

On the flexibility of argument realisation in Mandarin V-V resultatives

Resultatives: new approaches and renewed perspectives

Wenkai Tay

Department of Linguistics, UCL

22 March 2023

Puzzle

In Mandarin V-V resultatives, in an out-of-the-blue context, V1 may fail to project its agent...

- (1) *Yīfú xǐ-gānjìng-le.*
clothes wash-clean-PFV

‘The clothes got clean from washing [i.e. being washed].’ (Williams 2005:161)

...its theme...

- (2) *Ākiū tī-pò-le qiúxié.*
Akiu kick-break-PFV sneakers

‘The sneakers broke from Akiu kicking [something].’ (Zhang 2001:195)

...or both.

- (3) *%Qiúxié tī-pò-le.*
sneakers kick-break-PFV

‘The sneakers broke from [someone] kicking [something].’

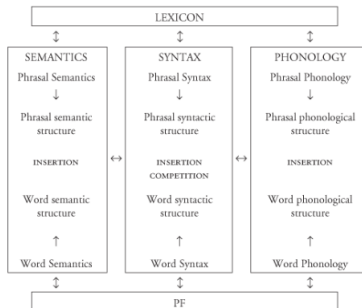
Claim

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

Proposal

I assume that morphology (=word syntax) and (phrasal) syntax are distinct subsystems in the grammar (cf. Di Sciullo and Williams 1987).

(4)



(Ackema and Neeleman 2004:4)

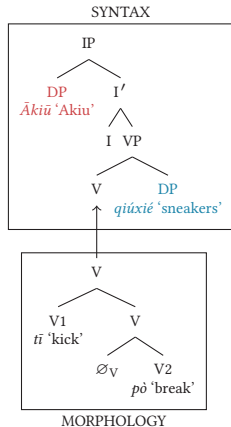
Proposal

V-V resultatives are compounds built in morphology rather than syntax.

- (5) *Ākiū tī-pò-le* *qiúxié.*
Akiu kick-break-PFV *sneakers*

‘The sneakers broke from Akiu kicking
 [something].’ (Zhang 2001:195)

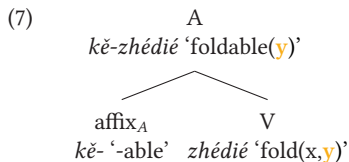
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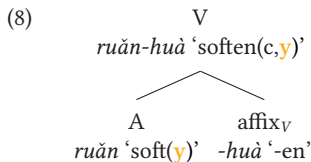
Proposal

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

Affixes can suppress arguments...



...or introduce arguments.

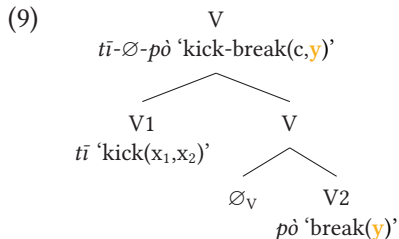


Semantically, affixes are functors that can:

- introduce their own argument structure and
- optionally bind the arguments of their hosts.

Proposal

I claim that V-V resultatives contain a null affix that binds all available arguments of V2 but none of the arguments of V1.



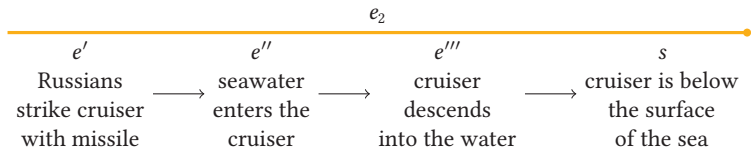
Why the asymmetry between V1 and V2?

Proposal

The null affix in V-V resultatives adds an onset or a causing subevent e_1 to a macroevent e_2 (Kratzer 2005; Neeleman and Van de Koot forthcoming).

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

‘Russian forces sank a cruiser.’¹



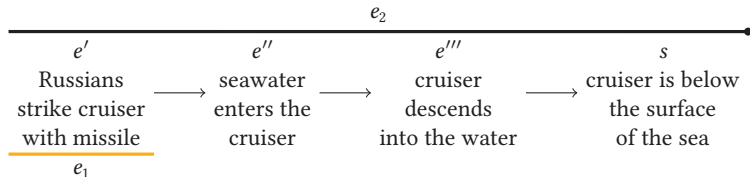
¹<https://www.163.com/dy/article/H5347KCG05430QIJ.html>

Proposal

The null affix in V-V resultatives adds an onset or a causing subevent e_1 to a macroevent e_2 (Kratzer 2005; Neeleman and Van de Koot forthcoming).

