

# Compound vs phrasal resultatives: the view from Mandarin Chinese

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# Puzzle

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

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

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

# Puzzle

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

(3) \***[The metal]<sub>i</sub> hammered <sub>t<sub>i</sub></sub> flat.**



or an obligatory **theme**.

(4) \***John hammered his back sore.**



## Puzzle

In Mandarin V-V resultatives, V1 can omit its **agent**...

- (5) *Yīfú<sub>i</sub>* **xǐ-** **gānjìng-** *le* *t<sub>i</sub>*.  
 clothes wash- clean- PFV
- 

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

(Williams 2005:161)

or its **theme**.

- (6) *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)

# Claim

- ★ V1 does not project any arguments in Mandarin V-V resultatives...  
...because ~~Mandarin verbs never select any arguments.~~  
...because Mandarin V-V resultatives are compounds.

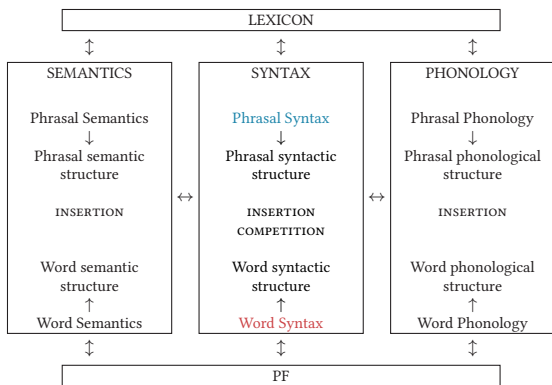


- Do verbs (or verbal roots) select their arguments?
- Is there a distinction between morphology and syntax?

# Proposal

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

(7)



(Ackema and Neeleman 2004:4)

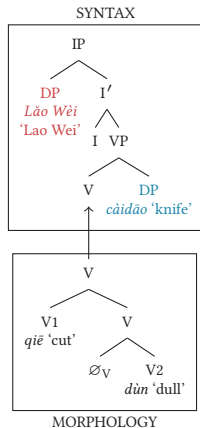
# Proposal

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

- (8) *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)

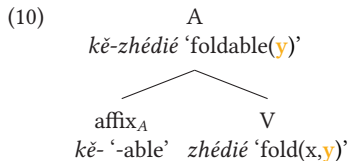
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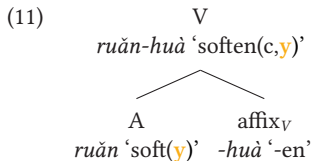
# Proposal

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

Affixes can suppress arguments...



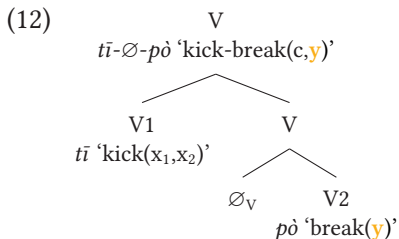
...or introduce arguments.





## Proposal

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



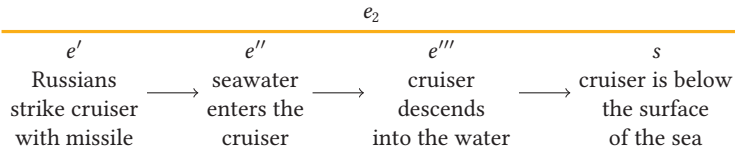
Why the asymmetry between V1 and V2?

# Proposal

∅ adds an onset or a causing subevent  $e_1$  to a macroevent  $e_2$  (Kratzer 2005; Neeleman and Van de Koot ms).

- (13) *Éjūn chén-le yī sōu xúnyángjiàn.*  
 Russian.forces sink-PFV one CL cruiser

‘Russian forces sank a cruiser.’<sup>1</sup>



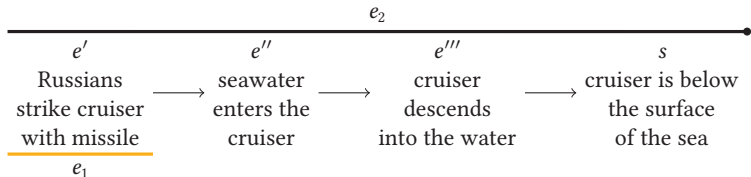
<sup>1</sup><https://www.163.com/dy/article/H5347KCG05430QIJ.html>

## Proposal

∅ adds an onset or a causing subevent  $e_1$  to a macroevent  $e_2$  (Kratzer 2005; Neeleman and Van de Koot ms).

