

Compound vs phrasal resultatives: the view from Mandarin Chinese

Wenkai Tay

MIT LF Reading Group

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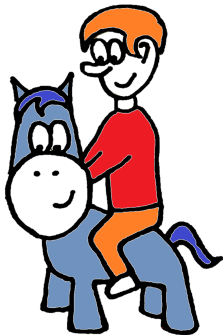
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Argument structure

(1) John rode the horse.

agent (red arrow from rode to John)
 theme (blue arrow from rode to the horse)

✓



✗



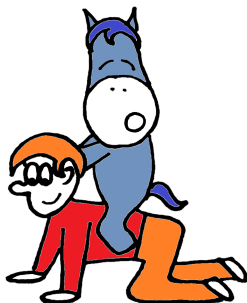
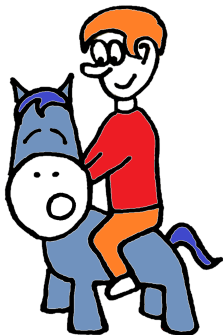
Argument structure of resultatives

(2) John rode the horse tired.

agent theme

✓

✗



Puzzle

In English, a verb projects the same obligatory arguments in simple sentences and in resultatives.

(3) John **hammered** the metal.



(4) John **hammered** the metal **flat**.



Puzzle

In English resultatives, a verb cannot omit an obligatory **agent**...

(5) ***[The metal]_i hammered _{t_i} flat.**



or an obligatory **theme**.

(6) ***John hammered his back sore.**



Puzzle

It has been claimed, however, that a Mandarin verb can omit its **agent** or **theme** when it appears in a resultative.

Puzzle

Mandarin V-V resultative:

- (7) *Bǎobao* **kū** - **xǐng** -*le* *māma*.
 baby cry-awake-PFV mother
 ‘The baby cried Mother awake.’

Mandarin V-*de* resultative:

- (8) *Bǎobao* **kū** *de* [*māma* **xǐng** -*le*].
 baby cry DE mother awake-PFV
 ‘The baby cried and as a result Mother became awake.’

Puzzle

In Mandarin V-V resultatives, the first verb (V1) can omit its **agent**...

- (9) *Yīfú_i* **xǐ-** **gānjìng-** *le* *t_i*.
 clothes wash- clean- PFV
-

‘The clothes got clean from washing [i.e. being washed].’

(Williams 2005:161)


or its **theme**.

- (10) *Lǎo Wèi* **qiē-** **dùn-** *le* *càidāo*.
 Lao Wei cut- dull- PFV knife
-


‘Lao Wei made the knife dull by cutting something.’ (adapted from Williams 2005:61)

Puzzle

Mandarin simplex verbs can omit their external argument.

- (11) *Yīfú*  **xǐ**-le.
 clothes wash-PFV
 ‘The clothes [were] washed.’

Mandarin simplex verbs cannot omit their internal argument.

- (12) **Lǎo Wèi*  **qiē**-le (càidāo).
 Lao Wei cut-PFV knife
 Intended: ‘Lao Wei cut something (with a knife).’

Puzzle

It has been claimed that Mandarin V-*de* resultatives have the same flexibility of argument realisation as their V-V resultative counterparts.

- (13) *Lǎo Wèi* **qiē**- **dùn**- *le* *càidāo*.
 Lao Wei cut- dull- PFV knife

‘Lao Wei made the knife dull by cutting something.’ (adapted from Williams 2005:61)

- (14) *Lǎo Wèi* **qiē** *de* [*càidāo* **dùn**- *le*].
 Lao Wei cut de knife dull- PFV

‘Lao Wei made the knife dull by cutting something.’

Puzzle

- Puzzle: Mandarin resultatives have very flexible argument structures.
- Possible solutions:
 - Reject the Projection Principle entirely
 - Relativise the Projection Principle
 - Mandarin vs English
 - Compound vs non-compound ★

Claim

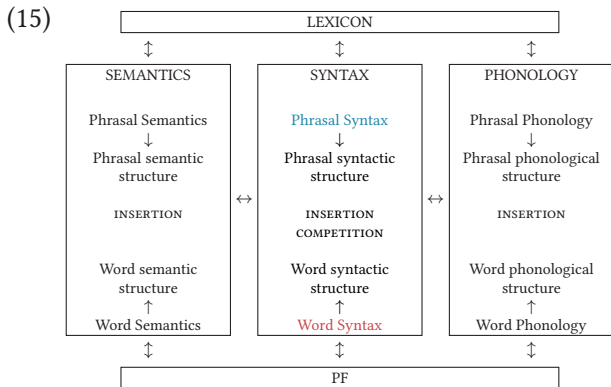
- ★ Mandarin V-V resultatives have more flexibility in argument realisation than *V-de* resultatives...
- ★ ...because Mandarin V-V resultatives are morphological compounds whereas *V-de* resultatives are built in syntax.



- Do verbs (or verbal roots) select their arguments?
- Is there a distinction between morphology and syntax?

