

Parametric variations in discontinuous predicates in Sinitic languages*

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1 Introduction

- In Sinitic languages, a predicate may appear as a discontinuous string, where two syllables are intervened by suffixes/adjuncts.¹ We refer to it as a **discontinuous predicate (D-Pred)** (aka. separable verbs 離合詞).
 - like Mandarin (MC)’s VO compound in (1), (Chao 1968; Huang 1984; Packard 2000, *i.a.*)
 - and Cantonese (CC)’s monomorphemic loanword in (2). (Chan and Cheung 2020; Lee and Yip 2025)
- Blurring the syntax-morphology boundary**: suffixation indicates *wordhood* (=a), whereas intervention suggests *phrasehood* (=b). Put differently, *discontinuous heads* are surprising under the Lexical Integrity Hypothesis.

(1) a.	留學了三年 liuxue-le san-nian stay.school-PFV 3-year ‘studied abroad for three years’	b.	留了三年學 liu-le san-nian xue stay-PFV 3-year school ‘studied abroad for three years’	(D-Pred) [MC]
(2) a.	present咗三次 pisen-zo saam-ci present-PFV 3-times ‘presented for three times’	b.	pre咗三次sent pi-zo saam-ci sen present-PFV 3-times present ‘presented for three times’	(D-Pred) [CC]

- The majority of current analyses, which are largely based on Mandarin, involves a phrasal VO structure.
- Studies on other Sinitic languages are extremely and surprisingly rare. (except Cantonese; cf. Lee & Yip’s 2024 overview)
- Goals**: Through a comprehensive study on **four** Sinitic languages, this paper uncovers significant variations in D-Preds despite the surface similarities in (1)-(2).
 - We propose that languages differ in the robustness of two operations/parameters:
 - ① **NOMINALIZATION** and ② **SYLLABLE SUBTRACTION**.
 - They give rise to differential properties of D-Preds, which are systemically correlated with independent constructions in the languages.
- This study implicates that:
 - ① Separation/Discontinuity may have *multiple sources*.
 - ② It should **not** be taken for granted that a given construction is uniform across Sinitic languages;
 - ③ Some variations are *micro-parametric* in nature. (Tang 1998, 2006; Huang 2015; cf. Kayne 2005)

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1. There are other means of separation, including *wh*-intervention in the form of A-WH-B and focus movement in the form of EVEN-B...A. See the extensive discussion in Guo (2017) and Pan and Ye (2015) for Mandarin and Lee and Yip (2025) for Cantonese.

- **Roadmap**

§2: Variations in D-Preds: MC vs. CC
 §3: Two sources of discontinuity
 §4: A parametric theory

§5: The predicted typology
 §6: Conclusion

2 Variations in discontinuous predicates between Mandarin and Cantonese

2.1 Morphological structure of D-Preds

- In Cantonese, monomorphemic verbs and non-VO compounds are readily separable in addition to VO compounds (Chan and Cheung 2020; Yip, Lee, and Chan 2021)
- Non VO-compounds: Verb-Verb (VV), Verb-Resultative (VR), Modifier-Head (MH), and Subject-Predicate (SV).

(3) Various morphological types of D-Preds in Cantonese (+ percentage of separable Vs *within the type*)²

- | | |
|--|---|
| <p>a. <i>Monomorphemic verbs</i> (40%, n=24/60) (Yip et al. 2021)</p> <p>OT完/ O完T
 outi-jyun/ ou-jyun-ti
 OT-COMPL OT-COMPL-OT
 ‘finished working overtime’</p> <p>b. <i>VO compounds</i> (62%, n=543/878) (Chan & Cheung 2020)</p> <p>出版咗/ 出咗版
 ceotbaan-zo/ ceot-zo-baan
 out.plate-PFV out-PFV-plate
 ‘published’</p> <p>c. <i>VR compounds</i> (47%, n=82/175) (Chan & Cheung 2020)</p> <p>放大翻/放翻大
 fongdaai-faan/ fong-faan-daai
 zoom.big-AGAIN zoom-AGAIN-big
 ‘enlarge again’</p> | <p>d. <i>VV compounds</i> (16%, n=18/111) (Chan & Cheung 2020)</p> <p>裝修緊/ 裝緊修
 zongsau-gan/ zong-gan-sau
 install.repair-PROG install-PROG-repair
 ‘furnishing’</p> <p>e. <i>MH compounds</i> (20 %, n=18/90) (Chan & Cheung 2020)</p> <p>自首咗/ 自咗首
 zisau-zo/ zi-zo-sau
 self.confess-PFV self-PFV-confess
 ‘turned oneself in’</p> <p>f. <i>SV compounds</i> (8%, n=2/26) (Chan & Cheung 2020)</p> <p>頭痛過/頭過痛
 tautung-gwo/ tau-gwo-tung
 head.hurt-EXP head-EXP-hurt
 ‘had headache before’</p> |
|--|---|

- Such cases are **rare** in Mandarin. Among all separable verbs in *Modern Chinese Dictionary*, **96-97%** are **VO** compounds (n=around 3500~3800). (Yao 2011; Jiang 2017)³
- In particular, monomorphemic verbs are almost impossible to separate. Even for those early documented cases like **you-ta yi-mo** ‘make fun (lit. humor) of him’ (Chao 1968), they are frozen forms and lack productivity.

