Discontinuous predicates in Cantonese as partial deletion

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Contents

1   Introduction

Cantonese has a rich system of verbal suffixes that express various meanings. Canonically, these suffixes immediately follow verbs.

(1) a. 阿明**走**咊   (Monosyllabic verb)   b. 阿明**擔心** 緊你   (Disyllabic verb)

       Aaming **zau**-ZO   Aaming **daamsaam**-gan nei

       Aaming leave-PERF   Aaming worry-PROG   you

       'Aaming left.'   'Aaming is worrying about you.'

For disyllabic (compound) verbs, the placement of verbal suffixes displays a certain degree of freedom. They can intervene between the two morphemes. The verb surfaces as a *discontinuous* string.

Example	Literal meaning	Type	Suffixation	Intervention
a. daam-saam 'worry' 擔心	bear + heart	V-O	daam-saam-⬚gwo	daam-⬚gwo-saam
b. jing-jan 'photocopy' 影印	reflect + print	V-V	jing-jan-⬚zo	jing-⬚zo-jan
c. laai-coeng 'pull to lengthen' 拉長	pull + long	V-Rslt.	laai-coeng-⬚faan	laai-⬚faan-coeng
d. zi-sau 'confess' 自首	self + inform	Mdf.-V	zi-sau-⬚maai	zi-⬚maai-sau
e. jat-sik '(solar) eclipse' 日蝕	sun + erode	S-V	jat-sik-⬚jyun	jat-⬚jyun-sik

Table 1: Various types of disyllabic verbs

We observe a similar pattern with monomorphemic disyllabic verbs (mostly English loanwords), suggesting that the intervention is not exclusive on morphologically complex verbs.

(2)   Monomorphemic verbs and intervening suffixes

    a. 阿明**肥佬**咊 / **肥**咊**佬**

       Aaming **feilou**-ZO/ **fei**<ZO>**lou**

       Aaming fail-PERF/   fail<PERF>

       'Aaming failed.'

    b. 阿明都**OK**埋 / **O**埋**K**

       Aaming dou **oukei**-maai/ **ou**<maai>**kei**

       Aaming also okay-ADD/   okay<ADD>

       'Aaming also (said) okay.'

    c. 阿明**present**緊 / **pre**緊**sent**

       Aaming **pisen**-gan/   **pi**<gan>**sen**

       Aaming present-PROG/ present<PROG>

       'Aaming is presenting.'

    d. 阿明**save**咊 / **sa**咊**ve**

       Aaming **seifu**-ZO/   **sei**<ZO>**fu**

       Aaming save-PERF/   ssave<PERF>

       'Aaming saved (the file).'

    e. 阿明**拜拜**咊 / **拜**咊**拜**

       Aaming **baaibaai**-ZO/ **baai**<ZO>**baai**

       Aaming bye.bye-PERF/ bye.bye<PERF>

       'Aaming (said) bye-bye/ Aaming died.'

    f. 阿明冇**sorry**過 / **sor**過**ry**

       Aaming mou **sowi**-gwo/ **so**<gwo>**wi**

       Aaming not   sorry-EXP/   sorry<EXP>

       'Aaming didn't (say) sorry.'

This talk focuses on how such intervention is sanctioned and derived in the grammar.

> (3) We motivate an account that makes no reference to the morphological structure:
>
> a. Suffixes always follow verbs and the "separation" is only apparent.
>
> b. Discontinuous predicates are resulted from three independent operations:
>   (i) Syntactic verb movement to affixes creates copies (Chomsky 1995; Nunes 1995);
>   (ii) Post-syntactically, affixes trigger a syllable deletion rule on their host;
>   (iii) Copy Deletion erases the complement part of the lower copy (i.e. partial deletion).
>
> c. We argue that a VO-reanalysis account is not tenable, at least in Cantonese.

Caveat 1: Compound verbs, especially whose morphemes are in V-O relation, are sometimes conflated with (transitive) V-O phrases.

Here, we adopt an *operational* definition to distinguish compound verbs from verb phrases.

(4) Operational definition of compound verbs and VO phrases
(Compound) verbs can be followed by a suffix, but verb phrases cannot.

With (4), VO strings that do not allow suffixation (i.e. *VO-suffix) are regarded as phrases.

(5) a. *瞓覺咗
     *fan gaau-ZO
     sleep nap-PERF

   b. 瞓咗覺
     fan-ZO **gaau**
     sleep-PERF nap
     Lit.: 'Slept a nap'

(6) a. *食飯緊
     *sik faan-gan
     eat rice-PROG

   b. 食緊飯
     sik-gan **faan**
     eat-PROG rice
     'Eating rice'

Note that cases like (5) are traditionally perceived as compounds. We suggest instead that they are verbs taking a cognate object. These cases are *not* regarded as discontinuous predicates.