- (11) *Éjūn* *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

The null affix in V-V resultatives adds an onset or a causing subevent (CE) e_1 to a macroevent e_2 .

$$(12) \llbracket \emptyset \rrbracket = \dots \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \dots]$$

The semantic content of e_2 and e_1 are supplied by the semantic predicates denoted by V2 and V1 respectively, in the order that they are merged.

$$(13) \llbracket \emptyset \rrbracket = \lambda \mathbf{R}_2 \lambda \mathbf{R}_1 \dots \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \wedge \dots \wedge \mathbf{R}_2(\mathbf{e}_2, \dots) \wedge \mathbf{R}_1(\mathbf{e}_1, \dots)]$$

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

$$(14) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \wedge \mathbf{Cause}(\mathbf{e}_2) = \mathbf{c} \wedge \mathbf{Theme}(\mathbf{e}_2) = \mathbf{y} \wedge R_2(e_2, \dots) \wedge R_1(e_1, \dots)]$$

Proposal

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

$$(15) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \dots \exists e_1. [\text{CE}(e_2) = e_1 \wedge \text{Cause}(e_2) = c \wedge \text{Theme}(e_2) = y \wedge R_2(e_2, y) \wedge R_1(e_1, \dots)]$$

But since the causing subevent e_1 is existentially closed, \emptyset never binds any of the arguments of the causing subevent e_1 denoted by V1.

$$(16) \llbracket \emptyset \rrbracket = \lambda R_2 \lambda R_1 \lambda y \lambda c \lambda e_2 \exists \mathbf{x}_2 \exists \mathbf{x}_1 \exists e_1. [\text{CE}(e_2) = e_1 \wedge \text{Cause}(e_2) = c \wedge \text{Theme}(e_2) = y \wedge R_2(e_2, y) \wedge R_1(e_1, \mathbf{x}_1, \mathbf{x}_2)]$$

Consequently, the arguments of \emptyset – and hence, those of the V-V resultative – can, but need not, be interpreted as arguments of V1.

Predictions

- 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:

- (17) *Lǎoshī mǎ-kū-le Zhāngsān.*
 teacher scold-cry-PFV Zhangsan

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

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

- (18) *Lǎoshī mǎ-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...

- (19) *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.

- (20) *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

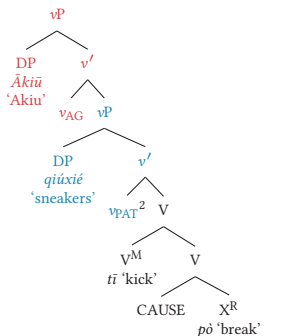
- 1 V-V resultatives are inaccessible to syntactic operations.
- 2 Since V-*de* phrasal resultatives are not compounds, V1 must project its internal argument.

Competing accounts

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

Williams (2005):

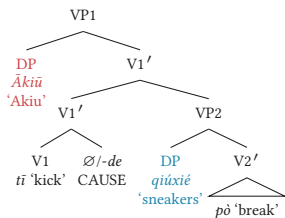
(21)



²Williams 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):

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



Competing accounts

Williams and Huang assume that V-V and V-*de* resultatives differ only in the size of the result component.

Hence, their proposals predict that V1 does not project any arguments in either V-V or V-*de* resultatives.

Competing accounts

According to such proposals, all *V-de* resultatives are strong resultatives, i.e., the postverbal DP (=DP2) is not interpreted as the internal argument of V1.

strong *V-de* with intransitive V1:

- (23) *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.’

strong *V-de* with transitive V1:

- (24) *Wǒ pāi Lǎo Wèi de mǎ pì, kuā-de [lián tā tàitài yě*
 1s smack Lao Wei DE horse rump praise-DE even 3s wife also
bùhǎoyìsi le].
 embarrassed PRT
 ‘Flattering Lao Wei, I praised [him] such that even his wife got embarrassed.’

(Williams 2005:86)

Strong V-*de* with transitive V1

Problem 1: These proposals fail to explain why strong V-*de* resultatives with transitive V1 are degraded in an out-of-the-blue context.

Zěnme le?

how LE

‘What happened?’

(25) ?*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.’

(strong V-*de* with transitive V1 ?)

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

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

(strong V-V with transitive V1 ✓)

Strong *V-de* with transitive V1

In an out-of-the-blue context:

	transitive V1		intransitive V1	
	strong	weak	strong	weak
<i>V-de</i>	?			–
V-V	✓			–

Weak V-*de* resultatives

Problem 2: These proposals fail to explain why weak V-*de* resultatives are degraded (Zhang 2001; Zhang 2020).

Zěnme le?

how LE

‘What happened?’

