event, that is, whether we are focusing on the initial endpoint, the final endpoint point, both, or neither. This is what is referred to as “viewpoint aspect” by Smith (1997), adopting her two-component framework for aspect which includes viewpoint aspect and situation types. However, consider the case of quantificational suffixal quantifiers. *Maai4*, *saai3* and *-hoi1* are all quantifiers, and hence, when using these quantifiers, we are not focusing on the internal structure of the event, rather the event is considered in its entirety in order to perform quantification. This conflicts with the meanings of the aspectual markers which focus on the internal structure of the event. This also explains why the experiential marker *-gwo3* may occur with suffixal quantifiers in some cases, since *-gwo3* can describe multiple instances and have each instance viewed in its entirety. Therefore, these two types of suffixes --- aspectual markers including perfective, progressive and imperfective markers and suffixal quantifiers --- fail to co-occur with each other.

On the other hand, suffixal quantifiers can co-occur with each other when there is no semantic crash in their quantificational meaning. As I have already mentioned, typical examples are the co-occurrence of *saai3* and *-gwo3*, and *saai3* and *maai4*. Relevant examples are repeated below.

- (49) (a) 我哋 食過晒 魚翅.
 we eat-Exp-SAAI fish-fins
 All of us have had fish fins.”
- (b) 佢 食埋晒 呢啲嘢.
 s/he eat-MAAI-SAAI these-thing
 “S/he has eaten all those things as well.”

(49a) demonstrates the co-occurrence of *saai3* with the experiential marker *-gwo3*, which, unlike the perfective *-zo2*, can be considered as an existential quantifier of events. (49b) demonstrates the possible co-occurrence of *saai3* and *maai4*. Notice that the co-occurrence of these suffixal quantifiers is not free, which is subject to semantic rules of quantifiers and scopes.

In fact, the occurrence of *saai3* and *maai4* has been discussed in previous studies of Cantonese. As mentioned in Chapter 2, there is one use of *maai4* which usually goes with *saai3*, and such a *saai3* is claimed to be optional. Relevant sentences are repeated below.

- (50) 佢 食埋(晒) 嗰啲 隔夜餸, 唔怪得 冇營養. (cited from M&Y)
 s/he eat-MAAI-SAAI those over-night-dish no-wonder no-nutrition
 “S/he eats all those over-night dishes as well. No wonder s/he is not that healthy.”
- (51) 啲細路仔 做埋(晒) 犯法嘅嘢. (cited from M&Y)
 these-kids do-MAAI-SAAI these-illegal-Poss-thing
 “These kids do all illegal things as well.”
- (52) 你條友 乜 做埋(晒) 啲咁嘅事啊? (cited from Li et. al)
 you-CL-guy why do-MAAI-SAAI these-kind-Poss-thing SFP
 “Why you did all things of this kind as well?”

- (53) 好執唔執, 成日 執埋(晒) 啲爛嘢翻嚟!(cited from Li et. al)
 good-pick-not-pick always pick-MAAI-SAAI these-broken-thing-back-come
 “You bring all those broken things back as well.”

M&Y consider that the sequence of “verb + *maai4* + (*saai3*)” is used as an idiom with a pejorative meaning, implying that someone does everything (contributed by the meaning of *saai3*), even including (contributed by the meaning of *maai4*) the outrageous or excessive. Apart from this meaning, Li et al. point out that the relevant action described by *maai4(saai3)* usually involves one particular subject mentioned in the subject NP. In fact, the so-called pejorative meaning of these sentences gives only connotative senses to these sentences, and has nothing to do with the underlying meaning. Moreover, whether the relevant sentences carry a pejorative meaning depends on the nature of the events in question, and again has nothing to do with the semantics of *maai4*. Furthermore, actions described by this type of sentence do not necessarily involve only one particular subject, and can be extended to a set of individuals, giving either a generic or a universal reading of the NP in question.

- (54) 警察 揸埋晒 呢啲槍, 邊 捉到 賊 㗎.
 police carry-MAAI-SAAI these-gun how catch-RES thieves SFP
 “As for this type of guns, policemen all use them. How can they catch thieves then?”

