

## Converbs and Adverbial Clauses: A Case Study in Cantonese\*

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**Abstract:** This paper investigates converbs in Cantonese, which are verb forms that mark adverbial subordination and are understudied in Chinese linguistics. In terms of the external and internal syntax, converbal clauses can be divided into two classes, formed by central converbs (such as conditional clauses formed by *V-can1*) and peripheral converbs (such as inferential clauses formed by *V-dak1*) respectively. The central class is more integrated into the main clauses and has an impoverished internal structure, whereas the peripheral class is less integrated into the main clauses and has an articulated internal structure. The distinction shows a remarkable parallelism with the central-peripheral dichotomy of adverbial clauses proposed by Haegeman (2003, 2010), calling for a unified syntax of adverbial clauses formed by converbs and subordinators.

**Keywords:** converbs; adverbial clauses; external syntax; internal syntax; the central-peripheral dichotomy; Cantonese

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## 1. Introduction

A subset of Cantonese verbal suffixes triggers obligatory adverbial subordination (Tang 2018, 2022, Yip 2019). For example, with the presence of the universal quantificational suffix *-can* in (1), the first clause must be subordinated to a following main clause as a conditional free relative (Lee 2017).<sup>1</sup> Another case is *-dak* with a “realization” sense in (2) (Luke 1999), where the first clause is a rationale for the main clause’s assertion.<sup>2</sup>

(1) [Keoi jam-**can** naai], \*(go tou zau wui tung)  
3SG drink-CAN milk CL stomach then will ache  
‘Whenever he drank milk, his tummy will feel bad.’

(2) [Keoi jam-**dak** naai], \*(go tou zau wui tung gaa3 laa1)  
3SG drink-DAK milk CL stomach then will ache SFP SFP  
‘Since he drank milk, it’s certain that his tummy will feel bad.’

Similar verb forms are commonly found in many languages (Haspelmath 1995b), such as Lithuanian, Mongolian, Portuguese, Hindi-Urdu, Korean, Japanese, Modern Greek, etc. They are referred to as *converbs* (not to be confused with *coverbs*), defined as “a nonfinite verb form whose main function is to mark adverbial subordination” (Haspelmath 1995b:3). An analogy is the absolute constructions formed by adverbial participles in English, as in *Staying in New York, they often visit their parents* (Greenbaum 1973, Stump 1985).<sup>3</sup> The verb forms *V-can* and *V-dak* in (1)-(2) mark adverbial subordination and fall into the category of *converbs* (for detailed arguments see Yip 2019 and Tang 2022).<sup>4</sup> Mandarin *V-zhe-V-zhe* can also be regarded as a *converb*.

Cantonese has at least 11 *converbs* (Tang 2018, 2022, Yip 2019).<sup>5</sup> Despite the robustness, *converbs* are understudied in Cantonese and even Chinese linguistics in general. The goal of this paper is two-fold. First, I provide a sketch for Cantonese

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<sup>1</sup> Cantonese examples are transcribed in *Jyutping* (the Linguistic Society of Hong Kong Cantonese Romanization Scheme, 1993). Tones are represented when necessary, with 1=high level [55]/[1], 2=high rising [35]/[4], 3=mid-level [33]/[1], 4=low falling [21]/[4], 5=low rising [13]/[4], 6=low level [22]/[4]. Abbreviations: 1,2,3=first, second, third person respectively; CL=classifier; FOC=focus marker, MOD=modifier marker; PASS=passive marker, PFV=perfective aspect marker; PL=plural; RSLT=resultative complement marker, SG=singular, SFP=sentence-final particle.

<sup>2</sup> While this *-dak* is often accompanied with a “realized” event, there are cases where the event is not yet happened. See Yip (2018) for an alternative suggestion that *-dak* conveys intention to perform an action.

<sup>3</sup> English participles may be adjectival or nominal (gerunds), and hence not *converbs* in a strict sense.

<sup>4</sup> Since Cantonese does not have morphological marking for finiteness, the first half of Haspelmath’s (1995b) definition does not apply. Alternatively, Nedjalkov’s (1995) broader definition can be adopted, which includes verb forms that alternate between a finite use and a *converb* use.

<sup>5</sup> In total 13 in Tang (2018), 12 in Tang (2022) and 11 in Yip (2019). In this paper, I adopt the inventory in Yip (2019). See Section 2 and footnote 7 for discussions.

converbs to fill the empirical gap, which enables further cross-linguistic comparison with other languages. Second, within the generative framework, I present a structural analysis of converbal clauses. I show that converbal clauses can be divided into two classes according to their degree of integration into main clauses (*external syntax*), and richness of their clausal structure (*internal syntax*). The first class, represented by *V-can*, has a lower attachment site and an impoverished internal structure. The second class, represented by *V-dak*, has a higher attachment site and an articulated internal structure. The distinction, together with the clausal relations expressed, is remarkably similar to adverbial clauses formed by subordinators (Haegeman 2003a,b, 2010; cf. Wei & Li 2018 for Mandarin). This shows that Haegeman’s central-peripheral dichotomy is also attested in converbal clauses, which consequently enriches the empirical coverage of the theory of adverbial clauses. Therefore, I adopt the same terminology and refer to the first class as *central converbs* and the second as *peripheral converbs*.