(27) **Ākiū dǎ-de liǎng gè háizi 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) (weak V-*de* ✓)

(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.’ (strong V-*de* with intransitive V1 ✓)

This contrast is strongest when DP2 is non-specific (Zhang 2001) and weaker when it is specific and/or discourse-prominent.

Weak *V-de* resultatives

In an out-of-the-blue context:

	transitive V1		intransitive V1	
	strong	weak	strong	weak
<i>V-de</i>	?	X	✓	–
V-V	✓			–

Weak V-*de* resultatives

There is no comparable contrast in V-V resultatives.

Zěnme le?

how LE

‘What happened?’

- (29) *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.’ (weak V-V ✓)

- (30) *Ākiū chàng-kū-le liǎng gè háizi.*
 Akiu sing-cry-PFV two CL child

‘Akiu sang and as a result two children cried.’ (strong V-V with intransitive V1 ✓)

Weak *V-de* resultatives

In an out-of-the-blue context:

	transitive V1		intransitive V1	
	strong	weak	strong	weak
<i>V-de</i>	?	✗	✓	–
<i>V-V</i>	✓	✓	✓	–

Weak V-*de* resultatives*Zěnme le?*

how LE

‘What happened?’

weak V-*de* ✗(31) **Mary rǎn-de qúnzi hóng-le.*

Mary dye-DE dress red-PFV

‘Mary dyed the dress red.’ (Zhang 2020)

(32) ??*Zhāngsān cì-de jiāngshī sǐ-le.*

Zhangsan stab-DE zombie die-PFV

‘Zhangsan stabbed the zombie dead.’

(33) ??*Zhāngsān cā-de zhuōzi gān-le.*

Zhangsan wipe-DE table dry-PFV

‘Zhangsan wiped the table dry.’

weak V-V ✓

(34) *Mary rǎn-hóng-le qúnzi.*

Mary dye-red-PFV dress

‘Mary dyed the dress red.’ (Zhang 2020)

(35) *Zhāngsān cì-sǐ-le jiāngshī.*

Zhangsan stab-die-PFV zombie

‘Zhangsan stabbed the zombie dead.’

(36) *Zhāngsān cā-gān-le zhuōzi.*

Zhangsan wipe-dry-PFV table

‘Zhangsan wiped the table dry.’

V-*de* resultatives with transitive V1

In an out-of-the-blue context:

	transitive V1		intransitive V1	
	strong	weak	strong	weak
V-<i>de</i>	?	✗	✓	–
V-V	✓	✓	✓	–

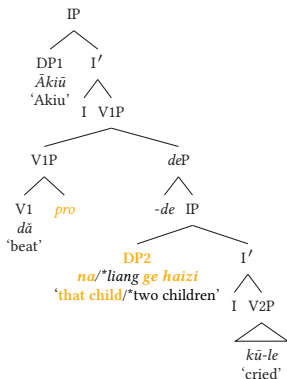
This pattern can be explained if we assume that:

- 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

Suppose we assume that an obligatorily transitive V1 invariably projects its internal argument in a V-*de* resultative.

- 1 For some speakers, *pro* can be linked to DP1 with a specific referent. (37)
- 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...

(38) What happened?

*The queen knighted **him**₁ because **John**₁ was brave.

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

(39) What happened to **John**₁?

?The queen knighted **him**₁ because **John**₁ was brave.

Analysis of *V-de* resultatives with transitive V1

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

- (40) *Bǎoyù zhuī-de Dàiyù qìchuǎnxūxū.*
 Baoyu chase-DE Daiyu pant
 ‘Baoyu chased Daiyu and as a result Daiyu gasped.’ (Zhang 2001:217) (weak *V-de*)
- (41) *Wūsōng dǎ-de lǎohǔ liúxuě-le.*
 Wusong beat-DE tiger bleed-PFV
 ‘Wusong beat the tiger so that it bled.’ (Zhang 2001:192) (weak *V-de*)

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?’

- (42) *OK/??Kāitè wángfēi dǎ pro₁ de Méigēn₁ kū-le.*
 Kate princess hit pro -DE Meghan cry-PFV

‘Princess Kate hit Meghan and as a result Meghan cried.’ (weak V-*de* ✗or %)

- (43) *Kāitè wángfēi hǎn-de Méigēn kū-le.*
 Kate princess shout-DE Meghan cry-PFV

‘Princess Kate shouted and as a result Meghan cried.’ (strong V-*de* with intransitive V1✓)

Analysis of V-*de* resultatives with transitive V1

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

Kǎitè wángfēi hé Méigēn₁ zěnmē le?

Kate princess and Meghan how LE

‘What happened to Princess Kate and Meghan?’