The reading of (54) is as follows: “How can policemen catch thieves by using this type of gun?” The subject NP 警察 ‘police’ is interpreted as a set of individuals, with the event described by the predicate applied to each individual in the set, showing that sentences with *maai4* and *saai3* co-occurring do not necessarily involve only one particular subject.

However, I consider that such a *saai3* may not be optional, as meaning varies a bit with the introduction of *saai3*. Under the current account, assuming that *saai3* contributes its meaning on top of *maai4* and it is not optional, their scope interaction will contribute a new meaning to the relevant *maai4*-sentence. When *saai3* is absent in these sentences, for the four sentences above, *maai4* will associate with the [+definite] DOs, giving a reading of an addition of the individual/the things denoted by the DOs.

When *saai3* is introduced into the sentences, it gives a form of V-*MAAI4*-*SAAI3*. According to Baker (1988), since suffixes operate on lexical levels, their scope relation with the verb should follow the morphological rules of word formation. Hence, the suffix which is closer to the root will take a narrower scope with respect to the suffix further away from the root. Based on this, since *maai4* is closer to the verb, it is reasonable to predict that it will take a narrower scope with respect to *saai3*. Such a scope relation will give the following representation.

(55) SAAI_y [MAAI_x [Arg_x]]_y [vP]

In (55), since *maai4* takes a narrower scope with respect to *saai3*, it will quantify over the selected constituent, with *saai3* then coming into play to determine the relevant mapping. Restricted by the individual tripartite structure mapping of *saai3*, *maai4* together with the selected argument will be mapped to the restrictor, and everything else to the nuclear scope.

While most suffixal quantifiers fail to occur with others, *saai3* is quite exceptional in the sense that it can at least co-occur with *maai4* and *gwo3*. (55) can give us a hint of the answer to this question. Notice when *saai3* co-occurs with other suffixal quantifiers, it is always the case that the form is V+affix+SAAI. According to (55), it means that *saai3* will take scope over the other suffixal quantifiers. This order matches the scope order I have predicted in Chapter 5, that is, while *maai4* takes a strictly vP scope, *saai3*

is possible to take a scope wider than vP but within TP. (55) gives the reading of “the DOs are all added to the set of things related to the events denoted by the predicate”. Notice that the DOs in all cases are [+plural] DOs, due to the selectional restriction on the DO imposed by *saai3*. Hence, for (50), the interpretation becomes: besides eating something else, s/he will also eat all the overnight dishes; for (51), the interpretation becomes: besides doing something else, those kids do all the illegal things; for (52), the interpretation becomes: besides doing something else, s/he has done all those things; and for (53), the interpretation becomes: besides picking up other things, s/he picks up all those broken things. The sentences are repeated below, with the relevant representations given.

(56) 佢 食埋(晒) 嗰啲 隔夜餸, 唔怪得 冇營養. (cited from M&Y)

s/he eat-MAAI-SAAI those over-night-dish no-wonder no-nutrition

“S/he eats all those overnight dishes as well. No wonder s/he is not that healthy.”

SAAIy [[MAAIx [those over-night dishes(x)]]y [Eat(s/he, y)]

(57) 啲細路仔 做埋(晒) 犯法嘅嘢. (cited from M&Y)

these-kids do-MAAI-SAAI these-illegal-Poss-thing

“These kids do all illegal things as well.”

SAAIy [MAAIx [those illegal things(x)]]y [Do(those kids, y)]

(58) 你條友 乜 做埋(晒) 啲咁嘅事啊? (cited from Li et. al)

you-CL-guy why do-MAAI-SAAI these-kind-Poss-thing SFP

“Why you did all things of this kind as well?”

SAAIy [MAAIx [those things(x)]]y [Do(you, y)]

(59) 好執唔執, 成日 執埋(晒) 啲爛嘢翻嚟! (cited from Li et al.)

good-pick-not-pick always pick-MAAI-SAAI these-broken-thing-back-come

“You bring all those broken things back as well.”

SAAIy [MAAIx [those broken things(x)]]y [Pick-up(you, y)]

The possibility of suffixal quantifiers to co-occur is reduced to scope interaction, and whether the meanings of the suffixal quantifiers are compatible with each other. As I have mentioned, another case of co-occurrence of suffixal quantifiers is *gwo3* and *saai3*. Relevant examples are given below.