- (14) *Ējūn*                      *jī-∅-chén-le*                      *yī sōu xúnyángjiàn.*  
 Russian.forces   strike-∅-sink-PFV   one CL   cruiser

‘A cruiser sank as a result of Russian forces striking [it].’



## Proposal

$\emptyset$  adds an onset or a causing subevent (CE)  $e_1$  to a macroevent  $e_2$ .

$$(15) \llbracket \emptyset \rrbracket = \dots \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \dots]$$

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

$$(16) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \dots \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \wedge \dots \wedge R_2(e_2, \dots) \wedge R_1(e_1, \dots)]$$

$\emptyset$  introduces its own argument structure: a cause and a theme.

$$(17) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \wedge \text{Cause}(e_2) = c \wedge \text{Theme}(e_2) = y \wedge R_2(e_2, \dots) \wedge R_1(e_1, \dots)]$$

## Proposal

$\emptyset$  binds all available arguments of the main event  $e_2$  denoted by V2...

$$(18) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \dots \exists e_1. [CE(e_2) = e_1 \wedge Cause(e_2) = c \wedge Theme(e_2) = y \wedge R_2(e_2, y) \wedge R_1(e_1, \dots)]$$

but none of the arguments of the causing subevent  $e_1$  denoted by V1.

$$(19) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \exists \mathbf{x}_2 \exists \mathbf{x}_1 \exists e_1. [CE(e_2) = e_1 \wedge Cause(e_2) = c \wedge Theme(e_2) = y \wedge R_2(e_2, y) \wedge R_1(e_1, \mathbf{x}_1, \mathbf{x}_2)]$$

$\therefore$  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: In Mandarin V-V resultatives, V1 does not project any arguments because Mandarin V-V resultatives are compounds.



- 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:

- (20) *Lǎoshī* **mà** - **kū** -le *Zhāngsān*.  
 teacher scold-cry-PFV Zhangsan

‘Teacher scolded [Zhangsan] and as a result Zhangsan cried.’

V-*de* construction ( $\approx$ “phrasal resultative”):

- (21) *Lǎoshī* **mà** -de [*Zhāngsān* **kū** -le].  
 teacher scold-DE Zhangsan cry-PFV

‘Teacher scolded [Zhangsan] until/ and as a result Zhangsan cried.’



## Prediction #1

The components of a V-V compound resultative cannot be independently modified...

- (22) *Lǎoshī* **mà** - (*\*dashengde*) - **kū** -le (*\*dashengde*) Z. (*\*dàshēngde*).  
 teacher scold- loudly cry-PFV loudly Z. loudly  
 ‘Teacher scolded [Zhangsan] and as a result Zhangsan cried (\*loudly).’

...whereas those of a V-*de* phrasal resultative can.

- (23) *Lǎoshī* **mà** -de [*Zhāngsān* (*dàshēngde*) **kū** -le].  
 teacher scold-DE Zhangsan loudly cry-PFV  
 ‘Teacher scolded [Zhangsan] until/ and as a result Zhangsan cried (loudly).’

See Fan (2016).

## Predictions

Claim: In Mandarin V-V resultatives, V1 does not project any arguments because Mandarin V-V resultatives are compounds.



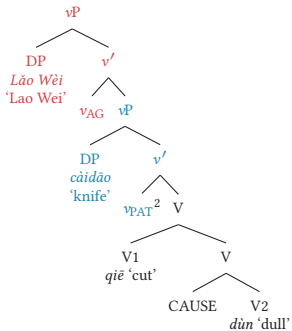
- 1 V-V resultatives are inaccessible to syntactic operations.
- 2 Since *V-de* phrasal resultatives are not compounds, V1 must project its internal argument. ★

## Competing accounts

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

Williams (2005):

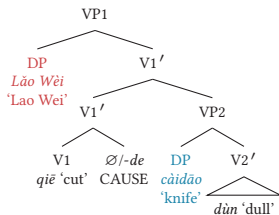
(24)



<sup>2</sup>Williams 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”.