The rest of the paper is organized as follows. Section 2 describes the basic properties of Cantonese converbs. Section 3 and 4 examine the differences between central and peripheral converbal clauses in their external syntax and internal syntax respectively. Section 5 concludes with remarks on the parallelism with adverbial clauses formed by subordinators.

## 2. Basic properties of converbs in Cantonese

First, as mentioned in the introduction, converbs in Cantonese trigger obligatory adverbial subordination to a main clause, as in (1)-(2). Their rigid “incompleteness effects” should be distinguished with the incompleteness effects displayed by the perfective suffix like *-zo* in Cantonese or *-le* in Mandarin (Tsai 2008, Tang 2018, Sun 2020), since the converbal clauses cannot stand alone even with temporal adverbs and sentence-final particles (SFPs) with a plausible reading, as shown in (3)-(4).

(3) \*Keoi batnau jam-**can** naai gaa3.

3SG always drink-CAN milk SFP

Int.: ‘He always drinks milk.’

(4) \*Keoi jjing jam-**dak** naai laa3.

3SG already drink-DAK milk SFP

Int.: ‘He has already drank milk.’

Second, Cantonese converbs encode requirements on clausal relations. Unlike English absolute constructions, Cantonese converbal clauses can only express one or two clausal relations. They are “specialized converbs” in Haspelmath’s (1995a) terms, as opposed to “contextual converbs” which may be interpreted as multiple clausal relations. For instance, *-can* clauses express either an event conditional or a conditional free relative reading (Lee 2017), which can be marked by overt subordinators *ziju* ‘as long as, (lit.) only if’ and *muidong* ‘whenever’ respectively (=5)). Notably, *-can* clauses cannot be interpreted as temporal, casual or concessive, as in (6). Similarly, *-dak* clauses express an inferential/rationale or premise conditional relation (in Haegeman’s 2003a sense). The converbal clause is the rationale/premise of the main clause’s assertion, compatible with *geijin* ‘since’ and *jyugwo* ‘if’ in (7). *-Dak* clauses cannot be interpreted as temporal, event conditional, causal or concessive (=8)). Other converbs also have similar requirements. See Appendix for descriptions with naturally occurring examples.

- (5) [(Ziju/ muidong) keoi jam-**can** naai], go tou zau tung  
 only.if whenever 3SG drink-CAN milk CL stomach then ache  
 ‘Whenever he drank milk, his tummy will feel bad.’
- (6) {\*dong/??jyugwo/\*janwai/ \*geijin/ \*seojin } keoi jam-**can** naai, ...  
 when if because since although 3SG drink-CAN milk
- (7) [(Geijin/ jyugwo) keoi jam-**dak** naai], go tou zau tung gaa3 laa1  
 since if 3SG drink-DAK milk CL stomach then ache SFP SFP  
 ‘Since/if he drank milk, it’s certain that his tummy will feel bad.’
- (8) {\*Muidong/??dong/\*ziju/ ??janwai/ \*seojin } keoi jam-**dak** naai, ...  
 Whenever when only.if because although 3SG drink-DAK milk

Third, I suggest that Cantonese converbs can be divided into two groups: central converbs and peripheral converbs, as summarized in (9). The classification is based on their internal and external syntax. As I will show in Section 3-4, central converbal clauses have a lower attachment site to main clauses and an impoverished internal structure, whereas peripheral converbal clauses have a higher attachment site to main clauses and a richer internal structure.

(9) The inventory of converbs in Cantonese<sup>6,7</sup>

Class I: Central		Class II: Peripheral	
VV- <i>haa2</i> (VV 吓)	Temporal	V- <i>dak1</i> (V 得)	Inferential/ premise conditional
V- <i>loeng5-V</i> (V 兩 V)	Temporal		
V- <i>hei2...soeng5lai4</i> (V 起...上嚟)	Temporal/conditional	V- <i>hoi1</i> (V 開)	Inferential/ premise conditional
V- <i>hei2</i> (V 起)	Temporal/conditional		
V- <i>can1</i> (V 親)	Conditional	V- <i>gik6</i> (V 極) (degree) <sup>8</sup>	Concessive/ unconditional
V- <i>gik6</i> (V 極) (quantificational)	Unconditional	V- <i>dak1...lai4</i> (V 得...嚟)	Mixed temporal/ conditional assertion
V- <i>lai4-V-heoi3</i> (V 嚟 V 去)	Unconditional		

### 3. The external syntax of converbal clauses

This section examines differences in external syntax between central converbal *-can* clauses and peripheral converbal *-dak* clauses. I present three types of diagnostics below: ordering, embeddability and relative scope with SFPs.