Proposal

- ★ Morphology (=word syntax) and (phrasal) syntax are distinct subsystems in the grammar (cf. Di Sciullo and Williams 1987).



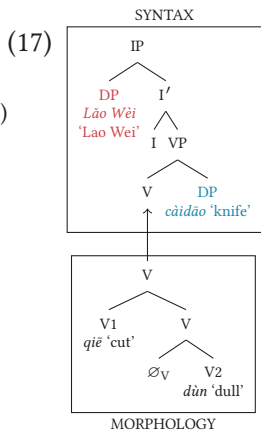
(Ackema and Neeleman 2004:4)

Proposal

- ★ V-V resultatives are compounds built in morphology, not syntax.

- (16) *Lǎo Wèi qiē-dùn-le cǎidāo.*
Lao Wei cut-dull-PFV knife

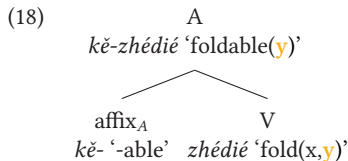
'Lao Wei made the knife dull by cutting something.' (adapted from Williams 2005:61)



Proposal

Morphological compounds need not inherit the argument structure of their components (Ackema and Neeleman 2004).

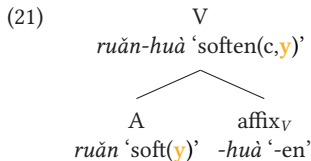
Affixes can suppress arguments...



(19) I folded **the chair**.

(20) **The chair** is foldable.

...or introduce arguments.

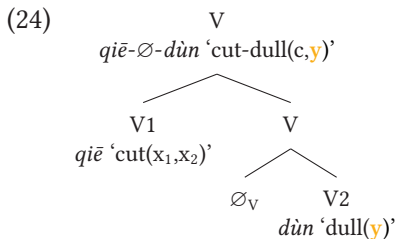


(22) **The wax** is soft.

(23) I softened **the wax**.

Proposal

- ★ V-V resultatives contain a null affix \emptyset that binds all available arguments of V2 but none of the arguments of V1.



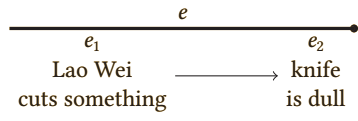
Proposal

\emptyset denotes a macroevent e with two subevents: a causing event e_1 and a caused event e_2 .

(25) *Lǎo Wèi qiē-dùn-le càidāo.*

Lao Wei cut-dull-PFV knife

‘Lao Wei made the knife dull by cutting something.’ (adapted from Williams 2005)



Proposal

\emptyset denotes a macroevent e with two subevents: a causing event e_1 and a caused event e_2 .

$$(26) \llbracket \emptyset \rrbracket = \dots \lambda e \dots \exists e_2 \exists e_1. [\text{CAUSE}(e, e_1, e_2) \dots]$$

The semantic content of e_2 and e_1 are supplied by the semantic predicates denoted by V2 and V1.

$$(27) \llbracket \emptyset \rrbracket = \lambda \mathbf{R}_2 \lambda \mathbf{R}_1 \dots \lambda e \dots \exists e_2 \exists e_1. [\text{CAUSE}(e, e_1, e_2) \wedge \dots \wedge \mathbf{R}_2(\mathbf{e}_2, \dots) \wedge \mathbf{R}_1(\mathbf{e}_1, \dots)]$$

\emptyset adds a causer.

$$(28) \llbracket \emptyset \rrbracket = \lambda \mathbf{R}_2 \lambda \mathbf{R}_1 \dots \lambda \mathbf{c} \lambda e \dots \exists e_2 \exists e_1. [\text{CAUSE}(e, e_1, e_2) \wedge \mathbf{Causer}(\mathbf{e}) = \mathbf{c} \wedge \mathbf{R}_2(\mathbf{e}_2, \dots) \wedge \mathbf{R}_1(\mathbf{e}_1, \dots)]$$

Proposal

\emptyset binds all available arguments of e_2 denoted by V2...

$$(29) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e \dots \exists e_2 \exists e_1. [\text{CAUSE}(e, e_1, e_2) \wedge \text{Causer}(e) = c \wedge R_2(e_2, y) \wedge R_1(e_1, \dots)]$$

but none of the arguments of e_1 denoted by V1.

$$(30) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e \exists \mathbf{x}_2 \exists \mathbf{x}_1 \exists e_2 \exists e_1. [\text{CAUSE}(e, e_1, e_2) \wedge \text{Causer}(e) = c \wedge R_2(e_2, y) \wedge R_1(e_1, \mathbf{x}_1, \mathbf{x}_2)]$$

\therefore The arguments of \emptyset and of the V-V resultative can, but need not, be interpreted as arguments of V1.

Interim recap ★

- ★ Morphology and syntax are distinct subsystems.
- ★ V-V resultatives are compounds built in morphology, not syntax.
- ★ V-V resultatives contain \emptyset that binds all available arguments of V2 but none of the arguments of V1.
- ★ \therefore V1 does not project any arguments in Mandarin V-V resultatives because Mandarin V-V resultatives are compounds.

