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On the Cantonese Resultative Predicate *V-can**

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This paper investigates a subtype of resultative predicate marked by the verbal particle *-can* in Cantonese and associated with adversative meaning. A number of central properties of this verbal particle and issues related to the phenomena of causativity and unaccusativity are explored with particular reference to the aspectual properties of the V-*can* predicates. We also examine the constraints on the structural projection of arguments of each type of predicate. It is shown that the possibility/impossibility of causative/unaccusative alternations of these predicates is determined by the lexical semantics of the predicates, and different licensing features of the relevant lexical properties.

Key words: Cantonese syntax, causative structure, unaccusative structure, adversative resultative complement

1. Introduction

Cantonese has an unusually rich repertoire of verbal particles, some of which are not found in other Sinitic languages. In this paper we discuss the syntactic and semantic properties of the verbal particle *-can*. This particle has two distinct senses, one being adversative (1), the other habitual meaning 'whenever' as in (2).[1]

(1) a. Keoi haak-can go bibi.
he frighten-CAN CL baby
'He frightened the baby.'
b. Go bibi haak-can.
CL baby frighten-CAN
'The baby got frightened.'

(2) Keoi siu-can dou m ting dak ge.[2]
he laugh-CAN until not stop able PART
'Every time he laughs, he can't stop.'

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[1] Cantonese examples are given in the Linguistic Society of Hong Kong *JyutPing* romanization system, with tones omitted as they are not the object of investigation (*can* has the high level tone 1).

[2] Cantonese is a language with a rich set of sentence-final particles (glossed as PART). These particles constitute a heterogeneous set which encodes different illocutionary forces, modality, evidentiality, affective and emotive values of the speaker. These sentence particles do not interact directly with the verbal particle *can*.

Our discussion focuses on *-can* with adversative meaning as in (1a) and (1b), which occurs with a restricted class of verbs to form a complex verbal predicate. We shall examine the argument structure of the [V-*can*] predicate in relation to ergativity as defined in Keyser and Roeper (1984) and Hale and Keyser (1993), i.e. the alternation between transitive and unaccusative argument structures. The findings presented here represent a small but significant piece of the overall puzzle of Cantonese argument structure.

As discussed in Matthews and Yip (1994), *-can* is a verbal particle which has an adversative meaning in that the effect is "to one's disadvantage/misfortune" (1994: 227).[3] Building on previous analyses, we fine-tune the syntax and semantics of *-can* in light of current linguistic theory. We then situate the analysis within a broader picture of causativity and ergativity, analyzing *-can* as a morpheme associated with a subset of transitive/causative and unaccusative predicates. Comparisons with English are also adduced to support our analysis.

2. Classification of verbs

2.1 Intransitive verbs: Unergatives and unaccusatives

In order to distinguish different verb classes in Cantonese, we need to appeal to the typology of verbs (Pinker 1989; Levin & Rappaport Hovav 1995) by dividing verbs into transitive/causative and intransitive, which sub-divides into unergative and unaccusative. Languages differ in the sets of verbs that fall into these categories. The intransitives have at least two distinct thematic cores associated with them (cf. Pinker 1989:87):

(3) Intransitive verbs

a. *Unergative verbs*

whose argument structure contains one member bearing a theta-role which denotes prototypically an entity (Agent) who performs some action or activity (e.g. *run, walk, sleep, eat, breathe, cry* and *dance,* etc. in English) Unergative V: $<\theta_{Agent}>$

b. *Unaccusative verbs*

whose argument structure contains one member bearing a theta-role which denotes an entity (Theme) that exists in or undergoes some change of location or state (e.g. *bounce*, *open*, *fall* and *arrive* etc. in English) Unaccusative V: $<\theta_{Theme}>$

[3] Unlike its Mandarin cognate *qing*, Cantonese *can* cannot be used as a verb in its own right, hence the term 'particle': *–can* is highly grammaticalised, without retaining any lexical meaning.

Under standard assumptions (see for example Levin & Rappaport Hovav 1995), the change of location or state of the theme of an unaccusative verb is due to some internal rather than external force. Hence the theme is also conceived as an internal argument whereas the agent argument is referred to as an external argument. The external and internal arguments have distinct syntactic properties (Williams 1994) and our discussion on the Cantonese V-*can* predicates further illustrates the distinction.

The fact that unaccusativity has drawn so much attention in current studies of syntax, regardless of theoretical framework, testifies to the significance of the widespread grammatical consequences of the unaccusative/unergative distinction. Our investigation shows that this distinction can be captured in a principled manner in Cantonese.

2.2 Ergativity

It is well documented in the literature that causative verbs often have unaccusative correlates depending on the lexical semantic meaning of the source verbs. In other words, they exhibit ergativity in the sense of Keyser and Roeper (1984). Gu (1996) discusses the transitive/unaccusative alternations of monosyllabic verbs in Mandarin, a language closely related to Cantonese, as illustrated in (4) and (5) where the (a) examples illustrate the transitive/causative use of the verb and the (b) examples the corresponding unaccusative use:

(4) a. Ta mie-le huo.
she extinguish-ASP fire
'She put out the fire.'

b. Huo mie-le.
fire extinguish-ASP
'The fire went out.'

(5) a. Shuishoumen chen-le chuan.
sailors sink-ASP boat
'The sailors sank the boat.'

b. Chuan chen-le.
boat sink-ASP
'The boat sank.'

Examples of monosyllabic verbs that undergo the transitive/unaccusative alternations in Cantonese are given in (6) and (7):

(6) a. Keoi sik-zo zaan dang.
she turn off - ASP CL light
'She turned off the light.'

b. Zaan dang sik-zo.
CL light turn off-ASP
'The light turned off (by itself).'

(7) a. Zek maau haak-zo ngo jat tiu.
CL cat frighten-ASP I one jerk
'The cat startled me.'

b. Ngo haak-zo jat tiu.
I frighten-ASP one jerk
'I got startled.'

The examples in (4-7) illustrate that the transitive/unaccusative alternation is instantiated in both Mandarin and Cantonese. In accordance with the Unaccusative Hypothesis (Perlmutter 1978), which distinguishes unergative verbs that have a single external argument and no direct internal argument from unaccusative verbs that have a single internal argument and no external argument, we divide intransitive verbs in Cantonese into unergative verbs on the one hand (8a), and ergative (8bi) and unaccusative (8bii) verbs on the other:

(8) a. Unergative verbs: *haam* 'cry', *siu* 'laugh', *tiu* 'jump', *fan-gaau* 'sleep', etc.

b. i. Ergative verbs (those showing transitive/unaccusative alternations):
hoi 'open', *saan* 'close', *haak* 'frighten', *ngo* 'starve', etc.

ii. Unaccusative verbs (non-alternating verbs with no transitive/causative counterpart): *dit* 'fall', *puk* 'trip', *faatsang* 'happen', etc.

Like other languages, Cantonese distinguishes unaccusatives from passives. As exemplified in (9), passive verbs like those in (9b) are correlated with transitive verbs as in (9a), but they are not correlated with unaccusative verbs as in (9c). This is in line with the analysis of Levin and Rappaport Hovav (1995) that unaccusative verbs have no external argument, whereas passive verbs are derived from their transitive counterparts in a process whereby the agent theta role is demoted to an adjunct position. This explains the presence of *keoi* 'she/her' as an agent in (9a) and (9b), and its absence in (9c).