(4) Monomorphemic verbs cannot be discontinuous in Mandarin

- | | |
|--|---|
| <p>a. *這個報告我pre了三次sent</p> <p>*Zhe-ge baogao wo pre-le san-ci sent
 this-CL report 1SG present-PFV 3-times present
 Int.: ‘I presented this report for three times.’</p> | <p>b. *幽了張三三默</p> <p>*you-le Zhangsan san mo
 humor-PFV Zhangsan three humor
 Int.: ‘made fun of Zhangsan for three times’</p> |
|--|---|

→ **Morphologically**, Mandarin D-Preds are generally formed by **VO compounds**, whereas in Cantonese **all types** of verbs can be D-Preds regardless of the structure or number of morphemes .

2. Note that Chan and Cheung (2020) includes some VO phrases as VO compounds, such as *leifan* ‘divorce’, which resists suffixation in Cantonese: **leifan-zo* ‘divorced’. The actual percentage of separable VO compounds should be lower than 62%.

3. It is difficult to count such a number in Cantonese, since the pioneer study Chan and Cheung (2020) only has a few monomorphemic verbs and moreover includes some VO phrases. A rough estimate of the percentage of VO compounds in all the separable verbs is around 77% (543/703, among 1340 disyllabic verbs), combining the numbers in Chan and Cheung (2020) and Yip, Lee, and Chan (2021).

2.2 The syntactic status of the separated syllables

- Syntactically, the 2nd syllable of D-Preds in Mandarin displays **nominal objecthood** (e.g., Pan and Ye 2015), whereas Cantonese D-Preds **lack** such properties for both VO and non-VO verbs.
- Evidenced by *modification* tests (for nominal property) and *displacement* tests (for objecthood):

(5) Adnominal *de/ge* modification: *Baseline: VO phrases*

- | | |
|--|--|
| <p>a. 看了三年(的)小說 [MC]</p> <p>kan-le san-tian (de) [xiaoshuo]_{Obj}</p> <p>read-PFV 3-day DE novel</p> <p>‘read novels for 3 days’</p> | <p>b. 睇咗三日(嘅)小說 [CC]</p> <p>tai-zo saan-jat (ge) [siousyut]_{Obj}</p> <p>read-PFV 3-day GE novel</p> <p>‘read novels for 3 days’</p> |
|--|--|

Adnominal *de/ge* modification: *D-Preds: VO compounds*

- | | |
|--|--|
| <p>c. 留了三年(的)學 [MC]</p> <p>liu-le san-nian de xue</p> <p>stay-PFV 3-year DE school</p> <p>‘studies abroad for 3 years’</p> | <p>d. 留咗三年(*嘅)學 [CC]</p> <p>lau-zo saan-nin (*ge) hok</p> <p>stay-PFV 3-year GE school</p> <p>‘studies abroad for 3 years’</p> |
|--|--|

(6) Object fronting in *ba/zoeng*-disposal constructions

- | | |
|---|---|
| <p>a. <i>Baseline: VO phrases in Mandarin</i></p> <p>Ta <u>ba</u> [xiaoshuo]_{Obj} dou kan-wan-le.</p> <p>3SG BA novel all read-COMPL-PFV</p> <p>‘S/he finished reading all the novels.’</p> | <p>他把小說都看完了 [MC]</p> |
| <p>b. <i>Baseline: VO phrases in Cantonese</i></p> <p>Keoi <u>zoeng</u> [di-siousyut]_{Obj} dou tai-saai laa3</p> <p>3SG ZOENG CL.PL-NOVEL all read-ALL SFP</p> <p>‘S/he finished reading all the novels.’</p> | <p>佢將啲小說都睇晒喇 [CC]</p> |
| <p>c. <i>D-Preds: VO compounds in Mandarin</i></p> <p>Ta <u>ba</u> (zhe santian de) mang dou bang-wan-le</p> <p>3SG BA this 3-day DE favor all help-COMPL-PFV</p> <p>‘S/he finished all the helping (of these three days).’</p> | <p>他把(這三天的)忙都幫完了 [MC]</p> <p>(adapted from Pan and Ye 2015:308)</p> |
| <p>d. <i>D-Preds: monomorphemic verbs in Cantonese</i></p> <p>*Keoi <u>zoeng</u> (di-)wi dou so-saai laa3</p> <p>3SG ZOENG CL.PL-SORRY all sorry-ALL SFP</p> <p>Int.: ‘S/he finished doing all the apologies.’</p> | <p>*佢將(啲)ry都sor晒喇 [CC]</p> |

- See Appendix for the full set of tests. (see also Lee and Yip 2025 for the lack of verbhood of 1st-syllable in Cantonese D-Preds.)