Caveat 2: Discontinuous predicates display many idiosyncratic properties (see Appendix 1):

(7) a. They are mostly disyllabic verbs. Trisyllablic verbs show variation among speakers.

   b. Different suffixes show different preferences when showing up in discontinuous predicates.

   c. Not all verbs allow a discontinuous form with an intervening suffix.

We leave to future research the task of surveying the empirical landscape. As far as we know, existing discussions on discontinuous predicates focus primarily on how to derive the admissible cases, which will also be the focus of this talk.

To the extend that the admissible cases behave in a systematic and consistent way, we believe that discontinuous predicates are not entirely a matter of lexical idiosyncrasies.

Road map for today:

§2: Some previous approaches   §5: Implications

§3: More properties

§4: Proposal: Syllable Deletion   Appendix: Idiosyncrasies

N.B.: Most examples are given with monomorphemic disyllabic verbs, but the same can be said to all other compound verbs.

2 Approaching discontinuous predicates

2.1 The VO-reanalysis approach

A well-received analysis on these cases suggests that these disyllabic verbs have undergone **reanalysis**, where the two morphemes are coerced into a phrasal V+Obj structure on the basis of a predicate-theme like reading (Chao 1968; C.-T. J. Huang 1984; Her 2010).

In a V-V-type compound verb such as *jing-jan* 'photocopy', the second verbal morpheme is reanalyzed as a noun in the lexicon (Packard 2000; Her 2010).[1]

(8) *jing-jan* 'photocopy' in the Lexicon

    a. $[_V \, jing_V\text{-}jan_V]$ No reanalysis

    b. $[_V \, jing_V\text{-}jan_V]$ ➡ $[_{VP} \, [_V \, jing \,] \, [_N \, jan \,] \,]$ VO reanalysis

In other cases, the level of reanalysis appears quite "deep", as it imposes more radical changes on the morphological structure.

(9) *zi-sau* 'confess' in the Lexicon

    a. $[_V \, zi_{Mdf.}\text{-}sau_V]$ No reanalysis

    b. $[_V \, zi_{Mdf.}\text{-}sau_V]$ ➡ $[_{VP} \, [_{\underline{V}} \, zi \,] \, [_N \, sau \,] \,]$ VO reanalysis

(10) *feilou* 'fail' in the Lexicon

    a. $[_V \, feilou_V]$ No reanalysis

    b. $[_V \, feilou_V]$ ➡ $[_{VP} \, [_{\underline{V}} \, fei \,] \, [_N \, lou \,] \,]$ VO reanalysis

Crucially, the VO-reanalysis approach makes the following empirical predictions:

---

1. Both items should be listed in the lexicon, since both *jing-jan* and *jing* can be followed by a verbal suffix.

> (11) When a disyllabic (compound) verb appears in a discontinuous form,
>
>   a.   the second syllable is a nominal expression.
>   b.   only the first syllable preserves verbal properties.

The first prediction are often argued to be borne out in Mandarin (Pan and Ye 2015). However, we will show in §3 that discontinuous predicates in Cantonese behave differently.

2.2   Infixation and metathesis

Before we end this section, we briefly talk about a less likely but logically possible approach.

The intuition is that the suffixes in discontinuous predicates look like an infix, which raises the question of whether **metathesis** has occurred (e.g. Harris and Halle 2005).

It might be the case that a metathesis rule alters the second syllable of the (compound) verbs and the suffix. For example,

(12)   *jingjan-zo* 'photocopy-PERF' undergoing a metathesis rule (to be rejected)

   jingjan-zo ➜ *jing<zo><jan>*   Metathesis

However, discontinuous predicates allow intervening elements other than suffixes. Phrasal elements like frequency phrases and durative phrases can appear in between the discontinuous predicates.

(13)   Separation by frequency phrases

   a.   阿明 **sorry**咗十幾次
        Aaming **sowi**-zo   sapgei-ci
        Aaming sorry-PERF ten.several-time
        'Aaming (said) sorry for a dozen times.'

   b.   阿明 **sor**咗十幾次**ry**
        Aaming **so**<zo><sapgei-ci>**wi**
        Aaming sorry<PERF><ten.several-time>
        'Aaming (said) sorry for a dozen times.'

(14)   Separation by duration phrases

   a.   阿明 **present**過五分鐘
        Aaming **pisen**-gwo   m-fanzung
        Aaming present-EXP five-minute
        'Aaming presented for five minutes.'

   b.   阿明 **pre**過五分鐘**sent**
        Aaming **pi**<gwo><m-fanzung>**sen**
        Aaming sorry<PERF><five-minutes>
        'Aaming presented for five minutes.'

Also, affectees may appear in between discontinuous predicates, and it may co-occur with frequency/durative phrases.

(15)   Separation by affectees and frequency phrases

a.   老師**肥**咗<u>佢</u>**佬**
Lousi   **fei**<zo><u><keoi></u>**lou**
Teacher fail<PERF><3SG>
'The teacher failed him.'

b.   老師**肥**咗 <u>佢十幾次</u> **佬**
Lousi   **fei**<zo><keoi><sapgei-ci>**lou**
Teacher fail<PERF><3SG><ten.several-time>
'The teacher failed him a dozen times.'