(9) a. Keoi saan-zo dou mun.
she close-ASP CL door
'She closed the door.'
b. Dou mun bei keoi saan-zo.
CL door by her close-ASP
'The door was closed by her.'
c. Dou mun saan-zo.
CL door close-ASP
'The door closed.'

The presence of an external argument who intentionally brings about a change of state can be diagnosed by adverbs such as *dakdang* 'deliberately' which needs an agent to licence it. The contrast between the compatibility of *dakdang* 'deliberately' with the passive and its incompatability with unaccusative *saan* 'close' is shown in (10):

(10) a. Dou mun bei keoi dakdang saan-zo.
CL door by her deliberately close-ASP
'The door was closed by her deliberately.'
b.*Dou mun dakdang saan-zo.
CL door deliberately close-ASP
'The door closed deliberately.'

The agent-oriented adverb *dakdang* 'intentionally' is licensed by the agent *keoi* in (10a) whereas it is not licensed in (10b) since the adverb cannot modify a predicate which does not encode agentivity.

(9a) and (9c) illustrate that unaccusative verbs may have transitive counterparts. When this happens, the two of them form an ergative pair, and the transitive member of the pair can undergo passivization. But not all unaccusative verbs have transitive counterparts. This is illustrated in (11), where the verb *dit* 'fall' cannot be used transitively nor passively:

(11) a. Go bibi dit-zo lok dei.
CL baby fall-ASP down floor
'The baby fell on the floor.'

b. *Siu Ming dit-zo go bibi lok dei.[4]
Siu Ming fall- ASP CL baby down floor
'Siu Ming caused the baby to fall on the floor.'

c. * Go bibi bei Siu Ming dit-zo lok dei.
CL baby by Siu Ming fall-ASP down floor
'The baby was fallen on the floor by Siu Ming.'

In the following, we will examine properties of the V-*can* predicates in relation to their compatibility with transitive, passive, ergative and unaccusative constructions.

3. The semantics of *-can*

There are a number of semantic properties associated with *-can*, including adversity, experientiality and resultativity. Our discussion will begin with the most salient semantic feature of adversity.

3.1 Adversity

The morpheme *-can* occurs with a restricted set of monosyllabic verbs which denote activities. The combination V-*can* is a predicate depicting some adverse resultant state: in (12a) and (12b), for instance, the adverse effect is on the object *sailouzai* 'child' and *hoksaang* 'students' while in (12c) the disadvantage is to the subject *wandungjyun* 'athlete'.

(12) a. Zek gau aau-can go sailouzai.
CL dog bite-CAN CL child
'The dog bit the child.'

b. Tou hei mun-can di hoksaang.
CL movie bore-CAN CL students
'The movie bored the students.'

[4] Example (11b) also has a grammatical reading: 'Siu Ming inadvertently let the baby fall onto the floor'. When the noun phrase following the unaccusative verb *dit* 'fall' forms a possessor/possessee relation with the surface subject, for instance, *doi* 'bag' or *nganbaau* 'wallet' in (i), the sentence is grammatical:

(i) Siu Ming dit-zo go doi/nganbaau lok dei.
Siu Ming fall-ASP CL bag/wallet down floor
(Lit.) 'Siu Ming's bag fell on the floor.'
This shows that (i) does not have an authentic transitive structure, but results from possessor raising (see the discussion in Section 4 for more details).

c. Go wandungjyun zam-can.
CL sportsman drown-CAN
'The athlete drowned.'

As we proceed, it can be noted that *-can* is rather selective in terms of the adversative verbs that it occurs with. Some are ergatives, exhibiting the transitive/unaccusative alternation, while some are unaccusative verbs without a transitive counterpart. However, *-can* cannot occur with unergatives, as we will see shortly.

3.2 Experientiality

The morpheme *-can* occurs with a number of psychological predicates which denote activities resulting in some adverse states, e.g.:

(13) a. Go hoksaang gik-can keoi.
CL student anger-CAN her
'The students made her angry.'
b. Tou hei mun-can ngo.
CL movie bore-CAN me
'The movie bored me.'

(14) a. Zek gau haak-can zek maau.
CL dog frighten-CAN CL cat
'The dog scared the cat.'
b. Keoi gong ge je faan-can ngo.[5]
he say REL thing annoy-CAN me
'What he said annoyed me.'

What unifies the verbs in (13) and (14) and the ones seen earlier is that these predicates subcategorise for a *β Experiencer* object (in the sense of Brekke 1988) or alternatively, the predicates are *Object Experiencer* (*ObjExp*) predicates as discussed in Pesetsky (1987, 1995); the adversative effect is on the experiencer. In (14), for instance, the argument that receives the adversative interpretation bears a theta-role of experiencer. In other words, the subject of the sentences in (13) and (14) exerts a causative force on the object, and the object experiences the adverse result of such causativity. Since only sentient beings are capable of experiencing, it can be predicted that noun phrases denoting inanimate entities are incompatible with a V-*can* predicate.

[5] The morpheme *ge* in (14b) may be treated as complementizer of the relative clause preceding the nominal head *je* 'thing'. In Cantonese, relative clauses are head-final (Matthews & Yip 1994, 2003).

This is borne out in (15).

(15) a. Go bibi dit-can.
CL baby fall-CAN
'The baby fell.'
b. * Fu ngaangeng dit-can.
CL glasses fall-CAN

(15) contains two unaccusative sentences. While (15a) is acceptable where the adversity falls on the sentient entity, the baby, glasses are not sentient entities, and hence cannot be an experiencer argument of the V-*can* predicate (15b).

3.3 Resultativity

Crucially, -*can* contributes an aspectual meaning to its host verb in forming a designated complex resultative predicate. If we eliminate -*can*, the resultative meaning disappears, as shown by the contrast in the (a) examples and the (b) examples in (16-17) below:

(16) a. Keoi sengjat tek-can go sailouzai.
he often kick-CAN CL child
'He often kicks the child and (as a result) it gets hurt.'
b. Keoi sengjat tek go sailouzai.
he often kick CL child
'He often kicks the child.'
(17) a. Go bibi dit-can laa.
CL baby fall-CAN PART
'The baby fell and got hurt.'
b. Go bibi dit laa.
CL baby fall PART
'The baby is about to fall.'

In (16a), the V-*can* predicate *tek* 'kick'-*can* necessarily encodes the adverse result of kicking on the object *sailouzai* 'child', whereas the bare V *tek* 'kick' in (16b) does not encode any result of kicking. In (17a) *dit* 'fall'-*can* encodes the resultative meaning of the baby's getting hurt from falling, but in (17b) the unaccusative verb *dit* 'fall' is bare without any aspect or verbal particle, but only with a sentence final particle *laa* that encodes current relevance: the sentence means that the baby is about to fall, with no

result implied. In other words, (17b) simply depicts an imminent activity without indicating the result of the activity.

A similar differentiation is reflected in (18), where the verb *dit* 'fall' with the perfective marker *-zo* contrasts with *dit-can* in that *dit-can* necessarily indicates an adverse result of the baby's falling but *dit-zo* does not. As shown by the clause immediately following *dit-zo*, though the baby fell, no harm was done to her:

(18) Go bibi dit-zo lok dei, daanhai houcoi mou dit-can.
CL baby fall-ASP down floor but fortunately not fall-CAN
'The baby fell onto the floor but fortunately she didn't get hurt as a result.'