Predictions

Claim: Mandarin V-V resultatives have more flexibility in argument realisation than *V-de* resultatives because Mandarin V-V resultatives are morphological compounds whereas *V-de* resultatives are built in syntax.



- 1 V-V resultatives are inaccessible to syntactic operations. ★
- 2 Since *V-de* phrasal resultatives are not compounds, V1 must project its internal argument.

Prediction #1

V-V compound resultative:

- (31) *Bǎobao kū - xǐng -le māma.*
 baby cry-awake-PFV mother
 ‘The baby cried Mother awake.’

V-*de* phrasal resultative:

- (32) *Bǎobao kū de [māma xǐng -le].*
 baby cry DE mother awake-PFV
 ‘The baby cried until/ and as a result Mother woke up.’

Prediction #1

V1 in a V-*de* phrasal resultative can be independently modified...

Context: The baby cried at home until the neighbours woke up next door.

- (33) Bǎobao zài jiā lǐ kǔ de [línjū xǐng -le].
 baby at house inside cry DE neighbour awake-PFV

‘The baby cried at home until the neighbours woke up (next door).’

...whereas V1 in a V-V compound resultative cannot be independently modified.

Context: same as above.

- (34) *Bǎobao zài jiā lǐ kǔ - xǐng -le línjū.
 baby at house inside cry-awake-PFV neighbour

Intended: ‘The baby cried at home until the neighbours woke up (next door).’

Prediction #1

V2 in a V-*de* phrasal resultative can be independently modified...

- (35) *Bǎobao* **kū** *de* [*māma* *mímíhúhúde* **xǐng** -*le*].
 baby cry DE mother in.a.daze awake-PFV

‘The baby cried until Mother woke up in a daze.’

...whereas V2 in a V-V compound resultative cannot be independently modified.

- (36) *Bǎobao* **kū** - (**mímíhúhúde*) - **xǐng** -*le* (**mímíhúhúde*) *māma*
 baby cry- in.a.daze -awake-PFV in.a.daze mother
 (**mímíhúhúde*).
 in.a.daze

‘The baby cried and as a result Mother woke up (*in a daze).’

See Appendix for a discussion of apparent exceptions involving *V-de/bu-V* constructions and *A-not-A* questions with *V1*.

Predictions

Claim: Mandarin V-V resultatives have more flexibility in argument realisation than *V-de* resultatives because Mandarin V-V resultatives are morphological compounds whereas *V-de* resultatives are built in syntax.



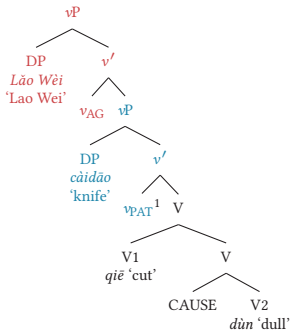
- 1 V-V resultatives are inaccessible to syntactic operations.
- 2 Since *V-de* phrasal resultatives are not compounds, V1 must project its internal argument. ★

Competing accounts

My proposal departs from those of Williams (2005) and Huang (2006), who claim that Mandarin verbs never project any arguments.

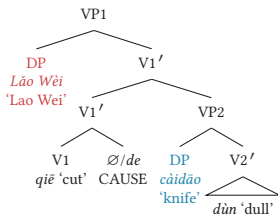
Williams (2005):

(37)



Huang (2006):

(38) [x CAUSE-<MANNER> [BECOME [y <STATE>]]]

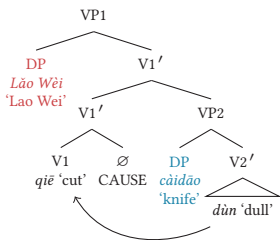


¹Williams assumes that patients are introduced “by means of a semantic rule that applies at VP”, but allows that “[o]thers might prefer to posit a head that denotes the patient relation”.

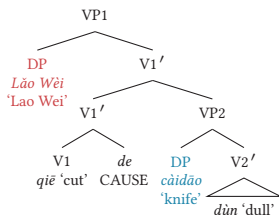
Competing accounts

Williams's and Huang's claim: V-V and V-*de* resultatives have the same basic structure.

(39) *LW* **qiē** - **dùn** -*le* *càidāo*.
LW cut-dull-PFV knife



(40) *LW* **qiē** -*de* [*càidāo* **dùn** -*le*].
LW cut-DE knife dull-PFV



★ Williams's and Huang's prediction: V1 does not project any arguments in either V-V or V-*de* resultatives.