These examples posit a challenge to a simple infixation analysis, since a local metathesis rule presumably does not preserve the syntactic constituency.

3   Properties of discontinuous predicates in Cantonese

Recall that the VO-reanalysis approach makes the following empirical predictions:

(16)   When a disyllabic (compound) verb appears in a discontinuous form,

a.   the second syllable is an nominal expression.
b.   only the first syllable preserves verbal properties.

We argue that these predictions are not borne out in Cantonese. Instead, we suggest that the opposite of these predictions follow if discontinuous predicates retain their verbal status.

3.1   The second syllable and the lack of nominal properties

We suggest that the second syllable in discontinuous predicates in Cantonese does not display standard object/nominal properties, e.g. it cannot be displaced or modified.[2]

We illustrate this point with three tests:

(17)   (A represents the first syllable of a discontinuous predicate, B the second, and x the suffix)

a.   Relativization: *[CP ... **A**-x B ...] MOD **B**
b.   Object fronting: ***B** ... [VP **A**-x B]
c.   Nominal modification: ***A**-x CL/NUM/MOD **B**

We show that none of these configurations is allowed for discontinuous predicates, as opposed to VO phrases.

3.1.1   Relativization

A genuine object can be relativized and serve as the head noun of a relative clause.

---

2. This property differentiates discontinuous predicates in Cantonese from Mandarin ones. For Mandarin cases, see Pan and Ye (2015).

(18) 呢齣就係 [佢**睇**咗] 嘅戲

ni   ceot zau   hai [keoi **tai**-zo   hei] ge   **hei**   (VO phrase)

this CL   then be 3SG watch-PERF   MOD movie

'This is the movie that he watched.'

However, the second syllable of a discontinuous predicate cannot be relativized.

(19) a. *呢個就係 [佢**pre**緊] 嘅 **sent**

     *ni   go zau   hai [keoi **pi**-gan   -sen] ge   **-sen**   (discontinuous predicate)

      this CL then be 3SG present-PROG   MOD present

      Int.: 'This is the presentation (e.g. the slides) that he is presenting.'

     b. *[佢尋日**sa**咗] 嘅 **ve**唔見咗

     *[keoi kamjat   **sei**-zo   -fu] ge   **-fu** mgin-zo   (discontinuous predicate)

      3SG   yesterday save-PERF   MOD lose-PERF

      Int.: 'The save (file) that he saved yesterday is lost.'

Note that cognate objects may undergo relativization, suggesting that the ungrammaticality of (19) is not due to the lack of thematic role of *-sen/-fu*.

(20) [佢**瞓**] 嘅**覺**係不同凡響地長   (V-cognate object, social media, 2020-2-11)

[keoi **fan**   gaau] ge   **gaau** hai battungfaanhoeng-dei coeng

 3SG   sleep   MOD nap   be extraordinary-ly   long

Lit.: 'The nap that she sleeps is extraordinarily long.'

3.1.2 Object fronting

First, the object in a VO phrase may be preposed in a disposal construction marked by *zoeng* (cf. Mandarin *ba*-constructions).

(21) 佢將**齣戲**睇咗

keoi [zoeng **ceot hei**] **tai**-zo   ceot hei   (VO phrase)

3SG DISP   CL   movie watch-PERF

'He has watched that movie.'

This contrasts with the second syllable of a discontinuous predicate.

(22) a. *佢將**個sent pre**咗

     *keoi [zoeng **go** -**sen**] **pi**-zo   go -sen   (discontinuous predicate)

      3SG DISP   CL present present-PERF

      Int.: 'He has made that presentation.'

b. *佢未將**個ry sor**完

   *keoi mei   [zoeng **go -wi**] **so**-jyun   go -wi   (discontinuous predicate)

   3SG not.yet DISP   CL sorry sorry-FINISH

   Int.: 'He has not yet finished the sorry (i.e. the apology).'

Second, the object in a VO phrase may be fronted by a focus marker *hai*.

(23)   係**魚**阿明唔**食**啫

     hai **jyu** Aaming m-**sik**   jyu ze   (VO phrase)

     FOC fish Aaming NEG-eat   SFP

     'It is (only) fish that Aaming does not eat (, but not something else).'

The second syllable of a separable verb, however, cannot be fronted by *hai*.

(24)   a. *係**佬** 阿明唔想**肥** 啫

     *hai -**lou** Aaming m-soeng **fei** -lou ze   (discontinuous predicate)

     FOC fail Aaming NEG-want fail   SFP

     Int.: 'It is (only) fail that Aaming does not want (, but not something else).'

   b. *係**sent** 阿明冇 **pre** 啫

     *hai -**sen**   Aaming mou   **pi**   -sen ze   (discontinuous predicate)

     FOC present Aaming not.have present   SFP

     Int.: 'It is (only) presentation that Aaming didn't give (, but not something else).'