As has been extensively documented in the literature (Rothstein 1983; Simpson 1983; Pustejovsky 1992; Carrier & Randall 1992; Jackendoff 1990; Levin and Rappaport Hovav 1995; Parsons 1990; Kim and Maling 1997; Rappaport Hovav & Levin 2001; Wyngaerd 2001, among others), a resultative predicate denotes a terminal point to the event or activity described by the host verb, i.e. it marks the end point of the resultant state. An examination of a fuller range of verbs which take *-can* shows that when used as single verb predicates, not all of them entail a complex event, i.e. they do not uniformly belong to the Vendlerian class of "accomplishment" verbs (Vendler 1967); many of them are simply action verbs with various manners specified (i.e. involving different body parts), while some are weather-related verbs and a few are psychological verbs:

(19) Verbs taking *-can*

a. Physical actions involving specific body parts

bok-can 'get hit in the head'; *caai-can* 'to tread on'; *dan-can* 'get hurt in the back or bottom'; *gip-can* 'get nipped'; *gwaat-can* 'nick oneself (as in shaving)'; *ham-can* 'get bumped (on the head)'; *kang-can* 'choke (on solid food) '; *laat-can* 'get scalded'; *lau-can* 'get twisted'; *luk-can* 'get burned (by liquid)'; *puk-can* 'trip'; *zong-can* 'get bumped'; *zuk-can* 'choke (on liquid)', etc.

b. Psychological predicates[6]
faan-can 'annoy'; *gik-can* 'get mad'; *haak-can* 'frighten'; *hing-can* 'get angry'; *mun-can* 'bore', etc.

c. Weather predicates
gam-can 'catch a cold'; *lam-can* 'get drenched'; *laang-can* 'catch a cold'; *saai-can* 'get sun-burned'; *sip-can* 'get blown (from the wind)'; *zam-can* 'get drowned', etc.

Many of the verbs in (19) belong to the colloquial tier with a very specific meaning. Predicates like *zuk-can* 'choke' (on liquid) and *kang-can* (to choke on something hard) refer to two kinds of choking resulting from very specific involuntary actions, while *bok-can* and *ham-can* are associated with the head specifically, and *dan-can* with the back or bottom as in *dan-can meilunggwat* 'hurting the backbone' but never with the head or upper body. In a nutshell, each of these host verbs encodes a specific manner of activity, often involving a particular body part in which the adversity results. We will further discuss the relationship between the body part and the subject NP below.

In Cantonese, the morpheme *sei* 'dead' is commonly found in resultative compounds such as *daa-sei* 'hit-dead', *siu-sei* 'laugh-dead', *haak-sei* 'frighten-dead', etc., and most of the verbs in (19) may also form compounds with *-sei*, for example, *aau-sei* 'bite (somebody) to death', *faan-sei* 'annoy', etc. But there is a small number of verbs in (19), when compounded with *–can*, the V-*can* predicate depicts an adverse result on the experiencer, yet no human control can be exerted to avoid such a result, for instance, *zuk-can* 'choke (on liquid)' in (19a) and *gam-can* 'catch a cold' in (19c). These verbs cannot form compounds with *-sei*:

[6] Note that stative psychological predicates, even if they carry adversative meaning, are incompatible with *-can*:

(i) a. Keoi hou paa/geng.
he very fear/afraid
'He fears a lot. /He's quite afraid.'
b. *Keoi paa-can/geng-can
he fear-CAN/afraid-CAN

The verbs in (i) pattern with the English "fear" class of verbs. The unacceptability of (ib) may be due to the fact that the "fear" class of predicates introduces a semantic object whose meaning is intensional (Pustejovsky 1992). In such a case, the existence of the object may not necessarily be expressed, for instance:

(ii) He is afraid.

Hence the predicates in (i) cannot be compounded with *-can* to express causativity. As for the causer, which may be related to the object of "fear" class verbs (or a theme, in the sense of Grimshaw 1990), it is either not present or non-existent.

(20) a. Keoi msiusam zuk-can /*zuk-sei-zo.
he not careful choke-CAN /choke-die-ASP
'He got choked (by liquid) inadvertently.'
b. Go bengjan gam-can /*gam-sei-zo.
CL patient catch cold-CAN /*catch cold-die-ASP
'The patient caught a cold.'

So far there is clear evidence that *-can* marking an adversative meaning forms a complex predicate with the host verb and the combination [V-*can*] then becomes a complex predicate denoting a result. A question arises as to what specific aspectual property the *V-can* predicates have. The examples in (21) below show that a verb like *haak* 'frighten' can occur in a sentence with imperfective aspect, and it can also occur in an imperative sentence. These properties indicate that these sentences have a situation aspect of activity, and the verb *haak* may indeed denote an activity:

(21) a. Keoi haidou haak go bibi wo.
he at-here scare CL baby PART
'He is (busy) scaring the baby. '
b. Lei mhou haak keoi.
you don't scare her
'Don't scare her.'

If *-can* denotes an adverse result and the host verb like *haak* denotes an activity, will a sentence of a *V-can* predicate as in (22) below have a situation aspect of accomplishment?

(22) a. Lei mhou haak-can keoi.
you don't scare-CAN her
(Lit.) 'Don't scare her./Don't get her scared.'
b. Keoi haak-can go bibi wo.
he scare-CAN CL baby PART
'He scared the baby./He got the baby scared.'

It is well known that accomplishment verbs, such as *close, open, break, sink* and *melt,* etc. in English denote a complex eventuality of [activity+result] and these verbs naturally entail semantic ambiguity with respect to the aspectual situations they depict, because they have a bipartite aspectual composition (see Rapoport 1999 for more detailed discussion), i.e. they include a process (denoted by activity) and an outcome

(denoted by result). These two aspects can be expressed independently or compositionally, as illustrated in (23):

(23) a. The ice is melting. (process; imperfective)
b. The ice melted. (outcome; perfective)
c. The boy is melting the ice. (activity+result; imperfective)
d. The boy melted the ice into water. (activity+result; perfective)

These examples illustrate the ergative property of the verb *melt,* i.e. it exhibits unaccusative and transitive/causative alternations. In both unaccusative and transitive patterns, one can find imperfective and perfective viewpoint aspect, as in (23a) and (23c), and (23b) and (22d), respectively. The transitive examples in (23c) and (23d) contain a situation aspect of accomplishment as specified by the composition of an activity and a natural outcome, i.e. a result. In (23a) and (23c) the speaker's viewpoint is placed on the process as well as the activity whereas in (23b) and (23d), the viewpoint is placed on the outcome or the result.

In view of the above discussion, one may argue that the *V-can* predicate, *haak-can*, in (22) may also denote a situation aspect of an activity as well as one of a result. But there is a certain degree of complexity related to the special aspectual properties of the *V-can* predicates due largely to their morphological make-up. The *V-can* predicates are conflated forms, so even though the two morphemes, the V and *–can*, each encodes an aspectual meaning of process/activity and outcome/result, respectively, these aspectual components cannot be viewed by the speaker independently of each other. In other words, the speaker can only cast a viewpoint on the entire situation depicted by a *V-can* predicate along with its argument(s), that is, the process/activity plus the result. The speaker cannot shift the viewpoint to the process/activity part, as is possible with the English example seen in (23c), because the process/activity component is inaccessible to the speaker. This captures the contrast between an English accomplishment situation in (23c) and the one containing a *V-can* predicate in Cantonese as in (24) below:

(24) *Keoi *haidou* haak-can go bibi wo.
he at there scare-CAN CL baby PART
(Intended: 'He is getting the baby scared.')