Competing accounts

According to such proposals, the **postverbal DP (=DP2)** need not be interpreted as the internal argument of V1.

intransitive **V1** :

- (41) Mǎlì **kū** de [yǎnjīng] **hóng** -le].
 Mary cry DE eye red-PFV
 ‘Mary cried her eyes red.’
-

transitive **V1** :

- (42) Wǒ (qiē nà gēn gǔtóu) **qiē** de [càidāo] **dùn** -le].
 I cut that CL bone cut DE knife dull-PFV
 ‘I cut (that bone) and as a result the knife became dull.’
-

V-*de* resultatives with transitive V1

Why are V-*de* resultatives with DP2 that is interpreted as the theme of V1 degraded (Zhang 2001; Zhang 2020)?

Q: *Zěnme le?* ‘What happened?’

- (43) **Mǎli rǎn de [tóufà hóng -le].*
 Mary dye DE hair red-PFV

Intended: ‘Mary dyed her hair red.’

(n=15, mean=1.8, SD=0.9)

- (44) *Mǎli kū de [yǎnjīng hóng -le].*
 Mary cry DE eye red-PFV

‘Mary cried her eyes red.’

(n=15, mean=6.1, SD=1.2)

V-*de* resultatives with transitive V1

There is no comparable contrast in V-V resultatives.

Q: *Zěnmē le?* ‘What happened?’

- (45) *Mǎlì rǎn-hóng -le tóufà.*
 Mary dye-red-PFV eye
-

‘Mary dyed her hair red.’

(n=15, mean=5.3, SD=1.7)

- (46) *Mǎlì kū-hóng -le yǎnjīng.*
 Mary cry-red-PFV eye
-

‘Mary cried her eyes red.’

(n=15, mean=5.8, SD=1.1)

V-de resultatives with transitive V1

- ★ Williams's and Huang's proposals fail to explain why some *V-de* resultatives with transitive V1 are degraded.

Interim recap ★

- ★ Claim: Mandarin V-V resultatives have more flexibility in argument realisation than *V-de* resultatives because Mandarin V-V resultatives are morphological compounds whereas *V-de* resultatives are built in syntax.
 - ★ Prediction #1: V-V resultatives are inaccessible to syntactic operations.
 - ★ Prediction #2: V1 must project its internal argument in *V-de* phrasal resultatives but not in V-V compound resultatives.
- ★ In contrast, Williams and Huang predict that V1 does not project any arguments in either V-V or *V-de* resultatives.
 - ★ But their proposals fail to predict why some *V-de* resultatives with transitive V1 are degraded.

V-*de* resultatives with transitive V1

Why then are some V-*de* resultatives with transitive V1 degraded?

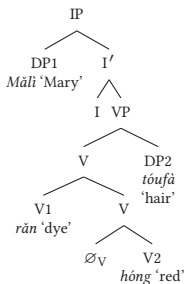
This can be explained if we assume that:

- ★ V-*de* and V-V resultatives have different structures, and
- ★ Transitive V1 must project its internal argument in V-*de* but not in V-V resultatives.

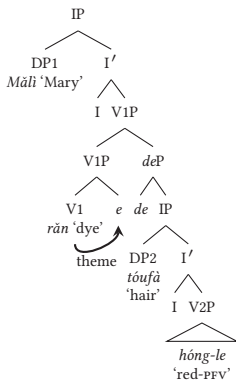
Analysis of V-*de* resultatives with transitive V1

Claim: Transitive V1 must project its internal argument in a V-*de* resultative.

(47) V-V:

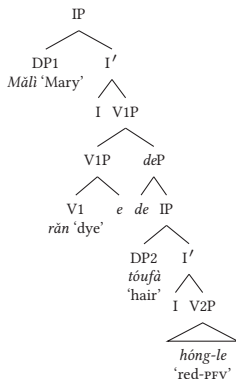


(48) V-*de*:



Analysis of V-*de* resultatives with transitive V1

- 1 The *de*-phrase is an adjunct. (49)
- 2 The internal argument of V1 must be phonologically null.
- 3 *pro* cannot depend on an antecedent to its right.



Analysis of V-*de* resultatives with transitive V1

V1 in a V-*de* phrasal resultative can be independently modified.

Context: The baby cried at home until the neighbours woke up next door.

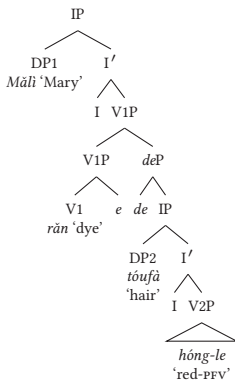
(50) *Bǎobao zài jiā lǐ kū de [línjū xǐng -le].*
 baby at house inside cry DE neighbour awake-PFV

‘The baby cried at home until the neighbours woke up (next door).’

Analysis of V-*de* resultatives with transitive V1

- 1 The *de*-phrase is an adjunct. (51)
- 2 The internal argument of V1 must be phonologically null.
- 3 *pro* cannot depend on an antecedent to its right.

See Appendix for a discussion of **wh**-questions and **A-not-A** questions in V-*de* resultatives.