A complication

There is in fact one case where the second syllable appears to be fronted: the *lin* 'even'-focus constructions.

(25)   連[sent]阿明都冇pre

     lin   -**sen**   Aaming dou mou   **pi**-   (discontinuous predicate)

     even present Aaming also not.have present

     'Aaming didn't even present.'

This is often taken to indicate the objecthood/nominal property of the second syllable.

However, it is instructive to note that *lin*-focus construction can also target verbs, which result in doubling (Cheng and Vicente 2013).

(26)   連[**食**]阿明都冇**食**

     lin   **sik** Aaming dou mou **sik**   (^OKregular verb)

     even eat Aaming also NEG eat

     'Aaming didn't even eat.'

If so, the fronted *-sen* in (25) does not necessarily provide evidence for the nominal/object status. It is also possible that the fronted *-sen* in (25) is a reduced occurrence of the full predicate *pisen*.[3]

This suggestion is supported by the fact that both disposal *zoeng* construction and *hai*-focus construction cannot target a verb.

(27) *佢將[**睇**]好快嘅(**睇咗**)齣戲

    *keoi zoeng **tai**   houfaai-gam (**tai-zo**)   ceot hei   (*regular verb)

    3sg disp watch quick-ly   watch-perf cl   movie

    Int.:'Aaming quickly watched that movie.'

(28) *係[**食**]阿明唔(**食**)

    *hai **sik** Aaming m-(**sik**)   (*regular verb)

    foc eat Aaming neg-eat

    Int.:'Aaming doesn't EAT (but he drinks).'

These observations suggest the following generalization:

(29)   Generalization on the second syllable

    The second syllable of a discontinuous predicate can be displaced only in constructions that can displace a verb.

This generalization also captures the failure of fronting of the second syllable in relative constructions (discussed in §3.1.1), which cannot target verbs.

3.1.3   Nominal modification

In this subsection, we show that the second syllable of a discontinuous predicate resists classifiers and numerals , and any other nominial modifications.

First, as genuine nominals, objects in VP phrase can be preceded by individual classifiers.

(30)   佢**睇**咗<u>三本</u>書

    keoi **tai**-zo   <u>saam bun</u> **syu**   (VO phrase)

    3sg watch-perf three cl   book

    'He read books.'

This contrasts with the second syllable of a discontinuous predicate.[4]

(31) a. *佢**肥**咗<u>三個</u>**佬**   b. ??佢**pre**咗<u>三個</u>**sent**

      *keoi **fei**-zo   <u>saam go</u> **lou**   ??keoi **pi**-zo   <u>saam go</u> **sen**

      3sg fail-perf three cl fail   3sg present-perf three cl present

      Int.: 'He failed three times.'   Int.: 'He gave three presentations.'

---

3. We return to this issue concerning *lin* 'even'-focus constructions in section 4.2.1

4. Note that only classifiers for individuals (nominals) should be considered, but not event classifiers such as *ci* 'time' which may form VP adverbials.

Note that some cognate objects (in VO phrases) allow direct modification by numerals, unlike thematic objects. Yet, it is not allowed for discontinuous predicates either.

(32) 佢瞓咗一覺   (33) *佢**sor**咗一**ry**

keoi **fan**-zo   jat **gaau** (V+cog. obj.)   *keoi **so**-zo   jat **wi** (discont. pred.)
3SG sleep-PERF one nap   3SG sorry-PERF one sorry
'He took a nap.'   Int.:'He (said) sorry once.'

Second, a duration or frequency phrase may form a modifier phrase with the modifier marker *ge*.[5] Syntactically, it appears before the object; semantically it modifies the event denoted by the whole verb phrases.

(34) 佢**睇**咗成十幾日嘅**戲**喇

keoi **tai**-zo   [seng   sapgei-jat   ge] **hei**   laa   (VO phrase)
3SG watch-PERF as.much.as ten.several-day MOD movie SFP
'He has watched movies for days.'

(35) 佢**瞓**咗十幾日嘅**覺**喇

keoi **fan**-zo   [sapgei-jat   ge] **gaau** laa   (V+cognate object)
3SG sleep-PERF ten.several-day MOD nap SFP
'He has been sleeping for ten several days.'

On the other hand, the second syllable of a discontinuous predicate is incompatible with such kind of modification.[6]

(36) Discontinuous predicates

a. *佢**pre**咗成十幾日嘅**sent**喇

    *keoi **pi**-zo   [seng   sapgei-jat   ge] -**sen**   laa
     3SG present-PERF as.much.as ten.several-day MOD present SFP
     'He has been doing presentation for days'

b. *你要**sor**翻三次嘅**ry**我先會原諒你

    *nei jiu **so**-faan   [saam-ci   ge]   -**wi** ngo sin   wui jyunloeng nei
     You must sorry-AGAIN three-time MOD wi   ngo first will forgive   you
     'You have to (say) sorry three times (and) then I will forgive you.'