Haidou is an imperfective aspect marker in Cantonese (Matthews & Yip 1994) which expresses that some process/activity is going on somewhere. (24) illustrates that a *V-can* predicate is incompatible with *haidou,* thereby confirming that a situation

containing a *V-can* predicate does not allow an imperfective viewpoint aspect. This necessarily characterizes the *V-can* predicates as having a situation aspect of achievement, which differs from an accomplishment in lacking a process/activity component (Smith 1997).

The aspectual properties of the *V-can* predicates examined so far also explain the patterns of ergative alternation observed in many of these predicates. The ergative verbs may be regarded as having the situation aspect of achievement, especially when the verbs involved depict a change of state while lacking a process. The host verbs in many *V-can* predicates have such a characteristic, as exemplified in (25).

(25) a. Bibi zek goek dung-can.
baby CL foot cold-CAN
'The baby's foot got frozen.'
b. *Bibi zek geok haidou dung.
baby CL foot at-here cold

The host verb *dung* in (25a) depicts a change of state, i.e. from not being cold to being cold. It cannot depict an on-going process, as in (25b). Hence in (25a), *dung-can* has an aspect of an achievement, meaning the changed state is an adverse one.

Our discussion so far indicates that *-can* adds an adversative meaning to a process or a changed state. A changed state can be perceived as a result. This is consistent with our earlier observation that *-can* depicts a result. But note that the result that *-can* denotes is not specified. This is what makes the V-*can* predicates unique among resultative predicates. We proceed to this point in the following.

Let us first consider the English data below which are cited from various authors.

(26) *Simpson* (1983)
a. water the turnips flat
b. shoot the man dead
(27) *Parsons* (1990)
a. close the door tight
b. chop the onions fine
(28) *Carrier & Randall* (1992)
a. run the pavement thin
b. pound the metal flat

(29) *Levin and Rappaport Hovav* (1995)
a. wipe the table clean
b. freeze the river solid

Each of the examples contains a situation aspect of accomplishment with the result being depicted by an adjective. But note there is a difference between the examples in (26) and (28), and those in (27) and (29), with regard to the encoding of the result. In (27) and (29), the adjectives can be left out and the result remains, whereas in (26) and (28) the adjectives cannot be omitted while maintaining the resultative meaning. These examples indicate that an accomplishment may by lexically encoded as in (27) and (29), or it may be derived via complex predication as in (26) and (28) where the resultative meaning is added by relevant adjectives. (27) and (29) in fact illustrate that with lexical achievement predicates, the result can be modified, a point made in Parsons (1990), i.e. the result can be specified. For instance, with *wipe the table*, we know the result is that the table gets wiped in the end, but we do not know the specific degree or state of the result. In contrast, the adjective *clean* in *wipe the table clean* specifies that the result is a clean one.

But in the Cantonese examples seen so far, the *V-can* predicates cannot be further specified by a resultative element. The following examples illustrate the incompatibility of V-*can* with a resultative complement:

(30) a. Go bibi haak-zo *(jat tiu).
CL baby frighten-ASP one jump
'The baby got startled.'
b. Go bibi haak-can (*jat tiu).
CL baby scare-CAN one jump
'The baby got scared.'

(31) a. Keoi zek goek dung-goeng-zo.
he CL foot cold-frozen-ASP
'His foot got frozen from the cold and became numb.'
b. Keoi zek goek dung-can.
he CL foot cold-CAN
'His foot got frozen from the cold.'
c. *Keoi zek goek dung-goeng-can-(zo).
he CL foot cold-frozen-CAN-ASP
d. *Keoi zek goek dung-can-goeng-(zo).
he CL foot cold -CAN-frozen-ASP

(30a) contains a resultative secondary predicate, *jat tiu* 'one jump' which can be taken as an event measure specifying the extent of the baby's fright, and (31a) has a resultative compound where the second predicate, *goeng* 'frozen' specifies the resultant state the foot is in. In neither case where the resultant state is already specified can *-can* be added to the predicate, which indicates that the resultant state cannot be modified more than once:[7]

(32) a. Go bibi dit-zo/gan/gwo lok dei.
CL baby fall-ASP down floor
'The baby fell/is falling/once fell onto the floor.'
b. Go bibi dit-can.
CL baby fall-CAN
'The baby fell.'
c. *Go bibi dit-can lok dei.
CL baby fall-CAN down floor

In (32), *-can* is in complementary distribution with the directional phrase *lok dei* 'onto the floor' which specifies a terminal point of the baby's falling. According to the Single Terminus Constraint formulated in Tenny (1994), an event can have no more than one terminal point. As *-can* encodes resultativity, it naturally delimits the event in question. (32c) is therefore ruled out on aspectual grounds: given both *-can* and a directional phrase, the sentence ends up with two terminal points.

The examples so far also show that *-can* and other resultative complements are in complementary distribution: *-can* encodes a general adverse result, or change of state, but not a specific degree of adversity nor the various results of the adversative effects of the activities conveyed by the host verb. To specify the nature of the resultant state, the language offers other options, typically making use of resultative predicates such as those seen in (30a) and (31a) as well as those in (33) below:

[7] Parsons (1990) observes that modification of resultant state differs from event modification, which is often introduced by adverbials such as manner and instrument phrases, e.g. *We loaded the wagon with hay with pitchforks*, where more than one modifier may occur. Modification of resultant state is limited to one modifier, e.g. **The maid wiped the table clean dry*. This constraint may also be captured by theories of event measurement (e.g. Wyngaerd (2001) and the references cited there) which state that an event can only be measured out once.

(33) Examples of resultative verb compounds (RVCs)
ceoi-sik 'blow extinguish'; *da-laan* 'hit break'; *dit-sei* 'fall dead'; *dung-goeng* 'cold frozen'; *gik-sei* 'anger dead'; *guk-wan* 'suffocate fainted'; *haak-sei* 'scare dead'; *ngo-sei* 'starve dead'; *zong-laan* 'bump break', etc.

The RVCs listed in (33), like the one in (31), are also referred to as causative predicates. They uniformly contain a process/activity verb plus a resultative complement. The process/activity verb specifies the manner of causation (designating a specific causing event), while the resultative verb denotes the varying degrees or states of the resultant event. Compare *haak-can* 'frighten-CAN' and *haak-sei* 'scare-dead': the former suggests a rather mild state of fear, the latter a much greater state of fear and shock (comparable to the English 'scare to death').

The *V-can* predicates and RVC predicates are aspectually similar in that they are all achievement predicates. They also show the same behavior with regard to causative/unaccusative alternations:

(34) a. Keoi loupo haak-can ngo.
his wife scare-CAN me
'His wife scared me.'
b. Ngo haak-can.
I scare-CAN
'I got scared.'

(35) a. Keoi guk-wan-zo zek maau.
he suffocate-fainted-ASP CL cat
'He suffocated the cat and (as a result) it fainted. '
b. Zek maau guk-wan-zo.
CL cat suffocate-fainted-ASP
'The cat suffocated and fainted.'