#### 3.1. Ordering

First, *-can* clauses must follow *-dak* clauses (= (10)), but not the other way round (= (11)). *-Can* clauses are closer to the main clauses, indicative of a lower attachment site.

- (10) [Keoi lai-**dak**], [nei gong-**can** je] zau wui bei keoi naau gaa3 laa1  
 3SG come-DAK 2SG say-CAN thing then will PASS 3SG scold SFP SFP  
 ‘Since he came, surely you will get scolded by him whenever you speak.’

<sup>6</sup> Most converbal suffixes have homophonous non-converbal counterparts (except V-*gik6* & V-*dak1...lai4*). For example, *-can* has a non-converbal “adversative” in addition to the converbal “habitual” use (Matthews & Yip 1994), which may be treated as different lexical items (Gao 1980, Tang 2015a; but see Sio 2020 for a unified analysis). *-Dak*, apart from the converbal “realization/intention” use, can also be used as a modal, a descriptive phrase marker, or a focus operator (Tang 2002). Synchronically, they not only have different core meanings, but also distinct grammatical properties in terms of verb restriction, object and subject requirements, aspectual properties, and/or even tones (for *-haa2*), etc. For a detailed description, see Yip (2018, 2020) for *-dak* and *-can*, and Tang (2015a) and references therein for other suffixes. Their relation might be a historical one, which I set aside for now.

<sup>7</sup> Tang (2018, 2022) also includes V-*lok6*, V-*zyu6* and V-*zoek6*. However, V-*lok6* indeed expresses a topic-like reading and might be treated as middle constructions, whereas V-*zyu6* and V-*zoek6* do not need a main clause when certain SFPs are present (see Yip 2019 for arguments). Note that V-*hoi1* is excluded in Tang (2022), which is treated as a derived use of the non-converbal habitual V-*hoi1*.

<sup>8</sup> V-*gik6* has two uses: quantifying over events (with eventive predicates) and over degrees (with gradable predicates), dubbed as “quantificational” and “degree” respectively in Tang (2015a). They express different clausal relations (see Appendix) with distinct internal and external syntax (see Section 3-4), and are tentatively treated as two converbs here.

(11) \**[Nei gong-canje] [keoi lai-dak], zau wui bei keoi naau gaa3 laa1*  
 2SG say-CAN thing 3SG come-DAK then will PASS 3SG scold SFP SFP

### 3.2. Embeddability

Second, only *-can* clauses but not *-dak* clauses may be embedded in a relative clause or a subject clause (with the main clauses), as in (12)-(13). Given that relative and subject clauses are CPs, the contrast shows that *-dak* clauses must attach to a position above CP, rendering the main clause too large to be embedded, whereas *-can* clauses may attach within CP and can be embedded.<sup>9</sup>

(12) *Ngo sik nigo [CP[lai{-can/\*-dak}] zau bei jan naau] ge hoksaang*  
 1SG know this come-CAN/-DAK then PASS person scold MOD student  
 ‘I know this student who got scolded whenever he came.’

(13) *[CP [zaa{-can/\*-dak} ce] zau fanzoek ] hai nigo hungwen sigei ge daksik*  
 drive-CAN/-DAK car then fall.asleepbe this minibus driver MOD feature  
 ‘That (he) falls asleep whenever driving is one feature of this red minibus driver.’

Further embedding tests by the complement of ‘force’ (Huang 2017) and resultative complement (Huang 1988) in (14)-(15) show that *-can* clauses may attach to an even smaller main clause, namely TP. *-Dak* clauses, again, cannot be embedded in a TP.

(14) *Aamaa bik Aaming [TP [ceot{-can/\*dak} gaai] zau jiu daanseng sin1]*  
 Mum force Ming go-CAN/-DAK street then need tell SFP  
 ‘Mum forces Ming to tell her first whenever he goes out.’

(15) *Aaming gui-dou [TP [co{-can/\*dak} ce] dou fanzoek]*  
 Ming tired-RSLT sit-CAN/-DAK car all fall.asleep  
 ‘Ming is so tired that he will fall asleep whenever he is on a ride.’