Type	Test	Configuration	Mandarin	Cantonese
Adnominal modification	Individual classifiers	A-X CL -B	✓	✗
	Numerals	A-X NUM -B	✓	✗
	Adnominal marked <i>de/ge</i>	A-X MOD -B	✓	✗
A-movement (Obj)	Object fronting	[_{VP} <i>ba/zoeng</i> -B ... A-X -B]	✓	✗
	Passivization	-B ... <i>bei</i> [_{TP} ... A-X -B]	✓	✗
A'-movement (nominal)	‘only’-focus constructions	[_{FocP} ONLY-B ... A-X -B]	✓	✗
	Object relativization	[_{RC} ... A-X -B ...] <i>de/ge</i> -B	✓	✗

→ Syntactically, Mandarin D-Preds have a **VO phrasal structure**, whereas Cantonese D-Preds do **not**: the second syllable **lacks independent word/phrasehood** even after separation (i.e., still part of a word).

3 Two sources of discontinuity

The differences call for a non-uniform treatment to D-Preds.

- D-Preds in Mandarin is derived syntactically → **Syntactic D-Preds**
- D-Preds in Cantonese is derived morphologically → **Morphological D-Preds**

3.1 Discontinuity due to syntactic nominalization

- We argue that the mechanisms deriving D-Preds in Cantonese and Mandarin are different.
- **Mandarin D-Preds** have a *syntactic* character, where **NOMINALIZATION** applies to the compound in the syntactic component in (8) (Pan and Ye 2015).

(7) (我) 幫他的忙

(Wo) bang ta-de mang

I help his help

'(I) help him.'

(8) Mandarin *bangmang* 'help': Nominalization > Partial Deletion (Pan and Ye 2015)

a. {**bangmang, bangmang**, ta, de}

(Numeration: copying)

b. [_N N [V-**bangmang**]]

(Syntax: nominalization)

c. [_{N'} ta-de [_N N [V-**bangmang**]]]

(Syntax: taking theme)

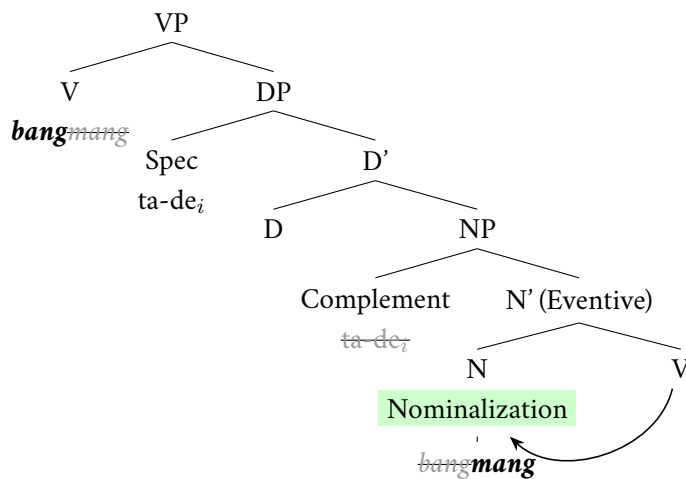
d. [_{VP} V-**bangmang** [_{DP} ta-de ... [_N N [V-**bangmang**]]]]

(Syntax: taking cognate object)

e. [_{VP} V-**bangmang** [_{DP} ta-de ... [_N N [V-**bangmang**]]]]

(PF: Partial Deletion)

(9) The derivation of D-Pred in Mandarin (adapted)



3.2 Discontinuity due to morphological deletion

- In contrast, **Cantonese D-Preds** exhibits a *morphological* character, where affixes may trigger a morphophonological operation **SYLLABLE SUBTRACTION** on the host in the post-syntactic component (13). (Lee and Yip 2025)

(10) Syllable Subtraction in Cantonese (as a morphophonological process in the PF)

Affixes may trigger deletion on the adjacent syllable of their host to form a foot.

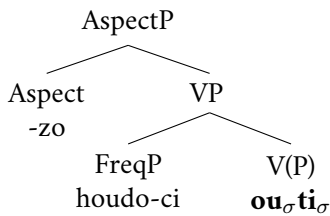
(11) 我O咗好多次T。

(Ngo) **ou-zo** houdo-ci **-ti**.
 1SG OT-PERF many-time OT
 '(I) worked overtime many times.'

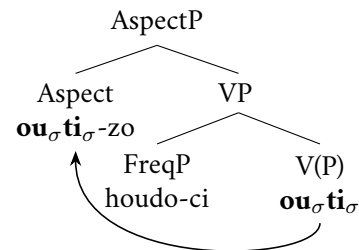
(A-SUFFIX-FREQ-B)

(12) The derivational steps of (11) in the syntactic component (Lee and Yip 2025)

a. *Building of the AspectP*

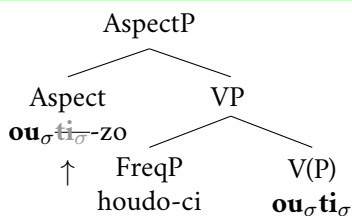


b. *Verb movement to Aspect head*

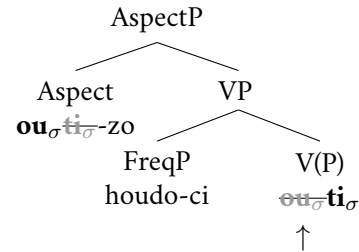


(13) The derivational steps of (11) in the post-syntactic component (Lee and Yip 2025)

a. **Suffix-induced Syllable Subtraction**



b. *Partial CD*



- The superficial similarities in surface forms of the two languages are due to (distributed/scattered) Partial Deletion, which applies after both operation (cf. Fanselow and Ćavar 2002).