However, while a RVC may consist of an unergative verb plus a resultative verb, a *V-can* predicate cannot take an unergative verb, as shown in the contrast below:

(36) a. Go bibi deoi ngaan haam-zung-zo.
CL baby CL eyes cry-swollen-ASP
'The baby cried (so much) and got her eyes swollen.'
b. *Go bibi deoi ngaan haam-can.
CL baby CL eyes cry-CAN

(36a) shows that the resultative complement in a RVC, by specifying the result, contributes significantly to the situation aspect of the predicate: it adds a result to a process. The host verb *haam* 'cry' is an unergative verb. As well documented in theories of aspectuality, an unergative verb is inherently atelic, hence lacking a temporal end point; an achievement predicate depicts a telic situation containing an endpoint (Smith 1997 and the references cited there). The endpoint of the achievement situation as depicted in (36a), hence, must be contributed by the resultative complement *zung* 'swollen'. As *-can* does not specify a result, it cannot serve to yield a full result, i.e. telicity, to an unergative verb. It can then be inferred that the resultative meaning *-can* contributes to a V-*can* predicate is minimal in the sense that it only denotes an adverse result to a process or an adversative change of state. This explains why (36b) is ungrammatical.

Additional examples confirm that *-can* is only compatible with verbs which are telic, while atelic verbs uniformly reject *-can*:

(37) a. *Keoi go wai siu-can.
he CL stomach laugh-CAN
'His stomach hurts as a result of laughing (too much).'
b. * Keoi zek goek tiu-can.
he CL foot jump-CAN
'His foot hurts as a result of jumping.'

Given the similarities and differences between the V-*can* and the RVC predicates seen above, it can be concluded that *-can* has a unique grammatical function in marking an adversative resultant state. Being in complementary distribution with other resultative complements, *-can* serves to form a subtype of complex resultative predicates in Cantonese.

A resultative predicate, as argued in Wyngaerd (2001), is subject to a boundedness requirement, hence it has an intrinsic measuring function which may bound an event. A resultative predicate necessarily depicts a telic event, as the resultative component in the predicate denotes the "countability" of a telic event and it serves to count or measure out such an event. More specifically, as posited by Wyngaerd, there exists a constraint on the resultative predicate, i.e. it denotes a bounded scale. Such a constraint is derived on the ground that resultatives are often secondary predicates which are adjectives denoting bounded scales.

The present discussion of the Cantonese *–can* suggests that an event measure can be specific as well as non-specific. A specific resultative can denote a bounded scale. When non-specific, the resultative denotes boundedness without a scale. Such a

contrast can be illustrated in the examples in (38) and (39). The compound predicate in (38a) contains a specific resultative, i.e. a RVC resultative predicate *dung-goeng* 'freeze-numb', in which *goeng* denotes a scale. The resultative *goeng* can be separated from the host verb *dung* when depicting the cause of freezing gradually leads to a resultant state of the foot's being numb or accelerates the extent (or degree or intensity) of the result, i.e. numbness in the foot. This is reflected in (38b).

(38) a. Keoi zek goek dung-goeng-zo.
his CL foot freeze-numb-ASP
(Lit.) 'His foot was freezing and as a result it became numb.'
b. Keoi zek goek jyut dung jyut goeng.
his CL foot more freeze more numb
(Lit.) 'The more freezing his foot was, the more numb it became.'

(38b) contains conjoined comparatives. As pointed out in Wyngaerd (2001, following Barbiers 1995), such sentences are essentially telic in the sense that the comparative turns an unbounded scale into a bounded one by specifying the extent of the scale. The specification is done via repetition of a telic or delimited event. This property is not found with a V-*can* predicate. As shown in (39), *-can* cannot be separated from its host verb, for it is incapable of denoting a specific result:

(39) a. Keoi zek goek dung-can-zo.
his CL foot freeze-CAN-ASP
'His foot was frostbitten.'
b. *Keoi zek goek jyut dung jyut can.
his CL foot more freeze more CAN

It is interesting to note that with a non-specific resultative, there is no way to depict the existence of the resultant state. This is in contrast with a specific resultative, as illustrated in (40) and (41).

(40) a. Siu Ming zek sau laat-soeng-zo.
Siu Ming CL hand scorch-wounded-ASP
'Siu Ming's hand was wounded as a result of burning.'
b. Siu Ming zek sau laat-soeng-zo gei jat.
Siu Ming CL hand scorch-wounded-ASP several days
'It has been several days since Siu Ming's hand got wounded from burning.'

(41) a. Siu Ming zek sau laat-can-zo.
Siu Ming CL hand scorch-CAN-ASP
'Siu Ming's hand got burned.'
b.*Siu Ming zek sau laat-can-zo gei jat.
Siu Ming CL hand scorch-CAN-ASP several days
(Intended: 'It has been several days since Siu Ming's hand got burned.')

The RVC predicate *laat-soeng* in (40a) depicts a specific result, a wound on *Siu Ming*'s hand. This result can last for a few days and the existence of the result can be asserted as in (40b). But the V-*can* predicate in (41) fails to bring about a specific resultant state the existence of which can be asserted, hence the anomaly of (41b).

4. Syntactic Properties

To recapitulate, syntactically the V-*can* predicates exhibit a characteristic causative/unaccusative alternation pattern:

(42) a. Keoi loupo haak-can ngo.
his wife scare-CAN me
'His wife scared me.'
b. Ngo haak-can.
I scare-CAN
'I got scared.'

In (42), the same lexical verb *haak* 'scare' plus *-can* can be used both transitively and intransitively. In its transitive use such as (42a), *haak-can* is causative. The experiencer, or the causee, is in the object position. In its intransitive form in (42b), the experiencer is in the subject position.

Various theories have been proposed to account for the syntactic alternations observed in (42). Some adopt a purely syntactic approach; the most influential follows from Burzio's Generalization (1986), which attempts to account for the phenomenon by resorting to the Case Theory (Chomsky 1981). Under this approach, the verbs in the (b) examples subcategorize for an internal argument, which, being unable to receive structural Case from the verb, has to raise to the surface subject position to satisfy the Case requirement. Others take an interface approach, aiming to account for the lexical-semantic and lexical-syntactic properties of these verbs. In Levin and Rappaport Hovav (1995), for instance, the issue of ergativity is dealt with via the following steps: (i) a lexical decausativization rule derives unaccusatives from their

corresponding causatives by binding the external theta-role of Causer from the theta-grid of the verb (at lexical-semantic representation); (ii) when the verb's theta-roles are mapped onto its argument structure (at lexical-syntactic representation), the verb only has an internal argument; (iii) the internal argument is raised to the syntactic subject position (at syntactic representation). These theories share the consensus that the syntactic subject of the unaccusative sentence is derived from the semantic object of the causative counterpart. The data in (42) thus follow naturally from the causative/unaccusative paradigm.

Note that some V-*can* predicates have a reflexive use, as exemplified in (43a). The reflexive use can also be extended to body parts. For instance, with regard to starving oneself, it is the stomach that is to be involved, hence (43a) and (43b) are semantically related:

(43) a. Lei mhou ngo-can zigei.
you not good starve-CAN self
'You'd better not starve yourself.'
b. Lei mhou ngo-can go wai.
you not good starve-CAN CL stomach
(Lit.) 'You'd better not starve your stomach.'