### 3.3. Relative scope with sentence-final particles

Third, SFPs in Cantonese project a functional head on the clausal spine in a cartographic approach (Sybesma & Li 2007, Tang 2015a, 2020), and form discontinuous constructions with a scope-marking adverbial (Tang 2006 *et seq.*). The relative scope with SFPs can be used to diagnose the attachment sites of converbal clauses. For example, the focus SFP *lol*, which displays root phenomenon (Tang 2008), can only

<sup>9</sup> *-Dak* clauses are embeddable under attitude verbs like *gokdak* ‘think’ or verbs of saying like *waa* ‘say’, whose complement clauses may have a larger size than relative and subject clauses. Hence, *-dak* clauses should not be simply regarded as attaching to a root clause.

take wide scope over *-can* clauses (= (16)) and narrow scope under *-dak* clauses (= (17)), as indicated by the linear order of *mai*. This is consistent with the CP embedding patterns in Section 3.2: *-can* and *-dak* clauses attach lower and higher than CP respectively. Moreover, assuming that *lo1* projects a FocP above CP (*cf.* Rizzi 1997), the lower bound of *-dak* clauses' attachment site can be identified as above FocP.

- (16) a. keoi mai [[tai-**can** syu] dou fanzoek ] lo1 (*lo1* > *-can*)  
 3SG FOC read-CAN book all fall.asleep SFP  
 'As for him, it's obvious that he falls asleep whenever he reads.'
- b. \*keoi [[tai-**can** syu] mai dou fanzoek lo1] (\**-can* > *lo1*)  
 3SG read-CAN book FOC all fall.asleep SFP
- (17) a. \*keoi mai [[tai-**dak** syu] wui fanzoek ] lo1 (\**lo1* > *-dak*)  
 3SG FOC read-DAK book will fall.asleep SFP
- b. keoi [[tai-**dak** syu] mai wui fanzoek lo1] (*-dak* > *lo1*)  
 3SG read-DAK book FOC will fall.asleep SFP  
 'Since he reads, it's obvious that he will fall asleep.'

To test how low *-can* clauses may attach to, the TP level SFP *gam3zai6* (Tang 2009) and the *vP* level SFP *faat3* (Cheng 2011, Tang 2019) are employed. As shown in (18)-(19), *-can* clauses may take narrow scope under *gam3zai6* (scope indicated by *caa-m-do* 'almost') but not *faat3* (scope indicated by *gam* '(like) so'). The lower bound of *-can* clauses' attachment site can be identified as above *vP*.

- (18) keoi caa-m-do [[tai-**can** syu] dou fanzoek ] gam3zai6 (*gam3zai6* > *-can*)  
 3SG almost read-CAN book all fall.asleep SFP  
 'He almost falls asleep whenever he reads books.'
- (19) a. \*keoi gam [[tai-**can** syu] dou fanzoek ] faat3 (\**faat3* > *-can*)  
 3SG so read-CAN book all fall.asleep SFP
- b. keoi [[tai-**can** syu] dou gam fanzoek faat3] (*-can* > *faat3*)  
 3SG read-CAN book all so fall.asleep SFP  
 'Whenever he reads books, he falls asleep like so.'

The upper bound of *-dak* clauses can also be examined. Recall that the main clauses denote an assertion given the premise/rationale in *-dak* clauses. The main clause can also have a different illocutionary force such as the question in (20). This suggests that *-dak* clauses attach to ForceP, which is higher than CP (i.e. Tang's 2015a, 2020 DegreeP,

cf. Rizzi 1997). In (21), *-dak* clauses cannot take wide scope over an evidential SFP *wo5* that marks hearsay evidence (Tang 2015b), as indicated by *tenggong* ‘(lit.) hear-say’. This indicates that the attachment site of *-dak* clauses is lower than Evid(ential)P projected by *wo5* (labelled as SAP in Tang 2015b).

(20) [[Keoi lai-**dak**] hai-mai zau wui bong nei]? (question)

3SG come-DAK be-not.be then will help 2SG

‘Now that he has come, does it mean that he will help you?’

(21) a. \*[[Keoi lai-**dak**] tenggong zau wui bong nei wo5] (\*-*dak* > *wo5*)

3SG come-DAK hearsay then will help 2SG SFP

b. Tenggong [[keoi lai-**dak**] zau wui bong nei] wo5 (*wo5* > *-dak*)

hearsay 3SG come-DAK then will help 2SG SFP

‘I heard that since he has come, he will help you.’

### 3.4. Interim summary

Taking stock, central *-can* clauses attach lower to TP, whereas peripheral *-dak* clauses attach higher to ForceP (= (22)). The syntactic position correlates with their clausal relations: the conditional reading of *-can* clauses is at the event/proposition level, and the conditional/inferential reading of *-dak* clauses is at the illocutionary force level.