Based on these tests, we conclude that the second syllable should not be regarded as objects or nominals. As we will see shortly, it retains a verbal status, but is realized in a reduced form.

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5. This *ge* is not obligatory, but its presence is suggestive of a nominal structure.

6. Sentences in (36) would be acceptable in the absence of *ge* (cf. §2.2), where the frequency/duration phrases are regarded verbal modifiers, instead of nominal modifiers (Ernst 1994; Soh 1998; Huang, Li, and Li 2009).

3.2 The verbal nature of discontinuous predicates

As briefly discussed, *lin* 'even' focus constructions can target a verb. In such cases, the verb must be doubled (Cheng and Vicente 2013).

(37) 連[**食**]阿明都冇*(**食**)過呢碗飯

   lin **sik** Aaming dou mou *(**sik**)-gwo ni wun faan (cf. (26))

   even eat Aaming also NEG sik-EXP this CL$_{bowl}$ rice

   'Aaming didn't even eat this bowl of rice.'

Under a VO reanalysis approach, the first syllable is a verb. We then expect that, in *lin* focus constructions, the first syllable can be fronted and doubled. However, this is not the case.[7]

(38) a. *連**sor**阿明都**sor**埋**ry**

   *lin **so** Aaming dou **so**-maai -**wi**

   even sorry Aaming also sorry-ADD sorry

   'Aaming even also said sorry.'

   b. *連**自**阿明都**自**埋**首**

   *lin **zi** Aaming dou mou **zi**-maai -**sau**

   even confess Aaming also not.have confess-ADD confess

   'Aaming didn't even confess (his crime).'

Instead, it is the whole verb that can be fronted and doubled. Note that these sentences are slightly marked but show a sharp contrast with sentences in (38).

(39) a. (?)連**sorry**阿明都**sor**埋**ry**

   (?)lin **sowi** Aaming dou **so**-maai -**wi**

   even sorry Aaming also sorry-ADD sorry

   'Aaming even also said sorry. (What else do you want from him?)'

   b. (?)連**自首**阿明都**自**埋**首**

   (?)lin **zisau** Aaming dou **zi**-maai -**sau**

   even confess Aaming also confess-ADD confess

   'Aaming even also confessed (his crime). (What else do you want from him?).'

These observations suggest that the discontinuous predicates as a whole are verbal by nature, since they must be doubled in *lin* 'even' focus constructions.

4 Proposal

Taking stock, the properties of discontinuous predicates to be captured are:

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7. Sentences in (38) become acceptable if the second syllable is dropped. In these cases, the disyllabic verb has undergone clipping/truncation, which become a monosyllabic verb.

(40) a. The discontinuous form is optional.

  b. They are typically intervened by verbal suffixes, and also by phrasal elements.

  c. The second syllable does not show object or nominal properties.

  d. They must be doubled as a whole in construction requiring verb doubling.

4.1 Syllable deletion and partial Copy Deletions

Assumptions:

(41) a. The copy theory of movement (Chomsky 1995; Nunes 1995, 2004; Bošković and Nunes 2007)

  b. Affixes are syntactic heads (Tang 1998, *contra* Gu 1993; Huang, Li, and Li 2009).

  c. Verbal suffixation involves syntactic verb movement to the suffix (Tang 2003).

Our proposal consists of two ingredients. First, we propose the following rule in the post-syntactic component:

(42) Affix-induced Syllable Deletion

Affixes optionally trigger deletion on an adjacent syllable of their hosts.

Second, we suggest that Copy Deletion can be applied in a *partial* fashion, which erases the complement part of the other (usually the higher) copy. [8]

A schematic illustration:

(43) A typical derivation of discontinuous predicates

  a. [$_{VP}$ -x [AB]]   (base structure)

  b. [$_{VP}$ <AB>-x [<AB>]]   (verb movement)

  c. [$_{VP}$ <A B >-x [<AB>]] = A-x-AB   (Affix-induced Syllable Deletion)

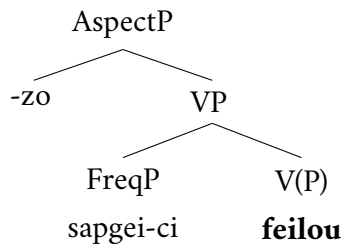 d. [$_{VP}$ <A B >-x [< A B>]] = A-x-B   (partial Copy Deletion)

An illustration:

(44) （阿明）**肥**咗十幾次**佬**

  (Aaming) **fei**<zo><sapgei-ci>**lou**

  (Aaming) fail<PERF><ten.several-time>

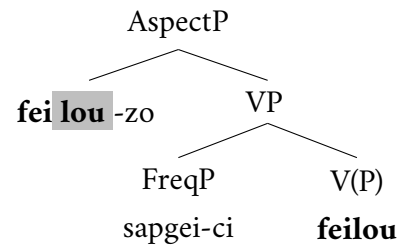 '(Aaming) failed a dozen times.'