Analysis of V-*de* resultatives with transitive V1

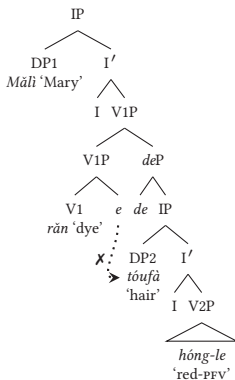
The internal argument of V1 must be phonologically null.

- (52) **Zhāngsān* **tī** *qiú* *de* [*jiǎo* **zhǒng** -*le*].
 Zhangsan kick ball DE foot swollen-PFV

Intended: ‘Zhangsan kicked the ball and as a result his feet became swollen.’

Analysis of V-*de* resultatives with transitive V1

- 1 The *de*-phrase is an adjunct.
- 2 The internal argument of V1 must be phonologically null.
- 3 *pro* cannot depend on an antecedent to its right.



Analysis of V-*de* resultatives with transitive V1

In general, a pronoun can only be referentially dependent on an antecedent to its left (Williams 1994, 1997).

(54) *His_i mother likes JOHN_i.

(55) His_i mother LIKES John_i.


Analysis of V-*de* resultatives with transitive V1

Q: *Zěnme le?* ‘What happened?’

- (56) **Mǎli rǎn pro de [tóufà hóng -le].*
 Mary dye DE hair red-PFV

Intended: ‘Mary dyed her hair red.’

(n=15, mean=1.8, SD=0.9)

- (57) *Mǎli kū de [yǎnjīng hóng -le].*
 Mary cry DE eye red-PFV
- 

‘Mary cried her eyes red.’

(n=15, mean=6.1, SD=1.2)

Analysis of V-*de* resultatives with transitive V1

Q: *Zěnme le?* ‘What happened?’

- (58) *Mǎli rǎn-hóng -le tóufà.*
 Mary dye-red-PFV eye
 ‘Mary dyed her hair red.’
-

(n=15, mean=5.3, SD=1.7)

- (59) *Mǎli kū-hóng -le yǎnjīng.*
 Mary cry-red-PFV eye
 ‘Mary cried her eyes red.’
-

(n=15, mean=5.8, SD=1.1)


Analysis of V-*de* resultatives with transitive V1

Q: *Zěnme le?* ‘What happened?’

- (60) **Bǎobao* **tī** *pro de* [*māma* **xǐng** -*le*].
 baby kick DE mother awake-PFV

Intended: ‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=2.9, SD=1.3)

- (61) *Bǎobao* **nào** *de* [*māma* **xǐng** -*le*].
 baby make.noise DE mother awake-PFV
- 

‘The baby made noise and as a result Mother became awake.’

(n=15, mean=4.9, SD=2.0)


Analysis of V-*de* resultatives with transitive V1

Q: *Zěnme le?* ‘What happened?’

- (62) *Bǎobao* **tī**-**xǐng** -*le* *māma*.
 baby kick-awake-PFV mother
- 

‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=6.0, SD=1.4)

- (63) *Bǎobao* **nào**-**xǐng** -*le* *māma*.
 baby make.noise-awake-PFV mother
- 

‘The baby made noise and as a result Mother became awake.’

(n=15, mean=6.0, SD=1.4)

Analysis of V-*de* resultatives with transitive V1

It has been reported in the literature, however, that some V-*de* resultatives headed by transitive V1 are grammatical.

- (64) Bǎoyù **zhuī** de [Dàiyù qìchuǎnxūxū].
 Baoyu chase DE Daiyu pant
 ‘Baoyu chased Daiyu and as a result Daiyu gasped.’ (Zhang 2001:217)
-

- (65) Wūsōng **dǎ** de [lǎohǔ liúxuě-le].
 Wusong beat DE tiger bleed-PFV
 ‘Wusong beat the tiger so that it bled.’ (Zhang 2001:192)
-

Analysis of V-*de* resultatives with transitive V1

Q: *Māma zěnme le?* ‘What happened to Mother?’

(66) ??*Bǎobao tī pro de [māma xǐng -le].*
 baby kick DE mother awake-PFV

Intended: ‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=3.3, SD=1.6)

(67) *Bǎobao nào de [māma xǐng -le].*
 baby make.noise DE mother awake-PFV

‘The baby made noise and as a result Mother became awake.’

(n=15, mean=4.9, SD=1.8)

See Appendix for a discussion of **why the improvement in (66) is so marginal.**

Analysis of V-*de* resultatives with transitive V1

Q: *Māma zěnme le?* ‘What happened to Mother?’

- (68) *Bǎobao* **tī**-**xǐng**-*le* *māma*.
 baby kick-awake-PFV mother
-

‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=5.2, SD=1.6)

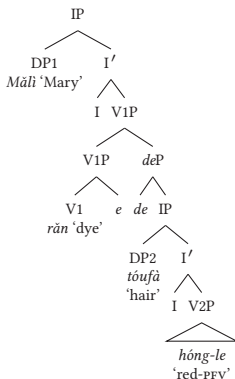
- (69) *Bǎobao* **nào**-**xǐng**-*le* *māma*.
 baby make.noise-awake-PFV mother
-

‘The baby made noise and as a result Mother became awake.’