(22) [<sub>EvidP</sub> ... [<sub>ForceP</sub> [**-dak clauses**] [<sub>FocP</sub> ... [<sub>CP</sub> ... [<sub>TP</sub> [**-can clauses**] [<sub>vP</sub> ...

The arguments can extend to other converbs, such as the contrast in embeddability between central quantificational *-gik* clauses and peripheral degree *-gik* clauses in (23)-(24). I take CP to be a hallmark for the differences in external syntax between central and peripheral converbal clauses (i.e. attach below vs. above CP).

(23) Nibun [Aaming tai-**gik** dou tai-m-ming] ge syu (quantificational)

this Ming read-GIK all read-not-understand MOD book

‘This book which Ming can’t understand no matter how many times he reads it.’

(24) \*Nibun [naan-**gik** dou mou gobun gam naan ] ge syu (degree)

this hard-GIK also not.have that so hard MOD book

Int.: ‘This book such that even though it is hard, it is not as hard as that book.’



#### 4. The internal syntax of converbal clauses

We have seen the external syntax of converbal clauses displays a central-peripheral distinction. This section further examines their differences in the internal syntax. Two kinds of diagnostic tests are employed: temporal specification and functional elements.

##### 4.1. Temporal specification

First, *-can* clauses cannot have a distinct temporal specification with the main clause as in (25)a, unlike *-dak* clauses in (26).<sup>10</sup> In other words, *-can* clauses are always “tenseless”, whereas *-dak* clauses are “tensed”. Note that without *-can*, an event conditional formed by *ziju* ‘as long as’ can have a different tense from the main clause in (25)b, suggesting that the ungrammaticality of (25)a is not due to semantic reasons.

(25) a. \*[nei zingwaa zou-**can** nijoeng je ], jigaa zau wui bei lousi naau  
2SG just.now do-CAN this thing now then will PASS teacher scold

b. [**ziju** nei zingwaa zou nijoeng je ], jigaa zau wui bei lousi naau  
only.if 2SG just.now do this thing now then will PASS teacher scold  
‘If you’ve done that a moment ago, you will be scolded by the teacher now.’

(26) [nei zingwaa zou-**dak** nijoeng je ], jigaa zau wui bei lousi naau  
2SG just.now do-DAK this thing now then will PASS teacher scold  
‘Since you’ve done that a moment ago, you will be scolded by the teacher now.’

##### 4.2. Functional elements

Second, *-can* clauses and *-dak* clauses differ in their ability to accommodate functional elements. A *lin* ‘even’-focus can only occur in *-dak* clauses but not *-can* clauses, as in (27). This suggests that *-can* clauses are smaller in size and cannot host the focus. Assuming with Huang (2017) that ‘even’-focus is a test for finiteness in Chinese, *-can* clauses can be considered non-finite. Together with tense, *-can* clauses may be a “defective” TP, but not a CP or a finite TP. Additionally, the SFP *lok3*, which displays root phenomenon and hence is located above CP (i.e. ForceP), may occur in *-dak* but not *-can* clauses. Therefore, *-dak* clauses are at least as large as ForceP to contain *lok3*.

(27) [Keoi lin naai dou jam{\***-can/-dak**} (lok3)], zau jyu-zo toutung laa1  
3SG even milk also drink-CAN/-DAK SFP then predict-PFV tum.ache SFP  
‘Since he even drank milk, he should’ve known that his tummy would feel bad.’

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<sup>10</sup> Note that if the main clause does not contain another temporal adverb, a temporal adverb may occur in the *-can* clause, but the interpretation is always at the matrix level (i.e. not semantically embedded).

### 4.3. Interim summary

In short, central *-can* clauses are smaller in size and have a “defective” TP, whereas peripheral *-dak* clauses are larger and have a ForceP (= (28)). The former is in line with Tang’s (2022) analysis for converbial clauses.

- (28) a. [(Sub) [TP (Subj) [T<sub>defective</sub> ... **-can** ...]], [main clause]  
 b. [(Sub)<sub>ForceP</sub> [CP [TP (Subj) [T ... **-dak** ...]]]], [main clause]

Two notes are in order. First, the TP “defectiveness” is intended to capture the “tenseless” interpretation. Unlike control clauses, *-can* clauses can host their own (overt) subjects, such as (1) in Section 1. Second, *-can* clauses can also accommodate subordinators such as *ziju* ‘as long as’, which are often treated as C heads (e.g. Pan & Paul 2018). However, following the truncation analysis in Haegeman (2003a,b), I suggest that subordinators may not necessarily mark a CP. A subordinator simply takes a clause, but the projections below the subordinator may be “truncated”. In English, subordinators like *while* can take a “reduced” clause, such as the adverbial participle in (29). I take *-can* clauses containing *ziju* to be a similar case with a truncated structure in (28)a.