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8. It is similar but not identical to Distributed Deletion (Fanselow and Ćavar 2002)

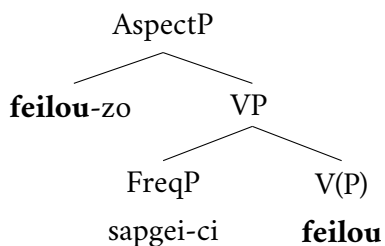(45) Derivation of (44), before introducing the subject
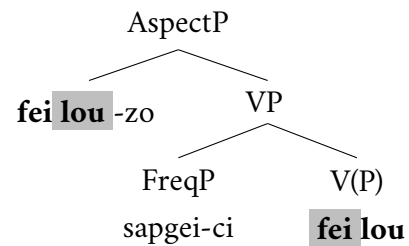
a. Syntax: Building of the AspectP

        AspectP
       /   \
     -zo   VP
                /   \
            FreqP   V(P)
           sapgei-ci   **feilou**

c. PF: Affix-induced Syllable Deletion

        AspectP
       /   \
  fei lou-zo   VP
                /   \
            FreqP   V(P)
           sapgei-ci   **feilou**

b. Syntax: verb movement

          AspectP
         /   \
   feilou-zo   VP
                   /   \
               FreqP   V(P)
              sapgei-ci   **feilou**

d. PF: partial Copy Deletion

          AspectP
         /   \
   fei lou-zo   VP
                    /   \
                FreqP   V(P)
               sapgei-ci   **fei lou**

Deriving the properties of discontinuous predicates:

(46) a. The discontinuous form is optional.

➜ Optionality comes from the proposal that affixes can optionally trigger deletion. If syllable deletion is not triggered, the lower copy as a whole will be deleted by Copy Deletion.

b. They are typically intervened by verbal suffixes, and also by phrasal elements.

➜ Potential intervening elements are basically all elements that syntactic verb movement can move across.

c. The second syllable does not show object or nominal properties.

d. They must be doubled as a whole in construction requiring verb doubling.

➜ (c) and (d): Discontinuous predicates retain their verbal status in the derivation.

4.2 Further evidence for Syllable Deletion

4.2.1 Deletion of the first syllable triggered by prefixes

Apart from verbal suffixes, there are other affixes that may trigger Syllable Deletion. We discuss a case in *lin*-focus constructions, which display an opposite direction of syllable deletion.

As discussed, there is an apparent case of fronting of the second syllable in *lin*-focus constructions.

(47)   (Apparent) fronting of the second syllable

    a.   連**sent**阿明都冇**pre**
          lin   -**sen**   Aaming dou mou **pi**
          even present Aaming also NEG present
          'Aaming didn't even present.'   (=25)

    b.   連**ry**阿明都**sor**埋
          lin **wi**   Aaming dou **so**-maai
          even sorry Aaming also sorry-ADD
          'Aaming even (said) sorry.'

We argue that these sentences involve verb fronting instead of object fronting. Note (again) that *lin*-construction can target verbs, not just objects. Also, full verb copying is possible.

(48)   (Full) verb doubling

    a.   連**present**阿明都冇**present**
          lin **pisen** Aaming dou mou **pisen**
          even present Aaming also NEG present
          'Aaming didn't even present.'

    b.   連**sorry**阿明都**sorry**埋
          lin **sowi** Aaming dou **sowi**-maai
          even sorry Aaming also sorry-ADD
          'Aaming even also said sorry.'

The pattern in (47) follows straightforwardly if we assume that *lin* is a prefix. Crucially, *lin* optionally triggers syllable deletion on the adjacent (first) syllable. Schematically,

(49)   A schematic derivation of sentences in (47)

    a.   [$_{VP}$ ... [AB] ...]   (base VP structure)
    b.   lin-<AB> ... [$_{VP}$ ... [<AB>] ...]   (verb fronting for focus)
    c.   lin-< A B> ... [$_{VP}$ ... [<AB>] ...]   (Affix-induced Syllable Deletion)
    d.   lin-< A B> ... [$_{VP}$ ... [<A B>] ...]   (partial Copy Deletion)

In other words, Syllable Deletion is sensitive to the types of affixation: while a suffix deletes the second syllable, a prefix deletes the first syllable.

Additional support for this analysis comes from two other verb dislocating constructions, where no affixal elements comparable to *lin* are involved.

(50) a. Verb topicalization   (Cheng and Vicente 2013)
        食（呢），阿明係**食**咗三碗飯
        sik ne, Aaming hai **sik**-ZO saam wun   faan
        eat TOP Aaming COP eat-PERF three CL$_{bowl}$ rice
        'As for (whether he) ate, Aaming did eat three bowls of rice (, but they are small bowls.)'

    b. Right dislocation of verbs   (Lee 2017)
        阿明話**買**三架車呀，**買**
        Aaming waa **maai** saam gaa ce   aa3 **maai**
        Aaming say eat   three CL car SFP eat
        'Aaming said (he will) BUY three cars (not SELL three cars).'