(n=15, mean=5.4, SD=1.6)

Analysis of V-*de* resultatives with transitive V1

- 1 The *de*-phrase is an adjunct.
- 2 The internal argument of V1 must be phonologically null.
- 3 *pro* cannot depend on an antecedent to its right.



Interim recap ★

- ★ In *V-de* resultatives, V1 must project its internal argument.
- ★ In *V-V* resultatives, V1 does not project its internal argument.
- ★ Whether V1 projects its arguments in a Mandarin resultative depends on the structure of the resultative in which V1 appears.

Compound vs phrasal resultatives across languages

- ★ It may be possible to generalise this conclusion to explain the differences between compound and phrasal resultatives cross-linguistically.

Compound vs phrasal resultatives across languages

- Mandarin compound resultatives:

(71) *Mǎli* **rǎn**-**hóng**-*le* *tóufà*.
 Mary dye-red-PFV eye
 ‘Mary dyed her hair red.’

- Mandarin phrasal resultatives:

(72) **Mǎli* **rǎn** *de* [*tóufà* **hóng**-*le*].
 Mary dye DE hair red-PFV
 Intended: ‘Mary dyed her hair red.’

Compound vs phrasal resultatives across languages

■ Japanese compound resultatives:

(73) *John-wa niwatori-o sime-korosi -ta.*
 John-TOP chicken-ACC choke-kill-PST

‘John choked the chicken to death.’

(Nishiyama 1998:194)

(Note: *kubi* ‘neck’ must be realised as the internal argument of *sime-* ‘choke’ in a simple clause.)

■ Japanese phrasal resultatives:

(74) **John-ga huku-o buruu -ni nut-ta.*
 John-NOM clothes-ACC blue-NI paint-PST

Intended: ‘John painted something (e.g. the wall) and as a result his clothes became blue.’

Compound vs phrasal resultatives across languages

- English phrasal resultatives:

(75) *The bears **frightened** the campground **empty**. (Carrier and Randall 1992:187)

- Dutch phrasal resultatives:

(76) **dat Jan zijn handen moe breekt*
 that John his hands tired breaks

Intended: 'that John breaks [something] and as a result his hands became tired'
 (Neeleman 1994:141, translation mine)

Conclusion ★

- ★ Whether V1 projects its arguments in a Mandarin resultative depends on the structure of the resultative in which V1 appears.
- ★ It may be possible to generalise this conclusion to explain the differences between compound and phrasal resultatives cross-linguistically.
- ★ This proposal has implications for other questions like whether verbs select their arguments and whether there is a distinction between morphology and syntax.

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Apparent exceptions to prediction #1

Apparent exception #1: V-*de/bu*-V constructions

- (77) *Zhāngsān xǐ-{de/bu}-gānjìng zhè xiē yīfu.*
 Zhangsan wash-DE/BU-clean this CLF clothes
 ‘Zhangsan {can/cannot} wash these clothes clean.’

But V-*de/bu*-V constructions are also inaccessible to syntactic operations.

- (78) *Zhāngsān xǐ-{de/bu}- (*fēicháng) -gānjìng (*fēicháng) zhè xiē yīfu*
 Zhangsan wash-DE/BU- extremely clean extremely this CLF clothes
 (**fēicháng*).
 extremely
 ‘Zhangsan {can/cannot} wash these clothes (*extremely) clean.’

Apparent exceptions to prediction #1

Apparent exception #2: A-not-A question with V1 in a V-V resultative

(79) *Zhāngsān xǐ-méi-xǐ-gānjìng zhè xiē yīfu?*
 Zhangsan wash-not-wash-clean this CLF clothes

‘Did Zhangsan wash these clothes clean or did he not wash these clothes clean?’

But (79) could be analysed as an A-not-A question formed from the entire compound, not just V1.

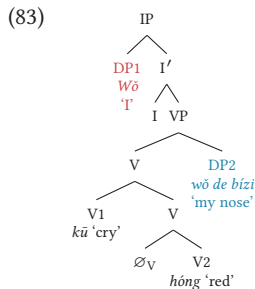
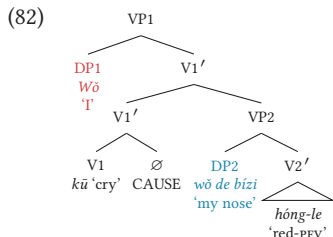
(80) *Tā xǐ-bù-xǐhuān zhè běn shū?*
 he li-not-like this CLF book

‘Does he like or not like this book?’

(Hagstrom 2017)

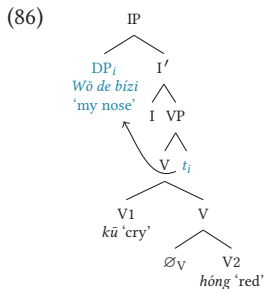
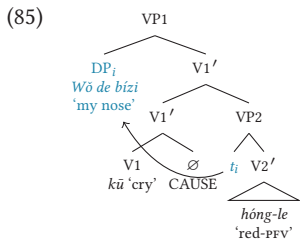
wh-questions in V-V vs V-*de* resultatives

- (81) *Wǒ kū - hóng -le wǒ de bízi.*
 I cry-red-PFV 1SG DE nose
 'I cried my nose red.'