Huang (2006):

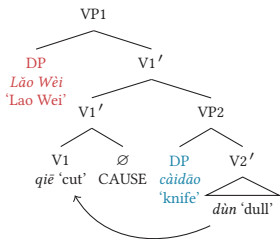
(25) [x CAUSE-<MANNER> [BECOME [y <STATE>]]]



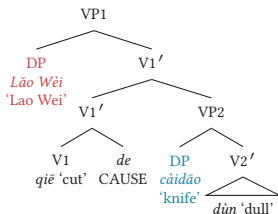
## Competing accounts

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

(26) *Wǒ qiē - dùn -le cùidāo.*  
I cut-dull-PFV knife



(27) *Wǒ qiē -de [cùidāo dùn -le].*  
I 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** :

- (28) *Ākiū chàng-de [liǎng gè háizi kū -le].*  
 Akiu sing-DE two CL child cry-PFV  
 ‘Akiu sang and as a result two children cried.’
- 

transitive **V1** :

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

## V-*de* with transitive V1, DP2 $\neq$ theme of V1

Problem 1: Why are V-*de* resultatives with (i) transitive V1 and (ii) DP2 that is not interpreted as the theme of V1 degraded?

Q: *Zěnme le?* ‘What happened?’

- (30) ?*Wǒ qiē-de [càidāo] (dōu) dùn -le.*  
 I cut-DE knife even dull-PFV  
 ‘I cut [something] and as a result (even) the knife became dull.’

- (31) *Wǒ qiē- dùn -le càidāo.*  
 I cut-dull-PFV knife  
 ‘The knife became dull from me cutting [something].’

# V-*de* with transitive V1, DP2 $\neq$ theme of V1

	transitive V1		intransitive V1	
theme of V1 =DP2?				
V- <i>de</i>	?			–
V-V	✓			–

## V-*de* with DP2 = theme of V1

Problem 2: 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?’

- (32) \**Ākiū* **dǎ**-*de* [*liǎng gè hái*zi] **kū**-*le*.  
 Akiu beat-DE two CL child cry-PFV
- 

Intended: ‘Akiu beat [two non-specific children] and as a result [those] two children cried.’  
 (adapted from Zhang 2001:207)

- (33) *Ākiū* **chàng**-*de* [*liǎng gè hái*zi] **kū**-*le*.  
 Akiu sing-DE two CL child cry-PFV
- 

‘Akiu sang and as a result two children cried.’



# V-*de* with DP2 = theme of V1

	transitive V1		intransitive V1	
theme of V1 =DP2?				
V- <i>de</i>	?	✗	✓	–
V-V	✓			–

## V-*de* with DP2 = theme of V1

There is no comparable contrast in V-V resultatives.

Q: *Zěnme le?* ‘What happened?’

- (34) *Ākiū dǎ-kū-le liǎng gè háizi.*  
 Akiu beat-cry-PFV two CL child  
 ‘Akiu beat [two children] and as a result [those] two children cried.’
- 

- (35) *Ākiū chàng-kū-le liǎng gè háizi.*  
 Akiu sing-cry-PFV two CL child  
 ‘Akiu sang and as a result two children cried.’
-

# V-*de* with DP2 = theme of V1

	transitive V1		intransitive V1	
theme of V1 =DP2?				
V- <i>de</i>	?	X	✓	–
V-V	✓	✓	✓	–

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

## Interim recap ★

- ★ Claim: V1 does not project any arguments in Mandarin V-V resultatives because Mandarin V-V resultatives are compounds.
  - ★ 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 *V-de* resultatives with transitive V1 are degraded.

## V-*de* resultatives with transitive V1

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

	transitive V1		intransitive V1	
theme of V1 =DP2?				
V- <i>de</i>	?	X	✓	–
V-V	✓	✓	✓	–

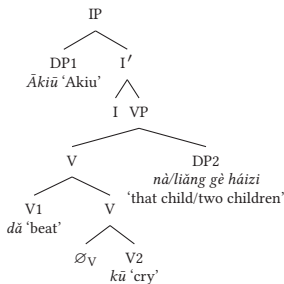
This pattern can be explained if we assume that:

- ★ 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.