(29) While staying in New York, they often visit their parents. (Greenbaum 1973:3, fn4)

Again, the arguments can extend to other converbs, as illustrated by the contrast in temporal specification between central quantificational *-gik* clauses and peripheral degree *-gik* clauses in (30)-(31).<sup>11</sup>

- (30) \*[Keoi jicin duk-**gik** syu] jigaa dou hai jatsimousing (quantificational)  
 3SG past read-GIK books now all be achieve.nothing  
 Int.: ‘No matter how many degrees he obtained in the past, he is a loser now.’  
 (31) [(Ziksi) keoi jicin lek-**gik** ], jigaa mai dou hai jatsimousing (deg.)  
 even.though 3SG past talented-GIK now FOC also be achieve.nothing  
 ‘Even though he was very talented in the past, he is a loser now.’

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<sup>11</sup> One exception is *V-dak...lai*, which expresses conditional assertion with a temporal relation (see Appendix), and thus always has the same temporal specification with the main clause. However, *-dak...lai* clauses always carry an irrealis mood, suggesting some mood projection above CP.

## 5. Concluding remarks

To conclude, central converbal clauses such as *-can* clauses have a lower attachment site externally, and an impoverished clausal structure internally; on the other hand, peripheral converbal clauses such as *-dak* clauses have a higher attachment site externally, and an articulated clausal structure internally. The dichotomy parallels with adverbial clauses formed by subordinators (Haegeman 2003a,b, 2010; Wei & Li 2018), such as the two *while* clauses in (32): the first one is a peripheral adverbial clause (PAC) that attaches higher to a full-fledged CP and has a richer internal structure, whereas the second one is a central adverbial clause (CAC) that attaches lower to TP and has less internal structure (adopting the truncation analysis).

- (32) [While<sub>conc</sub> this ongoing lawsuit probably won't stop the use of lethal injection],  
it will certainly delay its use [while<sub>temp</sub> the Supreme Court decides what to do].  
(Haegeman 2009:399)

Remarkably, the clausal relations expressed by converbal clauses also largely parallel with adverbial clauses: temporal and event conditional relations are both denoted by central converbs and CACs; inferential, premise conditional/conditional assertion, and concessive relations are both denoted by peripheral converbs and PACs (Haegeman 2003b).<sup>12</sup> The strikingly similarities suggest that adverbial clauses have the same syntax despite different markings (i.e. special verb forms vs. subordinators). I have not discussed the role of converbs in forming adverbial clauses. To pursue a unified analysis of converbal and adverbial clauses with subordinators, one may analyze the converbs as agreement markers of the subordinators.<sup>13</sup> They do not directly trigger the adverbial subordination by themselves – instead, they are markers for a subordinator that truly performs the subordinating function. While overt subordinators are not obligatory in converbal clauses, they can often be “recovered” and pronounced (see Appendix). A similar approach is developed in Yip (2019, to appear).

Additionally, the internal and external syntax of converbal clauses show an interesting correlation: *-can* clauses, as defective TPs, attach to a TP in the main clause; *-dak* clauses, as ForcePs, also attach to a ForceP, schematized in (33). The clause size seems to determine the attachment site. The “structural matching” effects constitute potential

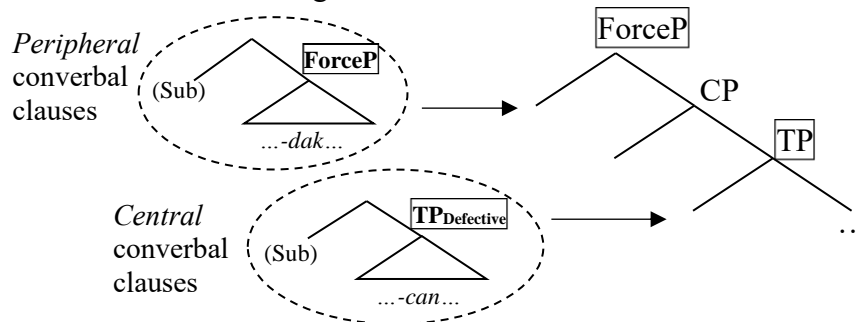
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<sup>12</sup> Unconditionals are not discussed in the comprehensive study in Haegeman (2003b). See Chen (2021) the syntax of unconditionals in Mandarin.

<sup>13</sup> Precisely, converbs can be agreement markers of operators that form adverbial clauses, such as the temporal operator *when*.

support for Endo and Haegeman's (2019) suggestion that the external syntax of adverbial clauses is reducible to the internal syntax and await further exploration.

(33) The “structural matching” effects in Cantonese converbal clauses



## 6. Appendix: Clausal relations expressed by converbal clauses

This appendix collects data on clausal relations expressed by the 11 converbs and the subordinators that they are compatible with. Most of the examples are naturally occurring data from news media, movies, daily conversations and the Internet, with the rest cited from the literature.