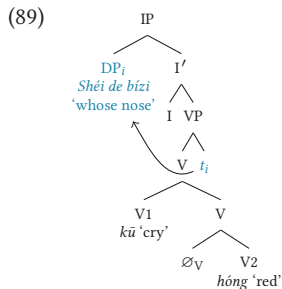
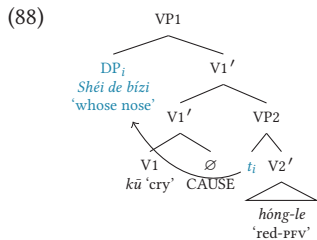
wh-questions in V-V vs V-*de* resultatives

- (84) *Wǒ de bízi kū - hóng -le.*
 1SG DE nose cry-red-PFV
 ‘My nose [was] cried red.’



wh-questions in V-V vs V-*de* resultatives

- (87) *Shéi de bízi kū - hóng -le?*
 who DE nose cry-red-PFV
 'Whose nose [was] cried red?'



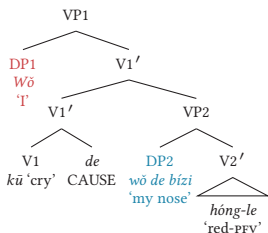
wh-questions in V-V vs V-*de* resultatives

(90) *Wǒ kǔ de [wǒ de bízi hóng -le].*

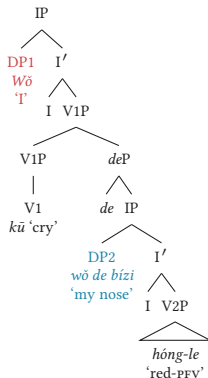
I cry DE 1SG DE nose red-PFV

'I cried my nose red.'

(91)



(92)

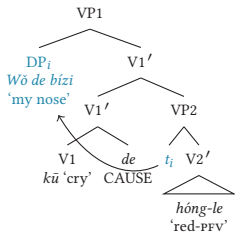


wh-questions in V-V vs V-*de* resultatives

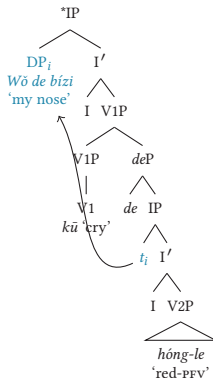
(93) [*Wǒ de bízi*]_i **kū** de [*e* **hóng** -le].
 1SG DE nose cry DE red-PFV

'My nose [was] cried red.'

(94)



(95)

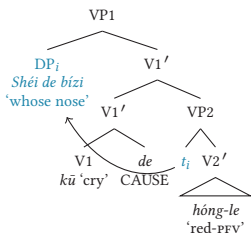


wh-questions in V-V vs V-*de* resultatives

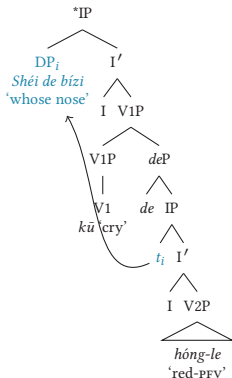
(96) **[Shéi de bízi]_i kǔ de [e_i hóng -le]?*
 who DE nose cry DE red-PFV

‘Whose nose [was] cried red?’

(97)



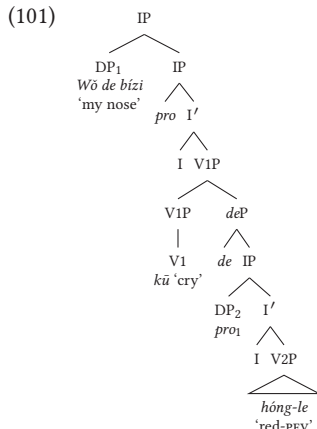
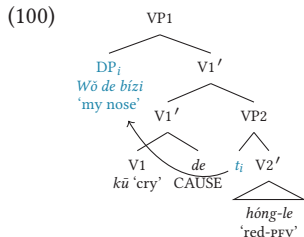
(98)



wh-questions in V-V vs V-*de* resultatives

(99) [*Wǒ de bǐzi*]_i **kū** *de* [*e* **hóng** -*le*].
 1SG DE nose cry DE red-PFV

'My nose [was] cried red.'



A-not-A questions in *V-de* resultatives

It has been claimed that the *de*-phrase in a *V-de* resultative is a complement because it can contain A-not-A questions.

(102) *Tā pǎo dé [(rén) lèi-bù-lèi]?*

he run DE person tired-not-tired

‘Is he tired because of the running?’

(Li, Yen-hui Audrey 1990:57)

This claim is based on the view that A-not-A questions are formed via covert movement of a question operator (Huang 1982 *et seq.*).