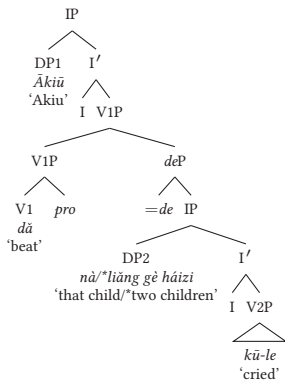
# Analysis of V-*de* resultatives with transitive V1

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

(36) V-V:



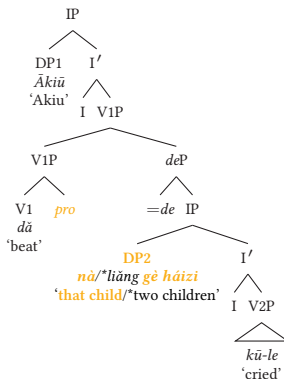
(37) V-*de*:



# Analysis of V-*de* resultatives with transitive V1

Predictions:

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (38)
- 2 *pro* is not licensed by a non-specific antecedent.
- 3 *pro* is not licensed if there is no antecedent.
- 4 The internal argument of V1 must be *pro*.



## Analysis of V-*de* resultatives with transitive V1

In general, a pronoun cannot be linked to a DP to its right...

(39) What happened?

\*The queen knighted **him**<sub>1</sub> because **John**<sub>1</sub> was brave.

...unless the referent of that DP is already active in the discourse.

(40) What happened to **John**<sub>1</sub>?

?The queen knighted **him**<sub>1</sub> because **John**<sub>1</sub> was brave.



## Analysis of V-*de* resultatives with transitive V1

For some speakers, *pro* can be linked to DP2 with a specific referent.

- (41) Bǎoyù **zhuī** *pro*<sub>1</sub> =*de* [Dǎiyù<sub>1</sub> qìchǔǎnxūxū].  
 Baoyu chase =DE Daiyu pant
- 

‘Baoyu chased Daiyu and as a result Daiyu gasped.’

(Zhang 2001:217)

- (42) Wūsōng **dā** *pro*<sub>1</sub> =*de* [lǎohǔ<sub>1</sub> 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

For some speakers, *pro* can be linked to DP2 with a specific referent.

Zěnme le?

how LE

‘What happened?’

- (43) ✓/??Kāitè wángfēi **dǎ** *pro*<sub>1</sub> =de [Méigēn<sub>1</sub> **kū** -le].  
 Kate princess hit =DE Meghan cry-PFV
- 

‘Princess Kate hit Meghan and as a result Meghan cried.’

- (44) Kāitè wángfēi **nào** =de [Méigēn<sub>1</sub> **kū** -le]  
 Kate princess make.noise =DE Meghan cry-PFV

‘Princess Kate made noise and as a result Meghan cried.’

## Analysis of V-*de* resultatives with transitive V1

For some speakers, *pro* can be linked to DP2 with a specific referent.

*Kǎitè wángfēi hé Méigēn<sub>1</sub> zěnmē le?*

Kate princess and Meghan how LE

‘What happened to Princess Kate and Meghan?’

- (45) ✓/?*Kǎitè wángfēi dǎ pro<sub>1</sub> =de [Méigēn<sub>1</sub> kū -le].*  
 Kate princess hit =DE Meghan cry-PFV
- 

‘Princess Kate hit Meghan and as a result Meghan cried.’

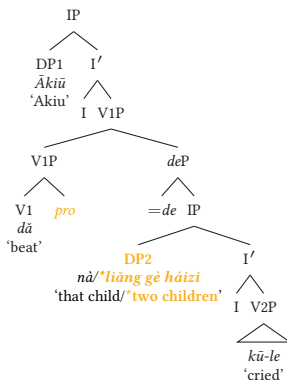
- (46) *Kǎitè wángfēi nào =de [Méigēn<sub>1</sub> kū -le]*  
 Kate princess make.noise =DE Meghan cry-PFV

‘Princess Kate made noise and as a result Meghan cried.’

# Analysis of V-*de* resultatives with transitive V1

Predictions:

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (47)
- 2 *pro* is not licensed by a non-specific antecedent.
- 3 *pro* is not licensed if there is no antecedent.
- 4 The internal argument of V1 must be *pro*.



## Analysis of V-*de* resultatives with transitive V1

*pro* is not licensed by a non-specific antecedent.