4 A parametric theory of discontinuous predicates

- We propose that NOMINALIZATION and SYLLABLE SUBTRACTION are **micro-parameters**.
- Their effects are not specific to D-Preds and can be observed independently in the language.

Language	① NOMINALIZATION	② SYLLABLE SUBTRACTION	Status of D-Preds
a. Mandarin	✓	✗	Syntactic (phrasal)
b. Cantonese	✗	✓	Morphological (word-like)

4.1 The NOMINALIZATION parameter

- Tang (2008, 2009, 2011): Mandarin has robust Nominalization and enables a range of **gerundive nominals**, all of which are not possible in Cantonese.
- Tang accounts for the variation by proposing that Cantonese lacks a Nom head that attracts V movement.

(14) The NOMINALIZATION parameter: $\text{Nom}_{[uV]}$ vs. $\text{Nom}_{[]}$

a. $[_{\text{NomP}} \text{Nom}_{[uV]} [_{\text{VP}} \text{V} (\text{Obj})]]$ (Mandarin)

b. $*[_{\text{NomP}} \text{Nom}_{[]} [_{\text{VP}} \text{V} (\text{Obj})]]$ (Cantonese)

NOMINALIZATION	Mandarin	Cantonese
Genitive agents	✓	✗
Verbless <i>de/ge</i> nominals	✓	✗
Relativization of VO-idioms	✓	✗
Internal <i>de</i> expressions	✓	✗

- **Genitive agents:** derived by movement of an empty verb DO to Nom (Tang 2009; cf. Huang 2008)
- Structure: [_{NomP} 3SG-*de* [Nom-V_{DO} [_{VP} *t_V* ‘teacher’]]]

(15) Genitive agents in subject positions (Tang 2011, p.150)

[Ta **de** laoshi] dang-de hao.

他的老師當得好。 [MC]

*[Keoi **ge** lousi] zou-dak hou.

*佢嘅老師做得好。 [CC]

3SG MOD teacher do-DES well

‘He serves well as a teacher.’

- The same patterns carry over to three other constructions with gerundive nominals
- See also Kwong and Tsou (2003) for the lower productivity of **deverbal nominals** in Cantonese (vs. Mandarin)

(16) Relativization of VO-idioms (Tang 2011, p.153)

a. [Ta chi **de** cu] bi shei dou da
3SG eat MOD vinegar compare who all big
‘His jealousy is greater than anyone else’s.’

他吃的醋比誰都大 [MC]

b. *[Keoi gaap **ge** cou] daaigwo sojau jan
3SG sip MOD vinegar bigger all person
‘His jealousy is greater than anyone else’s.’

*佢啞嘅醋大過所有人 [CC]

(17) Verbless *de/ge* nominals (Tang 2011, p.154, modified)

Zhe-chang hui shei **de** zhuxi?

這場會誰的主席？ [MC]

*Ni-coeng wui bingo **ge** zyuzik?

*呢場會邊個嘅主席？ [CC]

this-CL meeting who MOD chairperson

‘Who served as the chairman at this meeting?’

(18) Internal *de* expressions (a clausal reading of V-*de*-O) (Tang 2011, p.156)

Ta zuotian da **de** dianhua

他昨天打的電報 [MC]

*Keoi camjat daa **ge** dinwaa

*佢尋日打嘅電報 [CC]

3SG yesterday make MOD phone.call

‘The phone call he made yesterday.’

Cf. Internal *de* expressions are sometimes referred to as cleft structures with the copula *shi/hai*.

(19) *Shi/hai...de/ge*-clefts (Tse 2019, p.70)

a. Wo **shi** zuotian mai-**de** piao.
1SG COP yesterday buy-DE ticket
‘It was yesterday that I bought a ticket.’

我是昨天買的票 [MC]

b. *Keoi **hai** kamjat maai-**ge** syu.
3SG COP yesterday buy-GE book
‘It was yesterday that he bought a book.’