In these cases, verbs cannot appear in discontinuous form.

(51) a. Verb topicalization
    ***ry**（呢），阿明係**sor**咗
    -**wi** (ne), Aaming hai **so**-zo
    sorry TOP Aaming COP sorry-PERF
    Int.: 'As for (saying) sorry, Aaming did (say) sorry.'

    b. Right dislocation of verbs
    *佢**肥**超過十次喇，**佬**
    keoi **fei** ciugwo sap-ci laa3 -**lou**
    s/he fail exeed ten-time SFP fail
    Int.: 'S/he FAILED for more than ten times.'

This follows immediately from the proposed analysis: in the absence of affixes that trigger Syllable Deletion, discontinuous predicates are unavailable.

Note that full doubling of these predicates are possible.

(52) a. Verb topicalization
    sorry（呢），阿明係**sor**咗**ry**
    sowi (ne), Aaming hai **so**-zo-**wi**
    sorry TOP Aaming COP sorry-PERF
    'As for (saying) sorry, Aaming did (say) sorry.'

    b. Right dislocation of verbs
    佢**肥佬**超過十次喇，**肥佬**
    keoi **feilou** ciugwo sap-ci laa3 **feilou**
    s/he fail exeed ten-time SFP fail
    's/he FAILED for more than ten times.'

4.2.2 Different forms of discontinuous predicates: Syllable Deletion with(out) partial deletion

Taking discontinuous predicates as a combined result of Syllable Deletion and partial Copy Deletion correctly rules out the following illicit discontinuous forms.

Examples	Schema	Syllable Deletion	Copy Deletion
a. *lou\<zo>fei 佬咗肥	*B-x-A	✗$_{\text{non-adjacent deletion}}$	
b. *fei\<zo>fei 肥咗肥	*A-x-A		✗$_{\text{fail to apply}}$
c. *lou\<zo>feilou 佬咗肥佬	*B-x-AB	✗$_{\text{non-adjacent deletion}}$	✗$_{\text{fail to apply}}$
d. *fei\<zo>feilou 肥咗肥佬	*A-x-AB		✗$_{\text{fail to apply}}$

Table 2: Illicit forms of discontinuous predicates

These forms either violate the adjacency requirement of Syllable Deletion or fail to undergo Copy Deletion.

While the A-x-AB form is banned in suffixation cases, at least at surface value, it is basically the form of an A-not-A string in Chinese polar questions or disjunction formation.

(53) A-not-A formation

   a. 你**sor**唔**sorry**呀？

       nei **so**-m-**sowi**   aa3?

       you sorry-not-sorry SFP

       'Will you (say) sorry?'

   b. 阿明**O**唔**OK**都唔關我事

       Aaming **ou**-m-**oukei**   dou m-gwan   ngo si

       Aaming okay-not-okay also NEG-relate 1SG matter

       'I don't care whether Aaming says okay or not.'

We suggest that these A-not-A(B) strings are not counterexamples to the proposal; rather, they provide further evidence that Syllable Deletion can occur independently of (partial) Copy Deletion.

The reasoning is as follows:

(54) a. Copy Deletion applies to members of a movement chain.

   b. If there is no movement at all, Copy Deletion does not apply.

   c. If the two As in the string A-x-AB are *not* created via syntactic movement, then Copy Deletion does not apply and the string does not violate any constraint.

We assume with C.-T. J. Huang (1991), R.-h. R. Huang (2008), and Tseng (2009) that A-not-A formation is resulted from some phonological operation. We suggest that A-not-A formation involves the following steps:

(55) A-not-A formation in the post-syntactic component

   a. The negation *m* carries a reduplication operator RED that duplicates its associating verb

       m_{RED} AB ➜ **AB** m_{RED} **AB**

   b. m_{RED} triggers Syllable Deletion on the AB-string on the left.

       A B m_{RED} **AB**

   c. **A** survives Copy Deletion since it is not a member of a movement chain.

Here, we have to assume m_{RED} is an suffix-like element such that it deletes the B on its left but not the A on the right (if it were a prefix).

5 Concluding remarks

The proposed analysis derives the following empirical pattern:

Construction	Verb movement?	Deletion trigger?	Discontinuous predicate?
Suffixation	V-Aspect	suffixes	**A**-x-**B**
Lin-focus	V-Focus	prefixal *lin*	*lin*-**B** ... **A** ...
A-not-A	✘_(reduplication)	suffixal m_{RED}	**A**-*m*-AB
Verb topic.	V-Topic	✘	✘
RD of verbs	V-Topic/Defocus	✘	✘
Relativization	✘	✘	✘
Object fronting	✘	✘	✘

Table 3: A non-exhaustive list of the distribution of discontinuous predicates

- Previous approaches on discontinuous predicates share a common idea that the second syllable (or the stranded part) is in fact a nominal. While this might be the case for Mandarin, we have shown that Cantonese behaves differently and thus deserves an analysis on its own.