1. VV-*haa2* (VV 吓). It may express a simultaneous temporal relation ‘when’ (= (34)-(35)) or an anterior temporal relation ‘after’ (= (36)). It may occur with the subordinators *hai/dong...gozan/gesihau* ‘at the time when’ and *zihau* ‘after’.

(34) 行行下街突然比個女仔拖住 (StyleVjmedia, 2017/2/14)

[Hanghang-**haa** gaai] datjin bei go neoizai to-zyu

RED.walk-HAA street suddenly PASS CL girl hold.hand-CONT

‘(My) hand suddenly got held by a girl while I’m walking on the street.’

(35) 當你喺街食食吓嘢嘅時候, [.....] (Internet, 2017/5/13)

[dong nei hai gaai siksik-**haa** je ge sihau], ...

when 2SG at street RED.eat-HAA thing MOD time

‘When you’re eating on the street, ...’

(36) 你個細佬哥, 乖乖吓又唔乖喇。 (Cheung 1972/2007:173)

Nei go sailougo, [gwaai-gwaai-**haa**] jau m-gwaai laa3.

2SG CL kid RED.well.behaved-HAA again not-well.behaved SFP

‘You kid becomes naughty again after behaving well for a while.’

2. V-*loeng5*-V (V 兩 V). It expresses an anterior temporal relation ‘after’ as in (37), compatible with *zihau* ‘after’.

(37) 睇兩睇就撕咗封信。 (Zheng 1996:18)

[tai-**loeng**-tai] zau si-zo fung seon.

look-LOENG-look then rip-PFV CL letter

‘(S/he) ripped the letter after a look/looking it for a short time.’

3. V-*hei2...soeng5lai4* (V 起...上嚟). It may express a simultaneous temporal relation ‘when’ (= (38)) or an event conditional reading ‘if/once’ (= (39)). It is compatible with the subordinators *hai/dong...gozan* ‘at the time when’, *jyugwo* ‘if’ and *ziji* ‘as long as’.

(38) 點知原來寂寞起上嚟嗰陣，個個都係一樣。 (Happy Together, 1997)

Dimzi jyunloi [zikmok-**heisoenglai** gozan], go-go dou hai jatjoeng  
how.know turn.out lonely-HEISOENGLAI that.time CL-CL all be same  
'Who knows people are all the same when they feel lonely.'

(39) 有起事上嚟點算好呢？ (Daily conversation, 2017/9/22)

[jau-**hei** si **soenglai**] dimsyunhou ne?  
have-HEI issue SOENGLAI what.to.do SFP  
'What to do if something happens?'

4. *V-hei2* (V 起). Similar to *V-hei2...soeng5lai4*, *V-hei2* may express a simultaneous temporal relation (=40) and event conditional relation (=41), and is compatible with similar subordinators. Note that the two converbs have different grammatical properties synchronically (Tang 2015a) and distinct historical origins (Yiu 2008).

(40) 但見起工嗰陣都唔知可以搵乜野講 (Internet, 2020/7/2)

Daan [gin-**hei** gung gozan] dou m-zi hoji wan matje gong  
but interview-HEI job that.time also not-know may find what say  
'But (I) don't know what to say when I'm having a job interview.'

(41) 如果講起行簡單或者文青風嘅手錶，[.....] (Internet, 2017/5/14)

[jyugwo gong-**hei** haang gaandaan waakze mancing fung ge saubiu] ,...  
if say-HEI walk simple or hipster style MOD watch  
'If we talk about watches with a simple or hipster style, ...'

5. *V-can1* (V 親). It expresses an event conditional relation 'if/once' (=42) or a universal free relative reading 'whenever' (=43). It may occur with the subordinators *ziji* 'as long as, (lit.) only if' (but not *jyugwo* 'if') and *muidong* 'whenever', or adverbials requiring subordination like *muici* 'every time' and *faanhai* 'all'.

(42) 嗰個銀碼講親就嚇死你 ga33 (MyRadio, 2017/6/1)

go go nganmaa [gong-**can** zau haaksei] nei gaa3  
that CL price say-CAN then scare.die you SFP  
'That price, once (I) tell (you), you will be freaked out.'

(43) 每次見親佢都好似小粉絲咁 (Oriental Daily, 2021/4/6)

[muici gin-**can** keoi] dou houci siufansi gam  
every.time see-CAN 3SG all like little.fan that  
'Every time (I) met him, (I) was like a little fan.'

6. *V-gik6* (quantificational) (V 極). It expresses an unconditional reading ‘no matter’ (=44). Yet, it cannot occur with the unconditional subordinator *mouleon* ‘no matter’. *-gik6* quantifies over events in the coverbal clauses, to be distinguished with another use that quantifies over degrees (Tang 2015a) (see no. 10 below).