*佢係琴日買嘅書 [CC]

4.2 The SYLLABLE SUBTRACTION parameter

- We propose that Cantonese has robust Syllable Subtraction, as evidenced by a **monosyllabic preference** in a number of *affixed reduplication* phenomena, in contrast with Mandarin.
- Cf. Luke and Lau (2008) and Li et al. (2016), for a similar preference in lexical borrowing (from English)

SYLLABLE SUBTRACTION	Mandarin	Cantonese
A-one-AB	✗	✓
*AB-not-AB	✗	✓
*AB-wh-AB	✗	✓

(20) V-one-V reduplication

- | | | | |
|---|-------------------------|--|----------------------------|
| a. * chu -yi- chuli
cyu -jat- cyulei
tackle-one-tackle
'try to tackle' | *處一處理 [MC]
處一處理 [CC] | b. * chuli -yi- chuli
* cyulei -jat- cyulei
tackle-one-tackle
Int.: 'try to tackle' | *處理一處理 [MC]
*處理一處理 [CC] |
|---|-------------------------|--|----------------------------|

(21) A-not-A reduplication

- | | | | |
|--|------------------------|---|----------------------------|
| a. xi -bu- xihuan
zung -m- zungji
like-not-like
'like or not' | 喜不喜歡 [MC]
中唔中意 [CC] | b. xihuan -bu- xihuan
?? zungji -m- zungji
like-not-like
'like or not' | 喜歡不喜歡 [MC]
??中意唔中意 [CC] |
|--|------------------------|---|----------------------------|

(22) V-wh-V constructions (cf. Tsai 2021 for Mandarin)

- | | |
|---|---|
| a. man -shenme- yuan? 埋什麼怨 [MC]
maai -matje- jyun? 埋乜野怨 [CC]
grudge-what-grudge
'What are you holding grudge about?' | b. manyuan -shenme- manyuan? 埋怨什麼埋怨 [MC]
* maaijyun -matje- maaijyun? *埋怨乜野埋怨 [CC]
grudge-what-grudge
'What are you holding grudge about?' |
|---|---|

4.3 Interim summary

The split between syntactic vs. morphological D-Preds in Mandarin and Cantonese is correlated with a range of phenomena pertaining to (i) gerundive nominals, and (ii) the monosyllabic preference.

- | | |
|--|------------------------------------|
| (23) a. Syntactic D-Preds ↔ gerundive nominals | due to NOMINALIZATION |
| b. Morphological D Preds ↔ monosyllabic preference | due to SYLLABLE SUBTRACTION |

5 The predicted typology

- The proposal also makes a typological prediction on two types of languages
 - Languages that *lacks* both operations (i.e., both parameter values set as negative)
 - D-Preds are highly restricted.
 - Languages that employ both operations (positive values for both parameters)
 - D-Preds are highly productive.
- Our preliminary findings suggest that **Fuzhounese** exemplifies the former and **Jing-le Jin** (靜樂晉語) the latter.

	Language	① NOMINALIZATION	② SYLLABLE SUBTRACTION	Status of D-Preds
a.	Mandarin	✓	✗	Syntactic (phrasal)
b.	Cantonese	✗	✓	Morphological (word-like)
c.	?	✗	✗	None
d.	?	✓	✓	Syntactic / morphological

Table 1: The predicted typology of D-Preds

- **Fuzhounese** does not allow D-Preds with or without adnominal *ki* (=24) → lacks NOMINALIZATION
- AB-*wh*-AB forms are preferred over the subtracted A-*wh*-B forms (=25) → lacks SYLLABLE SUBTRACTION

(24) **Fuzhounese**: No syntactic D-Preds (unlike Mandarin): VO 留學 *lauoʔ*

- | | | | |
|----|--|----|-----------------------------------|
| a. | * lau -lau saŋ-nieŋ (ki) oʔ | b. | lauoʔ -lau saŋ-nieŋ |
| | stay-PFV 3-year KI study | | stay.study-PFV 3-year |
| | Int.:‘studied abroad for three years.’ | | ‘studied abroad for three years.’ |

(25) **Fuzhounese**: No morphological D-Preds (like Cantonese): VV 裝修 *tsounsieu*

- | | | | |
|----|-------------------------------------|----|---|
| a. | ?? tsouŋ sieʔnoʔ sieu | b. | tsounsieu sieʔnoʔ tsounsieu |
| | furnish what furnish | | furnish what furnish |
| | ‘Why do you furnish (it)?’ | | ‘Why do you furnish (it)?’ |

- **Jing-le Jin**, on the other hand, allows Nominalization in D-Preds but only for VO-compounds, but not non-VO D-Preds (=26). → patterning with Mandarin’s NOMINALIZATION
- A-one-AB is possible, but not AB-one-AB. → Monosyllabic preference due to SYLLABLE SUBTRACTION

(26) **Jing-le Jin**: Both syntactic and morphological D-Preds are attested (with different compounds)

- | | | |
|----|-----------------------------------|---|
| a. | liu -lɔu saŋ-xui tə iɔŋ. | Syntactic D-Preds (VO compound 留洋 <i>liuiɔŋ</i>) |
| | stay-PFV 3-times MOD oversea | |
| | ‘studied abroad for three times.’ | |
| b. | lu -lɔu si-xui (*tə) iu. | Morphological D-Preds (VV compound 旅遊 <i>liui</i>) |
| | travel-PFV 4-times MOD travel | |
| | ‘traveled for four times’ | |

- The typology is summarized in the table below:

	Language	① NOMINALIZATION	② SYLLABLE SUBTRACTION	Status of D-Preds
a.	Mandarin, ...	✓	✗	Syntactic (phrasal)
b.	Cantonese, ...	✗	✓	Morphological (word-like)
c.	Fuzhounese, ...	✗	✗	None
d.	Jing-le Jin, ...	✓	✓	Syntactic / Morphological

Table 2: The typology of D-Preds

6 Conclusion

- **Summary:** There are **significant variations** in discontinuous predicates among Sinitic languages, despite surface similarities.
 - Two types of D-Preds: *syntactic* (like VO phrases) vs. *morphological* (like words/discontinuous heads)
 - Two sources of discontinuity:
 - by ① syntactic **NOMINALIZATION** vs. ② morphophonological **SYLLABLE SUBTRACTION**
 - A parametric theory: **correlated variations** in *gerundive nominals* and *monosyllabic preference* by ①-②
- **Implications**
 - ① Separation/discontinuity may have multiple sources in **different modules** of the grammar (syntax vs. PF)
 - ② It should **not** be taken for granted that a given construction is uniform across Sinitic languages
 - More attention should be paid to constructions with superficially similar word order
 - ③ Some variations are systematic and **micro-parametric** in nature. (Tang 1998, 2006; Huang 2015; cf. Kayne 2005)

• Prospects and our next steps

- A full examination on gerundive nominals and monosyllabic preference in Fuzhounese and Jing-le Jin
- Extension to other Sinitic languages; preliminary findings:
 - a. Mandarin-type: Ganzhou Hakka, Nanchang Gan (?), ...
 - b. Cantonese-type: Shantou and Shanwei Southern Min, ...
 - c. Fuzhounese-type: Shanghainese, Huzhou Wu, Jiaying Wu, ...
 - d. Jing-le Jin-type: ... (to be investigated)

7 Appendix: the syntactic status of D-Preds

(27) Syntactic tests to distinguish D-Preds from VO phrases

[D-Preds A ... B] vs. [VP V ... NP_{Obj}]

- a. Examining whether the second syllable has nominal objecthood
- b. Examining whether the first syllable has full-fledged verbhood
- c. Examining whether the whole D-Preds behave like a VO phrase and fail to take another object

7.1 The second syllable and its nominal properties

7.1.1 Adnominal modification

(28) The second syllable resists adnominal modification

- (i) *Individual classifiers: *A-x CL -B
- (ii) *Numerals: *A-x NUM -B
- (iii) *Adnominal modification marker *ge*: *A-x MOD -B

First, while nominal objects in VO phrases can be preceded by individual classifiers (=29), the second syllable *lou 1* of the discontinuous predicate *fei 4lou 1* 'fail' in (30).

(29) VO phrases: ^{OK}Individual classifiers

佢睇咗三本書

keoi **tai**-zo saam bun **syu**
 3SG watch-PERF three CL book
 'He read three books.'

(30) Discontinuous predicates: *Individual classifiers

*佢肥咗三個佬

*keoi **fei**-zo saam go **lou**
 3SG fail-PERF three CL fail
 Int.: 'He made three failures.'

Second, direct modification by numerals is allowed in some VO phrases with a cognate object (unlike a thematic object). However, it is disallowed in discontinuous predicates, as shown in (32), speaking against the possibility that the second syllable is a cognate object.

- (31) V + cognate object: ^{OK}Numerals
 佢瞓咗一覺
 keoi fan-zo jat gaau
 3SG sleep-PERF one nap
 'He took a nap.'
- (32) Discontinuous predicate: *Numerals
 *佢sor咗一ry
 *keoi so-zo jat wi
 3SG sorry-PERF one sorry
 Int.: 'He (said) sorry once.'

Third, a duration or frequency phrase may optionally combine with the adnominal modification marker *ge3* to modify the event denoted by the VP in a pre-object position (Soh 1998; Huang, Li, and Li 2009), as shown in (33a) and (33b). Semantically, the duration/frequency phrase does not modify the object, but the presence of *ge3* is suggestive of a nominal structure in these sentences (Huang 1997; Tang 2008).

- (33) Adnominal modification marker *ge3* (VO phrases)
- a. 佢睇咗成十幾次(嘅)戲喇
 keoi tai-zo [seng sapgei-ci (ge)] hei laa (thematic objects)
 3SG watch-PERF as.much.as ten.several-time MOD movie SFP
 'He has watched movies for a dozen times.'
- b. 佢瞓咗幾日嘅覺喇
 keoi fan-zo [gei-jat (ge)] gaau laa3 wo3 (cognate objects)
 3SG sleep-PERF several-day MOD nap SFP SFP
 'He has been sleeping for several days.'

However, this contrasts with discontinuous predicate. For example, *ge3* cannot be present in (34), suggesting the incompatibility of the second syllable with *ge3*.

- (34) Ban on adnominal modification marker *ge3* (discontinuous predicates)
 我都搵人裝過幾次(*嘅)修
 ngo5 dou1 wan2 jan4 zong1-gwo3 [gei2 ci3 (*ge3)] -sau1 (Forum; with *ge3* added)
 1SG also find person furnish-EXP several time MOD furnish
 'I also found people to furnish for several times.'