(60) 我 食過晒 呢啲嘢.

I eat-Exp-SAAI these-things

“I have eaten all these (before).”

(61) 我 睇過晒 呢啲書.

I read-Exp-SAAI these-books

“I have read all those books (before).”

Like the case of *maai4* and *saai3*, the relevant representation will be (40) below.

(62) SAAIx [GWOe [Argx in e]] [vP....e...]

Owing to the occurrence of *saai3*, the DO argument again has to be plural, satisfying the selectional restriction of *saai3*. *-Gwo3* is interpreted as the experiential marker in the above cases, which can be considered as an existential quantifier. The reading resulting from (62) will be “As for the DO, the subject has done something to all of them”. The relevant representation above also implies that the Cantonese experiential marker *-gwo3* takes a narrower scope with respect to *saai3*, and hence, it is likely to have a scope smaller than TP, namely a vP scope. This is in fact borne out in the following examples where we have *-gwo3* interpreted within the scope of TP-operators.

(63) 我 有 去過 日本.

I have go-Exp Japan

“I have gone to Japan (before).”

(64) 佢 一定/可能 去過 日本.

s/he must/may go-Exp Japan

“S/he must have/may have gone to Japan (before).”

Sentences (63) and (64) show that *-gwo3* is interpreted within the scope of the pre-predicate *jaub6* and the modals 一定/可能 ‘must/may’. The scope interpretations of *-gwo3* in (63) and (64) demonstrate that *-gwo3* takes a scope narrower than TP. The interpretation of *-gwo3* within the scope of *saai3* is supported by the ill-formedness of the scope sequence *V-saai3-gwo3*, suggesting the impossibility of *saai3* to be interpreted within the scope of *-gwo3*. Adopted Baker’s assumption of relative scope of suffixes to the verb, the scope of *-gwo3* should be within that of *saai3*.

Assuming the scope relation between the experiential marker *-gwo3* and *saai3*, we can have the following relevant representations, with the sentences repeated for the sake of demonstration.

(65) 我 食過晒 呢啲嘢.

I eat-Exp-SAAI these-things

“I have eaten all these (before).”

SAAIx GWOe [x∈[[These things]] in e] [Eat(e) & Agent(I, e) & Patient(x, e)]

(66) 我 睇過晒 呢啲書.

I read-Exp-SAAI these-books

“I have read all those books (before).”

SAAIx GWOe [x∈[[these books]] in e] [Read(e) & Agent(I, e) & Patient(x, e)]

From the above, we can see that the scope order between the two affixes in the form of *V+Affix1+Affix2* will be affix 2 taking a wider scope with respect to affix 1. That is to

say, it is determined by their distances from the verb, following the morphological rules of word formation. This explains why the scope order between the co-occurring affixes creates a mirror-image with respect to the preverbal adverbials.

5.2 Suffixal Quantifiers Fail to Quantify Over Wh-indefinites

Besides, suffixal quantifiers fail to quantify over wh-indefinites, and these wh-words receive an interrogative interpretation, instead of the quantificational meaning conveyed by the affix. Relevant examples are given below.

(67) 佢哋 行晒 邊度?

they go-SAAI where

“Where did all of them go?”

(68) 佢哋 攞埋 乜嘢?

they take-MAAI what

“What did they take as well?”

(69) 你 睇開 乜嘢書?

you read-HOI what-book

“What do you usually read?”

In the three sentences, the affixes fail to quantify over the wh-words, and the relevant sentences only have an interrogative reading not a declarative one (cf. also T. Lee 1995).

Before explaining the interaction between the affixes and the wh-expressions, two approaches for wh-interpretation need to be mentioned first. Wh-expressions usually remain in-situ in Chinese, and this differs from English which usually involves the raising of wh-expressions to the clause-initial position. The two approaches to wh-interpretation in natural language depend on whether movement occurs or not. Huang (1982a) proposes that all wh-expressions in natural language undergo movement

to some clause-initial position to form an operator-variable relation, though languages differ in terms of where this movement applies, in overt syntax or at LF. Hence, the Chinese wh-sentence in (70a) will have the interpretation in (70b).