- (44) *OK/?Kǎitè wángfēi dǎ pro₁ de Méigēn₁ kū-le.*
 Kate princess hit pro -DE Meghan cry-PFV

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

(weak V-*de* ✗or %)

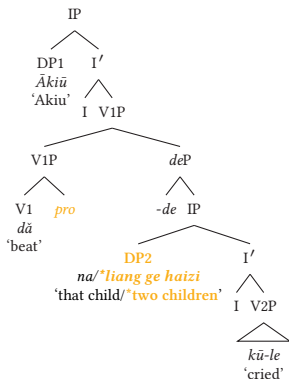
- (45) *Kǎitè wángfēi hǎn-de Méigēn kū-le.*
 Kate princess shout-DE Meghan cry-PFV

‘Princess Kate shouted and as a result Meghan cried.’ (strong V-*de* with intransitive V1✓)

Analysis of V-*de* resultatives with transitive V1

Suppose we assume that an obligatorily transitive V1 invariably projects its internal argument in a V-*de* resultative.

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (46)
- 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.

- (47) *Xuéxiào zài zhǎo [yī gè yīngwén lǎoshī]₁.*
 school PROG look.for one CL English teacher
Xiàozhǎng xīwàng xuéshēng huì xǐhuān {?pro₁/ tā₁}.
 principal hope student will like pro 3s
 ‘The school is looking for [an English teacher]₁.
 The principal hopes the students will like her/him₁.’
- (48) *Xuéxiào qǐng-le [yī gè yīngwén lǎoshī]₁.*
 school hire-PFV one CL English teacher
Xiàozhǎng xīwàng xuéshēng huì xǐhuān {pro₁/ tā₁}.
 principal hope student will like pro 3s
 ‘The school hired [an English teacher]₁.
 The principal hopes the students will like her/him₁.’

Analysis of V-*de* resultatives with transitive V1

pro is not licensed by a non-specific antecedent.

- (49) **Ākiū dǎ pro₁ -de [liǎng gè hái₁zǐ] kū-le.*
 Akiu beat **pro** -DE two CL child cry-PFV

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

- (50) *Ākiū chàng-de liǎng gè hái₁zǐ kū-le.*
 Akiu sing-DE two CL child cry-PFV

‘Akiu sang and as a result two children cried.’ (strong V-*de* with intransitive V1✓)

Analysis of *V-de* resultatives with transitive V1

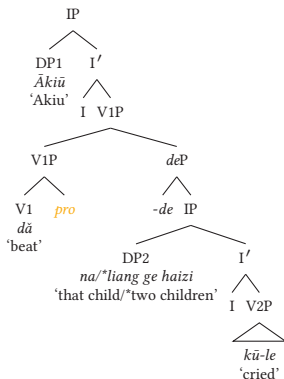
In an out-of-the-blue context:

	transitive V1		intransitive V1	
	strong	weak	strong	weak
<i>V-de</i>	?	X	✓	–
<i>V-V</i>	✓	✓	✓	–

Analysis of V-*de* resultatives with transitive V1

Suppose we assume that an obligatorily transitive V1 invariably projects its internal argument in a V-*de* resultative.

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (51)
- 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.

Zěnme le?

how LE

‘What happened?’

- (52) ?*Wǒ qiē pro -de càidāo (dōu) dùn-le.*
 I cut *pro* -DE knife even dull-PFV

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

(strong V-*de* with transitive V1 ?)

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

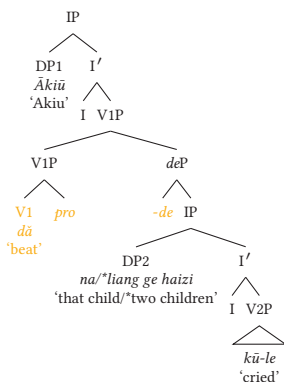
‘The knife became dull from me cutting [something].’

(strong V-V with transitive V1 ✓)

Analysis of V-*de* resultatives with transitive V1

Suppose we assume that an obligatorily transitive V1 invariably projects its internal argument in a V-*de* resultative.

- 1 For some speakers, *pro* can be linked to DP2 with a specific referent. (54)
- 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.

- (55) *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.’
 (strong V-*de* with transitive V1)

Interim conclusion

- 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:

(56) *Wǒ qiē-dùn-le cāidāo.*

I cut-dull-PFV knife

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

- Mandarin phrasal resultatives:

(57) *?Wǒ qiē-de cāidāo (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:

(58) *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:

(59) **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:

What happened?

(60) *Al cut the knife dull.

(Williams 2005:56)

- Exception: Dutch phrasal resultatives

What happened?

(61) Jan heeft het mes bot gesneden.

Jan has the knife dull cut

'Jan cut the knife dull.'

(Hans van de Koot, p.c.)

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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