The evidence cited in support of this view is that A-not-A question formation is sensitive to islands: embedded A-not-A questions can take matrix scope if they are embedded in complement clauses but not in islands.

A-not-A questions in V-*de* resultatives

However, there is some debate as to whether A-not-A questions that are embedded in complement clauses can indeed take matrix scope.

(103) *Nǐ juéde [tā huì-bù-huì shēngqì]?*
 you feel he will-not-will get.angry

‘Do you think he will be angry?’

(Huang 1991:123)

Or: ‘Will he be angry, do you think?’

(parenthetical reading, McCawley 1994)

(104) **Lǐsì xǐhuān [wǒmen hē-bù-hē píjiǔ]?*
 Lisi like we drink-not-drink beer

‘Does Lisi like for us to drink beer?’

(McCawley 1994)

A-not-A questions in *V-de* resultatives

Jia (2015) shows that in a question where an embedded A-not-A question apparently takes matrix scope, a quantified matrix subject cannot bind a variable in the embedded object.

(105) *Měi gè rén_i dōu juéde [Zhāngsān_j xǐ-bù-xǐhuān zìjǐ_{j/*i}]?
 every CLF person all think Zhangsan like-not-like self*

‘Does everyone_i think that Zhangsan_j likes him_i/himself_j or does everyone think that Zhangsan_j does not like him_i/himself_j?’

(Jia 2015, translation mine)

A-not-A questions in *V-de* resultatives

Suppose we assume an analysis of A-not-A questions in which the A-not-A question operator does not move, but generates a set of binary propositions in situ (Jia 2015).

If so, one cannot conclude that the *de*-phrase must be a complement simply because it can contain an A-not-A question.

Analysis of V-*de* resultatives with transitive V1

Why is the improvement in (107) so marginal?

Q: *Zěnme le?* ‘What happened?’

(106) **Bǎobao tī pro de [māma xǐng -le].*
 baby kick DE mother awake-PFV

Intended: ‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=2.9, SD=1.3)

Q: *Māma zěnme le?* ‘What happened to Mother?’

(107)?*Bǎobao tī pro de [māma xǐng -le].*
 baby kick DE mother awake-PFV

Intended: ‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=3.3, SD=1.6)

Analysis of *V-de* resultatives with transitive V1

The comparable English sentence in (110) improves significantly.

You: What happened?

Dad:

(108) The baby **kicked** her until Mother woke up. (n=5, mean=2.6, SD=1.3)

(109) The baby **cried** until Mother woke up. (n=5, mean=7.0, SD=0.0)

You: What happened to Mother?

Dad:

(110) The baby **kicked** her until Mother woke up. (n=5, mean=5.0, SD=1.0)

(111) The baby **cried** until Mother woke up. (n=5, mean=6.2, SD=1.8)

Analysis of V-*de* resultatives with transitive V1

pro in Mandarin has fewer referential possibilities than an overt pronoun.

In a pragmatically neutral context, *pro* in the object position of an embedded clause cannot corefer with a **matrix subject**.

- (112) *Zhāngsān_i shuō* [*{ta_i/ e_i}* *bù rènshì Lǐsì*].
 Zhangsan say he not know Lisi
 ‘Zhangsan said that [he] did not know Lisi.’

(adapted from Huang 1984:537)

- (113) *Zhāngsān_i shuō* [*Lǐsì bù rènshì {ta_i/ *e_i}*].
 Zhangsan say Lisi not know him
 ‘Zhangsan said that Lisi did not know [him].’

(adapted from Huang 1984:537)

Analysis of V-*de* resultatives with transitive V1

pro in Mandarin has fewer referential possibilities than an overt pronoun.

In a pragmatically neutral context, *pro* in the object position of an embedded clause cannot corefer with a **topic**.

- (114) *Zhāngsān_i, tā_i shuō [tā_i/ e_i] méi kànjiàn Lǐsì].*
 Zhangsan he say he no see Lisi
 ‘Zhangsan_i, he_i said that he_i didn’t see Lisi.’

(adapted from Huang 1984:558)

- (115) *Zhāngsān_i, tā_i shuō [Lǐsì méi kànjiàn {tā_i/ *e_i}].*
 Zhangsan he say Lisi no see him
 ‘Zhangsan_i, he_i said that Lisi didn’t see [him_i].’

(adapted from Huang 1984:558)

Analysis of *V-de* resultatives with transitive V1

Given that *pro* in *V-de* resultatives with a transitive V1 is in an object position, it may be that *pro* is relatively limited in its ability to refer to a topic.

This could be why (116) does not improve dramatically in a context where Mother is already mentioned in the contextual question.

(116)? *Bǎobao* **tī** *pro* *de* [*māma* **xǐng** -*le*].
 baby kick DE mother awake-PFV

Intended: ‘The baby kicked (Mother) and as a result Mother became awake.’

(n=15, mean=3.3, SD=1.6)