(44) 琴日我幾肚餓，食極都唔飽。 (Gao 1980:145)

kamjat ngo gei touno, [sik-**gik**] dou m-baau  
yesterday 1SG how hungry eat-GIK all not-full

‘Yesterday I was very hungry – my tummy wouldn’t full no matter how much I ate.’

7. *V-lai4-V-heoi3* (V 嚟 V 去). Like *V-gik6*, *V-lai4-V-heoi3* expresses an unconditional reading ‘no matter’ (=45). It also cannot occur with *mouleon* ‘no matter’.

(45) 佢食嚟食去都係麵包。 (Tang 2015a:93)

[keoi sik-**lai**-sik-**heoi**] dou hai minbaau.  
3SG eat-LAI-eat-HEOI all be bread

‘He only eats bread. (lit.: no matter how much he eats, they are all bread.)’

8. *V-dak1* (V 得). It may express an inferential/rationale relation ‘since/now that’ (=46) or a premise conditional relation ‘if/in case’ (=46). It is compatible with the subordinators *geijin* ‘since’ and *jugwo* ‘if’ (but not *ziju* ‘as long as’).

(46) 佢既然買得九個，即係佢想請大家食 (Daily conversation, 2018/4/3)

[keoi geijin maai-**dak** gau go], zikhai keoi soeng ceng daaigaa sik  
3SG since buy-DAK nine CL be 3SG want invite everyone eat

‘Since s/he bought nine, meaning that s/he wanted to share with us.’

(47) 不過如果出得 time travel，即係所有人都有機會復活。 (Internet, 2019/6/1)

Batgwo [jugwo ceot-**dak** time travel], zikhai sojau jan dou jau geiwui fukwut.  
but if use-DAK time travel be all person all have chance resurrect

‘If there’s time travel (in the new episode), then (I guess) everybody gets a chance to be back to life.’

9. *V-hoi1* (V 開). Like *V-dak1*, *V-hoi1* may express an inferential/rationale relation ‘since/now that’ (=46) or a premise conditional relation ‘if/in case’ (=46), compatible with *geijin* ‘since’ and *jugwo* ‘if’ (but not *ziju* ‘as long as’) respectively.

(48) 你睇開份明報就睇埋語文版。 (Auyeung 2012:102)

[nei tai-**hoi** fan Mingbou] zau tai-maai jyumanbaan.

2SG read-HOI CL Mingpao then read-ADD language.section

‘Since you have been reading *Mingpao*, you should also read the language section.’

(49) 你翻開嚟校園就順便搵我。 (Tang 2015a:89)

[nei faan-**hoi** lai haaujyun] zau seonbin wan ngo

2SG back-HOI come campus then in.passing find 1SG

‘If you will come back to the campus, find me then.’

10. V-*gik6* (degree) (V 極). It expresses an unconditional relation ‘no matter how’ (=50) or a concessive relation ‘even though’ (=51). It may occur with the irrealis concessive subordinators *ziksi* ‘even though’ and *zauseon* ‘even though’, but not the realis *seojin* ‘although’. It also cannot occur with *mouleon* ‘no matter’.

(50) 海南島凍極都有呢度咁凍 (Li et al. 1995:562)

[Hoinaamdou dung-**gik**] dou mou nidou gam dung

Hainan cold-GIK also not.have here so cold

‘No matter how cold Hainan is, it still is not as cold as here.’

(51) 其實曾蔭權就算衰極佢係貪曾任內都算有派過錢與民同樂

Keisat [Zangjamkyun zausyun seoi-**gik** - keoi hai “Taamzang”], jamnoi dousyun jau paai-gwo cin jyumantunglok

honestly Donald.Tsang even.though bad-GIK 3SG be corrupt.Tsang during.job also have give-EXP money share.joy.with.people

‘To be honest, even though Donald Tsang was awful – he is corrupted, he at least gave cash handouts to the people.’

(Internet, 2017/12/25)

11. V-*dak1* ... *lai4* (V 得...嚟). It expresses a mixed temporal and conditional assertion relation, roughly as ‘if (you wait) until the time when’ (=52). The converbial clause carries an irrealis mood, and the main clause is an assertion evaluating what will happen at the time of the hypothetical situation in the converbial clause. It is compatible with *hai/dong...gozan/gesihau* ‘at the time when’ and *jyugwo* ‘if’ (but not *ziju* ‘as long as’).

(52) 做得嚟就遲喇！ (Cheung 1972/2007:129)

[zou-**daklai**] zau ci laa3!

do-DAKLAI then late SFP

‘It will be too late when you do it.’



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