Such a use is not restricted to V-*can* predicates which contain a transitive base verb such as *ngo* 'starve'. As can be seen in (44), the object of the sentences is a reflexive or a body part**.**

(44) a. Siu Ming saai-can zigei.
Siu Ming sun-burn-CAN self
'Siu Ming got himself sun-burned.'
b. Siu Ming saai-can go buizek.
SiuMing sun-burn-CAN CL back
'Siu Ming burned his back in the sun.'

The relationship between the reflexive *zigei* 'self' and the body part/inalienable object *buizek* 'back', is observed in English resultative constructions by Jackendoff (1990, Ch. 10.4), Levin and Rappaport Hovav (1995), Aarts (1995) and Bowers (1997), among others:

(45) a. *Fake reflexive object*
i. Dora shouted *herself* hoarse. (Levin and Rappaport Hovav 1995:35)
ii. The officers laughed *themselves* helpless.
b. *Body part/inalienable object*
i. Sylvester cried his *eyes* out. (Levin and Rappaport Hovav 1995:36)
ii. They worked their *fingers* to the bone.

A salient characteristic of the sentences in (45) is that the matrix verbs are intrinsically intransitive: they are unergative verbs, whose argument structure contains only one external argument bearing the semantic role of agent. They normally do not take an object argument. Simpson (1983) calls the object reflexives in (45a) *fake reflexives* as they are not arguments of the verb; however these fake reflexives are required when the unergative verb is followed by a resultative phrase such as *hoarse* and *helpless*:

(46) a. *Dora shouted hoarse. (Levin and Rappaport Hovav 1995:35)
b. *The officers laughed helpless.

Similarly, in (45b) the body part NPs *his eyes* and *their fingers* are not subcategorized by the unergative verbs *cry* and *work*, just as the fake reflexives are not subcategorized by the corresponding unergative verbs *shout* and *laugh*. Hence these expressions have lost their literal meaning in the sentences. Levin and Rappaport Hovav (1995) point out that the postverbal NPs in these constructions are generally inalienably possessed body parts. Neither the reflexive *herself/themselves* nor the body part *his eyes* nor the inalienable object *fingers* is the semantic object of the verb; they are required by the resultative predicate, as the result must always be controlled by the object. Recently in Wyngaerd (2001, 4.2) such resultatives have been shown not to be restricted to inalienable body parts, e.g. *She cried her handkerchief wet*; these are analysed as intensifying resultatives, which denote an arbitrary event measure for an essentially telic event.

Upon examining the Cantonese data in (44), we find that although there seems to be a correlation between the reflexive *zigei* 'self' and the body part NP *go buizek* 'the back' in that both can occur in the object position, there is a clear discrepancy between the English verbs in (45) and the Cantonese verbs in (44). In our discussion earlier, we mentioned that unergative verbs cannot take *-can* and this is further evidenced in (47).

(47) a. *Keoi siu-can zigei.
he laugh-CAN self
b. *Keoi haam-can deoi ngaan.
he cry-CAN CL eyes
c. *Keoi zau-can deoi goek.
he walk-CAN CL feet

Hence a significant finding is that *-can* indeed only occurs with causative and unaccusative verbs. This finding calls for a new analysis to account for the structural status of the reflexives and the body part/inalienable noun phrase in (44).

Interestingly, we find the following related alternations:

(48) a. Siu Ming wat-can bibi zek goek.
Siu Ming twist-CAN baby CL foot
'Siu Ming twisted the baby's foot.'
b. Bibi wat-can zek goek.
baby twist-CAN CL foot
i. 'The baby twisted his own feet.'
ii. 'The baby got his feet twisted.'
(49) a. A Wai waa-can muimui faai min.
A Wai scratch-CAN sister CL face
'A Wai scratched little sister's face.'
b. Muimui waa-can faai min.
sister scratched-CAN CL face
i. 'Little sister scratched her own face.'
ii. 'Little sister got her face scratched.'

While the sentences in (48a) and (49a) are unambiguously causative in meaning, (48b) and (49b) can be said to be ambiguous between two readings: (i) a causative reading which has a transitive structure and (ii) a purely resultative reading which involves an unaccusative structure. In the causative reading of (48b), the baby twisted her own foot while in the unaccusative reading, a possible scenario could be that the baby was held by somebody, but she accidentally fell out of the person's arms and hurt her foot: crucially, she didn't intend to fall and hurt herself. The unaccusative interpretation simply reports the resultant state of the baby's foot. We attribute these two readings to ergativity. In particular, in the unaccusative reading, the resultant state does not rely on any external force typically exerted by a Causer argument; rather, it arises internally without any external causation. This contrast between causativity and

unaccusativity is discussed by Levin and Rappaport Hovav (1995) in terms of 'external causation' and 'internal causation' and such a distinction captures the ambiguity in the Cantonese examples under discussion.

But how to account for the structural relationship between the subject noun phrase and the object noun phrase in the sentence below if it is to be interpreted as involving an unaccusative structure?

(50) Bibi wat-can zek goek.
baby twist-CAN CL foot
'The baby got her foot twisted.'

We approach the question by following the general principles advocated in the Minimalist Program (Chomsky 1993, 1995, 2000, 2001). To start with, the sentence in (50) containing the predicate *wat-can* does not have an external argument. What appears as the surface subject *bibi* is not the external argument but originates as part of the internal argument. This captures our intuition that *bibi* is part of the object phrase, i.e. the possessor in *bibi zek goek* 'the baby's foot' which is originally one constituent as represented in the squared brackets in (51) below (the symbol *e* indicates that there is no external argument):[8]

(51) *e* wat-can [bibi zek goek]
twist-CAN baby CL foot

As standardly assumed in generative syntax, especially in the Minimalist Program, the subject of a sentence is required by the Extended Projection Principle (EPP) feature of a tensed clause, TP. The EPP feature is an uninterpretable selectional feature which must be satisfied in narrow syntax so it requires Merge of a category in its Specifier. The head of TP also has a probe with ϕ-features which can value a structural Case. Following Chomsky (2000, 2001), nominal Case-features are uninterpretable, so they must be valued under agreement by a probe and get deleted by Spell-Out in narrow syntax. In the recent version of the Minimalist Program, the functional category Agr has been eliminated from syntax. The function of agreement in Case assignment is implemented in *v* in Chomsky (1995, chapter 4, 2000) and Collins (1997), and via Pr

[8] As pointed out by a reviewer, the part-whole relationship between the raised possessor and the in-situ possessee/body part also applies to the 'retained object' in other Mandarin constructions including BA, BEI, etc. (see for example Shi 1997). The reviewer also raised the question as to whether raising of the possessor will overgenerate by applying to non-partitive elements. The constraint applies to possessors which are phrasal categories, i.e. as long as the raised constituent is a phrasal category, there should not be overgeneration of illicit raising.

in Bowers (2002). A noun phrase, or a DP, with uninterpretable features in the complement of T will become a target of Merge for the purpose of satisfying the EPP feature of T (see Collins 1997; Bowers 2002). In the following, we assume the recent analysis of Bowers (2002) whereby an unaccusative verb phrase is contained in a Predication Phrase (PredP) as complement of Pr.

The morphological realization of the feature checking mechanism is the nominative Case on the sentential subject.[9] Though Cantonese is a language without overt Case marking, we assume that it has abstract Case, like Mandarin (see Li 1990). From (51), a sentence like (50) can be derived where a noun phrase, i.e. the possessor NP *bibi* 'baby', containing ϕ-features, is merged into the Spec,TP via movement from the object position to the subject position.[10]

Let us consider the alternation in (52) with respect to the resultative/unaccusative reading of (50).