- (70) (a) *Ni chi-le shenme?*
 you eat-Perf what
 “What have you eaten?”
 (b) [*shenme_i [ni chi-le t_i]*]

Another approach to wh-interpretation is a non-movement one, which is first proposed by Baker (1970). All wh-expressions, whether moved or not, are bound by an abstract question operator (QUEST)⁴, and according to Baker, a question operator can unselectively bind all free variables in its c-commanding domain. Under this approach, (70) will have the representation in (70c) instead.

- (70) (c) [*QUEST_i [ni chi-le shenme_i]*]

The interrogative readings of (67) to (69) seem to support the non-movement account of wh-expressions. Since wh-expressions require a Q-operator to bind them, they fail to be interpreted with the affix, even though we assume that an operator-variable relation is possible to exist between the affix and the wh-expression.

The failure of suffixal quantifier to bind the wh-words can be explained by their quantificational structures. When the suffixes occur with wh-indefinites, they fail to select the wh-indefinite object.

⁴ I will use QUEST to represent question operators to differentiate it from quantifiers Qs.

(71) (a) [QUEST_x wh_x] SAAI_e [IP...e...]

(b) [QUEST_x wh_x] ADDe_e ∈ E = |{e' | Subject in e'}| > 1 [Subject in e]

Both *saai3* and *maai4* require a specific or definite verbal argument. As an indefinite, wh-indefinites fail to be selected by *saai3* or *maai4*, while on the other hand, the two suffixal quantifiers also fail to turn the indefinite argument into definite. In the case of *saai3*, since the wh-indefinite is indefinite and fails to act as the restricted set for quantification, *saai3* cannot select it. This forces *saai3* to quantify over the next verbal argument in the hierarchy or the event variable, if nothing else is available. The wh-indefinite then raises to the clause-initial position to be bound by the question operator, resulting in an interrogative interpretation. Relevant examples of *saai3* are repeated below.

(72) 佢哋 行晒 邊度?

they walk-SAAI where

[QUEST<x> [wherex]] SAAIx [x ∈ [they]] [Go(x)]

“Where did all of them go?”

A similar mechanism can be found in *maai4*. The relevant example is repeated below.

(73) 佢哋 擺埋 乜嘢?

they take-MAAI what

[QUEST<x> [whatx]] ADDe_e ∈ E = |{e' | Subject in e'}| > 1 [Take(they, e)]

“What did they take as well?”

In the case of *maai4*, since it requires a definite verbal argument, it will not select the wh-indefinite. The wh-indefinite will raise to the clause-initial position to get bound by

the question operator. Since there is no possible verbal argument in (73), *maai4* can only quantify over the event. Therefore, the failure of *saai3* and *maai4* to quantify over wh-indefinites is due to the lack of [+specific] and [+definite] features required by *saai3* and *maai4*, respectively. The general hierarchy will thus predict *saai3* and *maai4* to select constituents which occupy a lower position than the DO (the wh-indefinite) in the hierarchy, which are the subject and the event variable introduced by the verb, respectively.

Like *saai3* and *maai4*, *-hoi1* also fails to quantify over the wh-expression. The relevant example is repeated below.

(74) 你 睇開 乜嘢書?

you read-HOI what-book

[QUEST<x> [what book]x] HOI<P> [P(you)] [P = Read]

“What do you usually read?”

The failure of *-hoi1* to select the wh-expression may be due to its lack of [+plural] feature e.g. 乜嘢書 ‘what book’. Since *-hoi1* fails to bind the DO (the wh-expression), it has to select the next possible constituent in the general hierarchy, which is the verb. What is mapped to the nuclear scope will be the property denoted by the verb, with the restrictor including a set of properties related to the subject. The wh-expression then raises to the clause-initial position to be bound by the question operator.

From the above, we can see that the failure of these suffixes to quantify over the wh-expressions is due to the incompatibility of the wh-expressions with the features required by the suffixal quantifiers. The suffixal quantifiers will select other constituents, besides the DO (the wh-expressions), according to the general hierarchy. Since suffixal quantifiers fail to quantify over wh-expressions, wh-expressions have to be raised to the clause-initial position to get interpreted by the question operator, hence their

interrogative readings.