- (48) *Xuéxiào zài zhǎo [yī gè yīngwén lǎoshī]<sub>1</sub>.*  
 school PROG look.for one CL English teacher  
*Xiàozhǎng xīwàng xuéshēng huì xǐhuān {?pro<sub>1</sub>/ tā<sub>1</sub>}.*  
 principal hope student will like pro 3s  
 ‘The school is looking for [an English teacher]<sub>1</sub>.  
 The principal hopes the students will like her/him<sub>1</sub>.’
- (49) *Xuéxiào qǐng-le [yī gè yīngwén lǎoshī]<sub>1</sub>.*  
 school hire-PFV one CL English teacher  
*Xiàozhǎng xīwàng xuéshēng huì xǐhuān {pro<sub>1</sub>/ tā<sub>1</sub>}.*  
 principal hope student will like pro 3s  
 ‘The school hired [an English teacher]<sub>1</sub>.  
 The principal hopes the students will like her/him<sub>1</sub>.’

## Analysis of V-*de* resultatives with transitive V1

*pro* is not licensed by a non-specific antecedent.

- (50) \**Ākiū* **dǎ** *pro*<sub>1</sub> =*de* [[*liǎng gè hái*zǐ]<sub>1</sub>] **kū** -*le*.  
 Akiu beat =DE two CL child cry-PFV
- 

‘Akiu beat [two (non-specific) children] and as a result [those] two children cried.’

- (51) *Ākiū* **chàng** =*de* [[*liǎng gè hái*zǐ]<sub>1</sub>] **kū** -*le*.  
 Akiu sing =DE two CL child cry-PFV

‘Akiu sang and as a result two children cried.’

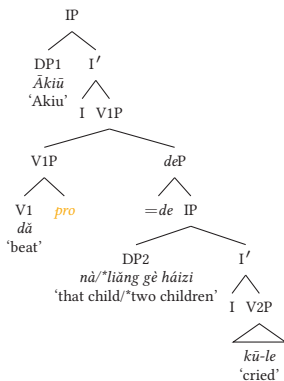
# Analysis of V-*de* resultatives with transitive V1

	transitive V1		intransitive V1	
theme of V1 =DP2?				
V- <i>de</i>	?	X	✓	–
V-V	✓	✓	✓	–

# Analysis of V-*de* resultatives with transitive V1

Predictions:

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (52)
- 2 *pro* is not licensed by a non-specific antecedent.
- 3 *pro* is not licensed if there is no antecedent.
- 4 The internal argument of V1 must be *pro*.





## Analysis of V-*de* resultatives with transitive V1

*pro* is not licensed if there is no antecedent.

Q: *Zěnme le?* ‘What happened?’

- (53) ?*Wǒ qiē pro<sub>I</sub> =de [càidāo (dōu) dùn -le].*  
 I cut =DE knife even dull-PFV
- 

‘I cut [something] and as a result (even) the knife became dull.’

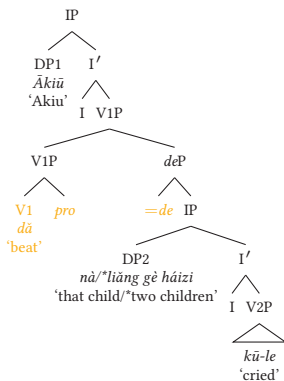
- (54) *Wǒ qiē- dùn -le càidāo.*  
 I cut-dull-PFV knife

‘The knife became dull from me cutting [something].’

# Analysis of V-*de* resultatives with transitive V1


Predictions:

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (55)
- 2 *pro* is not licensed by a non-specific antecedent.
- 3 *pro* is not licensed if there is no antecedent.
- 4 The internal argument of V1 must be *pro*.



## Analysis of V-*de* resultatives with transitive V1

The internal argument of V1 must be *pro* because an overt argument cannot intervene between *-de* and its phonological host.

- (56) Zhāngsān **tī** (\***qiú**) =*de* [jiǎo (dōu) **zhǒng**-le].  
 Zhangsan kick ball =DE foot even swollen-PFV
- 

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

## 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:

(57) *Wǒ qiē-dùn -le cǎidāo.*  
 I cut-dull-PFV knife

‘The knife became dull from me cutting [something].’

- Mandarin phrasal resultatives:

(58) *?Wǒ qiē-de [cǎidāo (dōu) dùn -le].*  
 I cut-DE knife even dull-PFV

‘I cut [something] and as a result (even) the knife became dull.’

## Compound vs phrasal resultatives across languages

### ■ Japanese compound resultatives:

(59) *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:

(60) \**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:

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

- Dutch phrasal resultatives:

(62) \*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.

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