(52) a. [Bibi zek goek] wat-can.
baby CL foot twist-CAN
b. Bibi wat-can [zek goek].
baby twist-CAN CL foot

We suggest that (52) results from one of the two derivational options available in Cantonese to satisfy the EPP feature of TP. In one option, as shown in (53) below, the entire DP *bibi zek goek* 'the baby's foot' is taken as a goal containing ϕ-features which

[9] Collins (1997, 2.2) proposes that the nominative case may be weak; it is the strong EPP (Extended Projection Principle) feature of T that motivates overt subject raising to the Spec of TP.

[10] Similar cases of raising a possessor noun phrase from the object position in related languages such as Mandarin Chinese are discussed in Xu (1993). In fact, possessor raising is also found in sentences with single verb predicates in Cantonese. For instance:

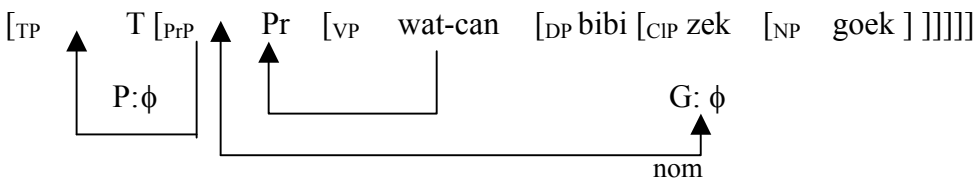
(i) Siu Ming dit-zo go doi/nganbaau lok dei.
Siu Ming fall-ASP CL bag/wallet down floor
(Lit.) 'Siu Ming's bag fell onto the floor.'

Here the predicate *dit* 'fall' is unaccusative, and the noun phrase following *dit* forms a possessive relation with the subject *Siu Ming*. The surface SVO word order does not reflect a causative structure, but rather one derived via possessor raising (See the discussion in Section 4). Such an analysis can also be extended to sentences like the following where the surface subject may or may not be in a possessive relation with the noun phrase in the object position:

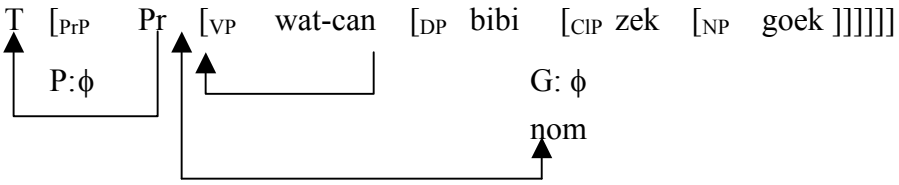
(ii) Siu Ming dit-zo go bibi lok dei.
Siu Ming fall-ASP CL baby down floor
(Lit.) 'Siu Ming inadvertently let the baby fall onto the floor.'

In (ii), the baby may or may not be *Siu Ming*'s child. In either case, Siu Ming experienced an adverse effect in having the baby fall onto the floor. In neither of the above cases is *Siu Ming* a causer in the canonical sense. This reflects the unique semantic and syntactic properties of adversative predicates, i.e. there is a continuum from a causer to an experiencer. Hence a sentient causer brings about adversity, whereas an experiencer suffers from adversity which may result from his/her own inadvertence. We leave the issue here for further exploration.

match with the feature of the probe in T and the DP is then merged into Spec, TP.[11] By so doing, the structural Case feature of *bibi zek goek* can be valued and deleted. Assuming that in Cantonese, as in Mandarin, the V-features of Pr are strong (see Gu 2004), requiring merge of some categorical feature (Chomsky 1995), i.e. Pr is filled with a light verb or a substantive verb. Accordingly, the compound verb *wat-can* raises into Pr. The derivation converges as in (51a), which is a typical unaccusative structure.

(53) 

In a second option, which is a more economical one, the merge of a phrase into Spec,TP is implemented in a 'minimal' sense. As can be seen in (53), the internal argument position is originally taken by the DP composed of *bibi* 'baby' and *zek goek* 'the foot', each constituting a phrase. By the Economy Principle of derivation (Chomsky 1991; 1993), the merging of one constituent with a matching feature is sufficient for satisfying the feature in the probe.[12] Assuming this mode of derivation for the sentence in (52b), the derivation would merge *bibi* 'the baby' into Spec,TP, whereas *zek goek* 'the foot' is left in-situ. Other things being equal, the derivation converges to derive (52b), as shown in (54).

(54) 

(54) thus yields a seemingly transitive structure. The phrase designated as ClP is left in-situ. It typically forms a partitive relation with the moved constituent, i.e. the foot is part of the baby. Following Belletti (1988), Chomsky (1991), Spencer (1991) and

[11] It is argued in Bowers (2002) that the Pr also has a strong EPP feature which must be satisfied. From (53) to (54), therefore, the DP *bibi zek goek* will first merge into Spec, PrP and then into Spec, TP. The EPP features of Pr and T can be satisfied respectively.

[12] Our idea is inspired by Boskovic's (1997) analysis of English existential constructions, in which he adopts the minimalist assumption that every requirement must be satisfied in the most economical way. For details, see his discussion in Chapter 4.

Baker (1997), an unaccusative verb is unable to assign accusative Case, but it maintains the capacity for assigning inherent Case. Partitive Case is an inherent Case assigned in conjunction with theta-role assignment of the verb in the lexicon. So no structural Case is needed for the ClP in the object position in (54) and this accounts for the superficial 'transitive' pattern of the sentence.

Let us apply the analysis to (44), repeated below in (55). In (55a), the subject position is taken by *Siu Ming* and the object position by a reflexive referring to *Siu Ming*. The sentence is ambiguous simply because of its dual structural status. At first glance, *Siu Ming* seems to be a causer and the reflexive *zigei* 'self' a causee.

(55) a. Siu Ming saai-can zigei.
Siu Ming sunburn-CAN self
'Siu Ming got himself sunburned.'
b. Siu Ming saai-can go buizek.
Siu Ming sunburn-CAN CL back
'Siu Ming burned his back in the sun.'

Closer inspection shows that *Siu Ming* in (55) is not a causer of sunburning. That is to say, instead of being responsible for sunburning himself, *Siu Ming* as a sentient being, experienced or even suffered from the sunburning. So *Siu Ming* is an Experiencer, rather than a causer or an agent. Supporting evidence can be derived from the following facts. First, the sentence rejects adverbs such as *dakdang* 'deliberately' which imply the intention of an agent or a volitional causer when *Siu Ming* is interpreted as a non-volitional, passive victim of the event of sunburning.

(56) *Siu Ming *dakdang* saai-can zigei.
Siu Ming deliberately sunburn-CAN self
'Siu Ming deliberately got himself sunburned.'

Second, when used causatively, the predicate *saai-can* 'sunburn-CAN' where *saai* is a weather verb which has a natural force as causer but cannot be an animate being with volition. Contrast the following:

(57) a. *Siu Ming saai-can go bibi.
Siu Ming sunburn-CAN CL baby
b. Go taaijoeng saai-can go bibi.
CL sun sunburn-CAN CL baby
'The sun burned the baby.'