7.1.2 A-movement

- (35) The second syllable resists A-movement
 (i) *Object fronting: *[_{VP} -B ... A-x -B];
 (ii) *Passivization: *-B ... [_{TP} ... A-x -B]

First, (36) shows that the object in a VO phrase may be preposed to a *vP*-internal position in a disposal construction marked by *zoeng1* (cf. Mandarin *ba*-constructions, Huang, Li, and Li 2009).

- (36) VO phrases: ^{OK}Object fronting
 佢將(本)小說出咗喺網上面
 keoi5 [_{VP} [zoeng1 (bun2) siu2syut3] ceot1-zo2 siu2syut3 hai2 mong5 soeng6min6]
 3SG DISP CL novel release-PERF at Internet above
 'S/he released the book online.'

This contrasts with the second syllable in D-Preds *baan2* in (37), which cannot be fronted.

(37) Discontinuous predicates: *Object fronting

* 佢將(個)版出咗(喺網上面)

* keoi5 [vp [zoeng1 (go3) -**baan2**] **ceot1**-zo2-~~baan2~~ (hai2 mong5 soeng6min6)]

3SG DISP CL plate release-PFV at Internet above

Int: 'S/he published the book (lit. released the plate) online.'

Second, the object in a VO phrase may be passivized and move to the subject position of the passive verb *bei2* (cf. the raising analysis in Huang 2013), as in (38). However, passivization cannot target the second syllable *baan2* in (39).

(38) VO phrases: ^{OK}Passivization

只係(塊)板畀人拆咗啫

zi2hai6 [(faai3) **baan2**] bei2 [TP jan4 **caak3**-zo2 ~~baan2~~] ze1

only CL plate PSV person dismantle-PFV SFP

‘It’s just that the plate got dismantled.’

(39) Discontinuous predicates: *Passivization

* 只係(塊/個)版畀人出咗啫

* zi2hai6 [(faai3/go3) -**baan2**] bei2 [TP jan4 **ceot1**-zo2-~~baan2~~] ze1

only CL plate PSV person release-PFV SFP

Int.: ‘It’s just that the book got publish (lit: the plate got released).’

7.1.3 **A'-movement targeting NPs/DPs**(40) The second syllable resists A'-movement (that target nominals)(i) **Dak*-focus constructions: *[_{FocP} ONLY-**B** ... **A-x** -~~B~~];(ii) *Object relativization: *[_{RC} ... **A-x** -~~B~~ ...] MOD -**B**

First, the adfocus *dak* ‘only’ triggers focus movement of a nominal to the left periphery (cf. Cheung 2015; Sun 2021), such as in (41a), but not verbal elements, as shown in (41b).⁴

(41) VO phrases: ^{OK}*Dak*-focus constructions (targeting nominal objects)

a. 得魚阿明冇食過咗

[_{FocP} dak [_{NP} **jyu**] [Aaming mou **sik**-gwo ~~jyu~~ zaa]]

(nominal objects)

ONLY fish Aaming not.PFV eat SFP

‘(It is) only fish that Aaming has never eaten (, but not something else).’

b. * [_{FocP} dak [_{V/VP} **maai** (**jyu**)] [Aaming m-soeng ~~maai~~ (~~jyu~~) zaa]]

(verbal elements)

ONLY buy fish Aaming not-buy SFP

Int.: ‘(It is) only buying/buying fish that Aaming does not want (, but not something else).’

The second syllable of D-Preds, however, cannot be targeted for focus movement triggered by *dak*.⁵

(42) Discontinuous predicates: **Dak*-focus constructions

* 得首阿明冇自過咗，佢自過殺嘅

* [_{FocP} dak1 [-**sau2**] [Aa3ming4 mou5 **zi6**-gwo3 -~~sau2~~] zaa3, keoi5 zi6-gwo3-saat3 ge3

only inform Ming not.PFV self-PFV SFP 3SG self-EXP-kill SFP

Int.: ‘(It is) only turning himself in that Ming never did. He did attempt suicide once.’

The object in a VO phrase can be relativized, but not the second syllable of D-Preds.

4. Even if the verb/VP in (41b) is doubled, the sentence is still ill-formed.

5. The sentence in (42) is constructed such that it favors an exclusive focus reading on the second syllable of discontinuous MV compound *zi6sau6* ‘confess, (lit.) self + inform.’ The second syllable *sau6* is intended to contrast with *saat3* in *zi6saat3* ‘suicide, (lit.) self + kill’.

(43) V + cognate object: ^{OK}Object relativization

[佢瞓] 嘅覺係不同凡響地長

[RC keoi **fan** 𨋖𨋖𨋖 ge [gaau] hai battungfaanhoeng-dei coeng
3SG sleep MOD nap be extraordinary-ly long

(Social media)

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

(44) Discontinuous predicates: *Object relativization

* [依家小緊] 嘅息係不同凡響地長

*[RC ji1gaa1 **siu2-gan2-sik1**] ge3 [-**sik1**] hai6 bat1tung4faan4hoeng2-dei6 coeng4
now small-PROG MOD rest be extraordinary-ly long

Int.: 'The break that we're having now is extraordinarily long.'