5.3 Suffixal Quantifiers with Numeral NP Objects

Concerning the interaction between numeral NP objects and the affixes, I have mentioned in Chapter 4 that either the numeral NP will block subject quantification, resulting in ill-formedness of the relevant sentence, or the numeral NP will be interpreted as a quantified NP. Like *wh*-expressions, this again has to do with the mapping of the suffixal quantifiers. Relevant examples are repeated below.

(75) *佢哋 攞晒 三本書.

we take-SAAI three-CL-books

(76) *我哋 跑晒 兩個圈.

we run-SAAI two-CL circles

The occurrence of the non-specific numeral NP in the *saai3*-sentences in (75) and (76) above makes the quantification over the subjects impossible, thus making the relevant sentences ill-formed. However, why the presence of the numeral NP creates such an ill-formedness is never explained adequately in previous analyses. The ill-formedness of (75) and (76) can be explained if we consider that these numeral object NPs are in fact interpreted as quantified NPs and most importantly, as non-specific or indefinite NPs. Since they are the object NPs, and according to the general hierarchy, *saai3* should select them. However, with these quantified NPs being non-specific, *saai3* is incompatible with such a quantified numeral object NP.

However, the question is what hinders *saai3* from going down to the specific and plural subject in the hierarchy. When *saai3* quantifies over the subject, the only possible interpretation we have for (75) and (76) is “all of us have taken the three books” and “all of us have run our two leaps”, respectively. In other words, every individual within

the group of “we” has taken three specific books or has run our two leaps. Hence, for *saai3* to quantify over the subject, the object NPs are viewed as one unit, that is, it is taken as semantically singular and specific. However, even though the numeral object NP can be taken in its whole or as semantic singular, they fail to have a specific interpretation, thus making the relevant interpretation illegitimate.

On the other hand, when we consider *saai3* as quantifying over the numeral object NP, the readings of (75) and (76) become “we together have taken all three books” and “we together have run all two leaps”. However, such readings are not possible, since the relevant object NPs are impossible to have a subpart reading, due to their being quantized, adopting Krifka’s distinction between incremental and quantized predicates, since for predicates like “three apples”, if *x* falls under “three apples”, then it cannot have a proper part *y* that also falls under “three apples”. Hence, the intended readings when we have *saai3* quantified over the quantized object NP are again impossible. Since neither the quantification of *saai3* over the subject nor that over the object is plausible, there is no way that we can get a legitimate interpretation for (75) or (76). Hence, the relevant sentences are thus ill-formed.

In fact, the numeral NP being interpreted as a quantified NP gains further support in the *hoi1*-sentences. Unlike the case of *saai3*, *-hoi1* is compatible with numeral object NPs, since *-hoi1* does not require its selected verbal argument to be specific. Hence, there is no problem for it to interpret with the numeral DO, even though it is a quantified NP. Consider the examples below.

(77) 我食開 一碗飯.

I eat-HOI one-CL-bowl

HOIx [Eat(I, x)] [x = one-bowl-rice]

“When I eat rice, I eat one bowl.”

(78) 我 俾開 一本書 佢.

I give-HOI one-CL-book him/her

HOIx [Give(I, x, him/her)] [x = one book]

“When I give books to him/her, I give one.”

The “one + CL + N” expression has the interpretation of “one + N” in English, instead of “a + N”. The above sentences are interpreted with the entire event involving a quantity of “one” recurring. The introduction of *-hoi* gives a recurring reading to the entire event, with the quantity involved being “one” at each occurrence. The numeral NP is interpreted as a quantified NP.

A similar incompatibility between *maai4* and numeral object NPs is found in the case of *maai4*. Relevant examples are given below.

(79) *我食埋 兩碗飯 啦.

I eat-MAAI two-bowl-rice SFP

The ill-formedness of sentences in (79) is straightforward. Since *maai4* fails to quantify over the subject, the object NP is the only option. The ill-formedness of sentences like (79) is due to the incompatibility between *maai4* and the indefinite quantified NP.