- Micro-variation: Cantonese appears to display a more general preference on discontinuous predicates than Mandarin, at least in terms of suffixation and A-not-A formation. It may hinge on how obligatory/general Syllable Deletion is.

- Further issues: other cases of (partial) reduplication in Cantonese?

- Implications: Partial Copy Deletion may apply on word/head level, cf. Distributed Delletion on phrases.

Appendix: Idiosyncrasies

First, discontinuous predicates are mostly disyllabic verbs. Discontinuous trisyllabic verbs are rare but attested below, with variations among speakers.

(56) a. 阿明仲home office緊/ home緊office
          Aaming zung **hom ofis**-gan/   **hom**<gan>**ofis**
          Aaming still home office-PROG home<PROG>office
          'Aaming is still working from home.'
      b. 我interview埋/ %in埋terview 都唔請
          Ngo **intawiu**-maai/ %**in**<maai>**tawiu** dou m-ceng
          I   interview-ADD/ interview<ADD> FOC not-hire
          'Even I got interviewed, but I am not hired.'

c.   好多行業都已經全球化晒/*全晒球化

   houdo hongjip dou jiging   **cyunkaufaa**-saai/ ***cyun**<saai>**kaufaa**

   many industry all already globalize-ALL/   *glo<ALL>balize

   'Many industries have (been) globalized.'

Second, different suffixes display different preferences to discontinuous predicates, which may be divided into three groups (out of 24 suffixes). Note that the differences in separability are not a categorical one but rather a continuum.[9]

(57) a.   <u>Group I: Optional separation</u>

      e.g. experiential *gwo* 過, perfective *zo* 咗, addictive *maai* 埋, universal *saai* 晒 *can$_{universal}$* 親 and *ngaang*, must$_{epis}$' 硬, etc.

   b.   <u>Group II: Degraded separation</u>

      e.g. durative *zyu* 住, habitual *hoi* 開, delimitative *haa5* 吓, repetitive *faan* 翻, *dak$_{only}$* 得 etc.

   c.   <u>Group III: No separation</u>

      e.g. inceptive *hei* 起, *can$_{adversive}$* 親, *zoek* 著, partitive *gam* 噉, *gang* 'must$_{epis}$' 梗 etc.

Note that the two epistemic necessity suffixes, *ngaang* and *gang*, fall into different groups.

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┌─────────────────────────────────────────────────────────────┐
│                      Verbal Suffixes                         │
│                                                              │
│   ←─────────┼─────────────────┼─────────────────┼─────→      │
│                                                              │
│   Least separable      Somewhat separable     Very separable │
│   Group III: e.g., zoek, gam  Group II: e.g., zyu, faan   Group I: e.g., maai, can │
└─────────────────────────────────────────────────────────────┘
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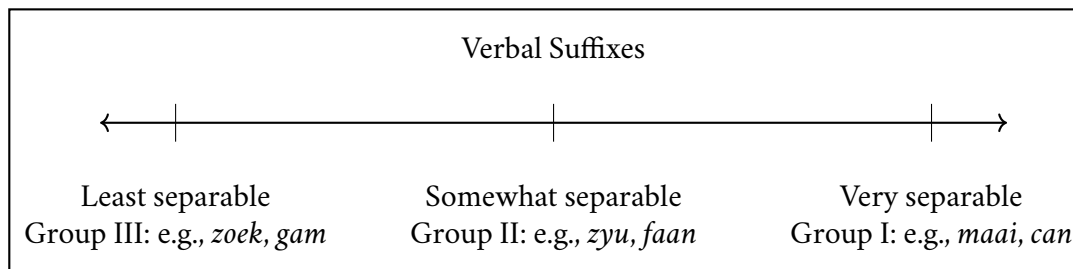
Diagram 1: Continuum of Cantonese verbal suffixes

Third, lexical roots display different preferences. Certain verbs are more tolerant to the discontinuous form. The choice of suffixes may play a role as well.[10]

(58) Distribution by morphological relation

   a.   VO compounds: 62% with attested discontinuous forms (Chan and Cheung 2021)[11]

   b.   Non-VO compounds: 29% with attested discontinuous forms(Chan and Cheung 2021)

   c.   Monomorphemeic verbs: 40% (24 out of 60, this study) with attested discontinuous forms

The discontinuous form of verbs is probably subject to further phonological and morphological constraints, which remain unclear for now.

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9. Separability is measured by the average acceptability scores (on a scale of 1-5) of 60 verbs for each suffix with 3 annotators.

10. For example, coordinate (e.g. V+V) and subordinative (e.g. Mod.+V) compounds are more compatible with the experiential *-gwo* and the progressive *-gan*.

11. VO phrases with cognate objects defined in this paper are included in the calculation, however.

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