(45) Generalization on the syntactic properties of the second syllable

The second syllable of a discontinuous predicate cannot be preceded by an adnominal element or take part in constructions that target objects and/or nominal phrases.

Unlike Cantonese, the second syllable of discontinuous predicates in Mandarin exhibits **nominal properties**:(46) Nominal properties of the second syllable

(Mandarin, Pan and Ye 2015:308-309)

a. ✓ **Nominal modification**

告他一狀

gao ta yi **zhuang**

report 3SG one report

'Report him/her'

b. ✓ **Relativization**

幫[別人不願意幫]的忙

bang [bieren bu yuanyi **bang**] de **mang**

help others not willing help MOD help

'Do a favor that no ones want to do'

c. ✓ **Object fronting**

我把[這三天的忙]幫完了

Wo ba [zhe san tian de **mang**] **bang** wan-le

1SG DISP this three day MOD help help finish-PERF

'I've already done a three-day favor (i.e. I've already helped you for three days).'

7.2 The first syllable and its verbal properties

Lin 'even' focus constructions can target a verb, rendering verb doubling (Cheng and Vicente 2013; Lee 2022, 2024).

(47) 連[食]阿明都有*(食)過呢碗飯

lin **sik** Aaming dou mou *(**sik**)-gwo ni wun faaneven eat Aaming also NEG sik-EXP this CL_{bowl} rice

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

(cf. (??))

The first syllable in D-Preds cannot fronted and doubled.

(48) Failure of *lin* 'even' verb doublinga. *連**so**阿明都**so**埋**ry***lin **so** Aaming dou **so**-maai **-wi**

even sorry Aaming also sorry-ADD sorry

'Aaming even also said sorry.'

b(?) 連**sorry**阿明都**so**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?)'

(49) a. *連自阿明都自埋首

*lin **zi** A. dou mou **zi**-maai **-sau**

even confess A. also not.have confess-ADD confess

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

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?)'

As a novel observation, the first syllable of discontinuous predicates in Mandarin displays **verbal properties** and can be fronted and doubled alone, different from Cantonese.

(50) Verbal properties of the first syllable (Mandarin)

- a. 連幫，張三都沒有幫這個忙！
Lian **bang**, Zhangsan dou meiyou **bang** zhe ge **mang**!
even help Zhangsan also not help this CL help
'Zhangsan even didn't help me for this! (Not to say giving me gifts.)'
- b. 連告，他都沒有告你一狀！
Lian **gao**, ta dou meiyou **gao** ni yi **zhuang**!
even report 3SG also not report you one report
'Zhangsan even didn't report you! (He holds no grudge.)'

7.3 Object-taking ability

If D-Preds were VO phrases in Cantonese, we expect it **not** to take another object, contrary to facts.

(51) D-Preds taking postverbal objects in Cantonese

- a. 放翻大[啲人偶]
Fong-faan daai [di janngau]
enlarge-again enlarge CL.PL doll
'enlarge the dolls again'
(Yip, Lee, and Chan 2021:98, from Internet)
- b. ?佢影咗印[呢份野]喇
?keoi jing<zo>jan [nei fan je] laa
3SG photocopy<PERF> this CL thing SFP
'He made a photocopy of this document.'

(52) D-Preds taking preposed objects in Cantonese

- a. 佢將[呢份野]影咗印喇
keoi zoeng [nei fan je] jing<zo>**jan** laa
3SG DISP this CL thing photocopy<PERF> SFP
'He made a photocopy of this document.'
- b. 佢連[呢份野]都影埋印喇
keoi lin [nei fan je] dou jing<maai>**jan** laa
3SG even this CL thing also photocopy<also> SFP
'He even made a photocopy of this document.'

(53) True VO phrases cannot have an extra preposed object

- a. *佢將[呢齣戲]睇咗戲喇
*keoi zoeng [nei ceot hei] tai-zo **hei** laa
3SG DISP this CL movie watch-PERF movie SFP
Int.: 'He watched this movie.'
- b. *佢連[呢齣戲]都睇埋戲喇
*keoi lin [nei ceot hei] dou tai-maai **hei** laa
3SG even this CL movie also watch-also movie SFP
Int.: 'He even watched this movie.'

In contrast, D-Preds in Mandarin are primarily intransitive verbs, which Pan and Ye (2015) attributes to the cognate object analysis. Interestingly, D-Preds still take a thematic object as a *genitive* argument.

(54) D-Preds in Mandarin cannot take a postverbal object

- a. *告狀 [小顧]。
*Gaozhuang [Xiaogu].
report Xiaogu
Int.: 'Report Xiaogu.'
- b. 那人威脅要告[小顧]的狀。
Na ren weixie yao gao [Xiaogu] de zhuang.
that person threaten will report Xiaogu DE report
'That person threatens to report Xiaogu.'

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