(57a) confirms that *Siu Ming* in (55a) is not a Causer. In other words, (55a) does not involve a causative structure. In (55a) *Siu Ming* together with the reflexive *zigei* form a constituent, a DP, with *Siu Ming* in its Specifier position and the reflexive as head of an NP inside the DP, similar to the situation seen in (52) regarding the structural relation of *bibi* and *zek goek*. This DP is the internal argument of the ergative predicate *saai-can*: (55) shows its unaccusative use and (57b) its transitive use.

Consider another set of parallel examples involving the predicate *kang-can* 'choke':

(58) a. Siu Ming kang-can zigei.
Siu Ming choke-CAN self
'Siu Ming choked. '
b. Siu Ming kang-can go haulung.
Siu Ming choke-CAN CL throat
'Siu Ming choked his throat.'

As one would expect, *kang-can* involves an involuntary action and is therefore incompatible with a willful Causer *Siu Ming*:

(59) * Siu Ming dakdang kang-can zigei.
Siu Ming deliberately choke-CAN self
'Siu Ming deliberately choked.'

Our analysis is that *Siu Ming* and the reflexive *zigei* 'self' in fact form one constituent where the reflexive functions as an emphatic reflexive serving to reinforce *Siu Ming* as evidenced in (60).[13]

(60) a. Mhou gong laa, [Siu Ming zigei] dou kang-can.
do not say PART SiuMing self also choke-CAN
(Lit.) 'Well, just stop nagging. Even Siu Ming himself got choked.'
b. Gitgwo, gau gwat faanji kang-can [Siu Ming zigei].
consequently CL bone instead choke-CAN Siu Ming self
(Lit.) 'In the end, the bone choked Siu Ming himself instead.'

[13] In Cantonese, reflexives can be used as manner adverbs. When this happens, the adverbial reflexive occurs immediately after the subject, for instance:
(i) Siu Ming *zigei* waa-can zigei.
Siu Ming self scratch-CAN self
'Siu Ming scratched himself (all by himself).'
Such an adverbial reading is not obtained with the reflexive in (60), as the two instances of *Siu Ming* bear distinct theta-roles. The one in (i) is an agent/causer, while the one in (60) is an experiencer.

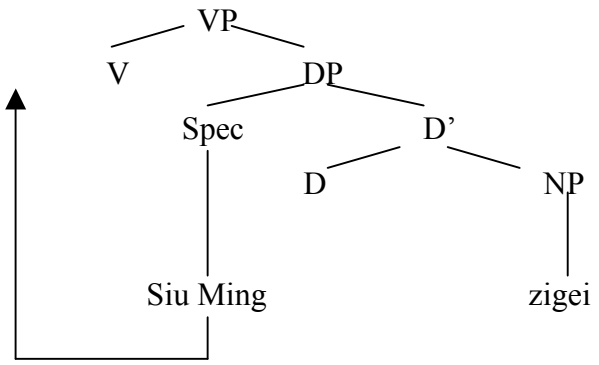
(60b) sounds most natural in the following scenario. When *Siu Ming* prepared a dish he unnecessarily left some bone in it without caring too much whether it would eventually choke anybody who would eat the dish. In the end, he himself got choked but not anybody else.

The contrast in (61) also shows that when (60b) undergoes passivization, *Siu Ming* and *zigei* can either move together as the passivized subject (61a) or *Siu Ming* alone undergoes raising (61b):[14]

(61) a. Gitgwo, [Siu Ming zigei] faanji bei gau gwat kang-can.
consequently Siu Ming self instead by CL bone choke-CAN
(Lit.) 'In the end, Siu Ming himself was choked by the bone instead.'
b. Gitgwo, [Siu Ming] faanji bei gau gwat kang-can zigei.
consequently Siu Ming instead by CL bone choke-CAN self

Compared with (60)-(61) regarding the constituent *Siu Ming zigei* 'Siu Ming self', it now becomes clear that the unaccusative reading with a superficial 'transitive' structure in (52) results from the 'minimal' raising of *Siu Ming*, i.e. *zigei* is left in situ, as illustrated partially in the structure in (62):

(62)



The raising of *Siu Ming* is required by satisfying the EPP features in Pr and T as well as the matching of ϕ-features of the Probe in T and the Goal in N for valuing structural Case feature as mentioned above. The reflexive, being an inherent part of *Siu Ming*, receives an inherent Case from the verb *kang-can* so that it remains in-situ as expected. This leads to a derivation to yield the seemingly 'transitive' structures seen so far.

[14] Minimal raising also applies to non-resultative unaccusatives such as *gaa syun cam-gan* 'the ship is sinking'. The internal argument which originates in a non-Case-marked object position has to raise to the subject position in order to satisfy the Case requirement, which applies to all cases of unaccusatives, with or without a resultative particle.

Alternatively, the complex NP [*Siu Ming zigei*] is merged into Spec,PrP and eventually Spec,TP, yielding the unaccusative subject seen in (60a) and (61a). As shown below, the same analysis applies to (58b):

(63) a. Siu Ming kang-can go haulung.
Siu Ming choke-CAN CL throat
'Siu Ming choked in his throat.'
b. Siu Ming go haulung kang-can.
Siu Ming CL throat choke-CAN
(Lit.) 'Siu Ming's throat choked.'

Haulung 'throat', being an inalienably possessed body part of *Siu Ming*, can either stay in-situ, or raise with *Siu Ming*, yielding the familiar alternating patterns in (63).

5. Conclusion

The Cantonese particle *-can* examined in this paper is a morphological manifestation of predicates encoding adversative events, and exhibiting causative/unaccusative alternations. The lexical semantic and syntactic properties examined demonstrate that *-can* marks a special class of verbs in the language, i.e. a non-specified adversative resultative predicate. Grouping this class of predicates with the V-V resultative predicates in Cantonese will help us arrive at a paradigm of these resultative predicates and obtain a better understanding of their morphological make-up as well as their semantic and syntactic properties. In Cantonese, canonical V-V resultative predicates typically encode manner of causation in the first verbal morpheme and result of causation in the second verbal morpheme. Either one of the verbal morphemes can remain constant with the other one being a variable. This distinction leads to the following two natural classes of V-V resultative predicates: (i) one whose members differ in the *manner* of causation, e.g. *daa-sei* 'hit-dead', *haak-sei* 'frighten-dead', *saat-sei* 'kill-dead', etc., and (ii) one whose members differ in the *result* of causation, e.g. *daa-sei* 'hit-dead', *daa-soeng* 'hit-wounded', *daa-laan* 'hit-broken', etc. The V-*can* resultative predicates then constitute a sub-type of the class (i): while the result component remains constant, a V-*can* predicate does not encode a specific result apart from an adversative meaning. Hence, other things being equal, the contrast between V-*can* resultative predicates and other resultatives of class (i) can be explained in a systematic way.

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論粵語中遭損性使動結果謂詞「V－親」

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本文探討粵語中以動詞性詞素「－親」爲標誌的遭損性使動結果謂詞。特別是通過對「V－親」謂詞的體貌屬性相關問題的探索，本文討論這個動詞詞素的數個核心屬性以及它們與使動與非賓格結構相關的現象。文章亦討論各個謂詞的每種類型的論元結構投射及相關的約束條件。結果顯示，這些謂詞所體現的使動與非賓格句法交替之可能性與非可能性，取決於謂詞本身的辭彙語義特徵，以及相關的辭彙屬性的不同認可條件。

關鍵詞：粵語句法、使動結構、非賓格結構、遭損性結果補語