Semantics-Oriented Resultatives: Evidence from Valency Alternation Verbs

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1. Introduction
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- The talk is about the interpretation of Resultative Construction.

- It is argued that the predication relation of resultative predicates is determined based upon the lexical semantics of verbs, rather than syntactic or argument structures.

- Supporting data are drawn from valency alternation verbs in Japanese and Mandarin Chinese.
2. The resultative construction
2. The resultative construction

Resultative constructions refer to clauses in which, in addition to the main verb (V), there is an additional, secondary predicate known as the result XP, predicing some state that comes about for some participant in the event as a result of the action described by the clause. (Beavers 2016)

English: John smeared the wall red.

Japanese: John-ga kabe-o akaku nut-ta
          John-NOM wall-ACC red   smear-PAST
          ‘John smeared the wall red’

Mandarin: Ta yong-jiaodai mimi chan-le da-daizi
           he   with-sellotape thick wrap-PERF big-bag
           ‘(lit.) He wrapped the big bag thick with sellotape’
Resultative verb compounds in Mandarin

A resultative verb compound in Mandarin is, very roughly, a compound verb made up of two parts, the first indicating an action and the second the result of that action.

(1) La-kai
    ‘pull-open’ \( (V_{\text{action}} + V_{\text{result}}) \)

(2) Ta la-kai le men
    ‘He pull-open ASPECT door’ = ‘He pulled the door open’

(3) John tu-hong-le qiangmian
    John smear- (become) red-PERF wall
    ‘John smeared the wall red’

(Thompson 1973)
Direct Object Restriction
(Simpson 1983; Levin & Rappaport Hovav 1995: 34)

Resultative phrase may be predicated of the immediately postverbal NP, but may not be predicated of a subject or of an oblique complement.

English: John smeared the **wall** **red**.

Japanese: John-ga **kabe-o** akaku nut-ta
John-NOM wall-ACC red smear-PAST

‘John smeared the wall red’

Mandarin: John **tu-hong-le** qiangmian
John smear-red-PERF wall

‘John smeared the wall red’
3. Valency alternation verbs in Japanese
3.1 “Goal-oriented resultatives”

Resultatives that do not obey the DOR:
“ni-marked NP resultative” (Nitta 2002); “goal-oriented resultative” (Miyakoshi 2006)

(4) Kyou-wa kabe-ni siroku penki-o nutta. (Miyakoshi 2006: 9; simplified)
    today-TOP wall-to white paint-ACC sprayed
    ‘(lit.) Today, (I) sprayed paint on the wall white.’

**Claim:** the oblique argument expresses the location that undergoes a change of state as a result of spraying, and thus a resultative phrase can describe the oblique argument as exception.
3.2 location-oriented resultatives in the locative alternation

The verb *nutta* ‘spray, smear’ is a locative alternation verb:

(5) location-oriented resultative

a. Kyou-wa *kabe*-ni *siroku* *penki*-o nutta. (Miyakoshi 2006: 9; simplified) (=4) today-TOP wall-to white paint-ACC sprayed
   ‘(lit.) Today, (I) sprayed paint on the wall white.’

b. Kyou-wa *kabe*-o *penki*-de *siroku* nutta.
   today-TOP wall-ACC paint-with white sprayed
   ‘Today, (I) sprayed the wall white with paint.’

The resultative *siroku* ‘white’ describes the resultant state of ‘the wall,’ regardless of whether the location is expressed as oblique in (5a) or as direct object in (5b).
3.2 location-oriented resultatives in the locative alternation

The verb *nutta* ‘spray, smear’ is a locative alternation verb:

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a. Kyou-wa *kabe*-ni siroku *penki*-o nutta. (Miyakoshi 2006: 9; simplified)
   today-TOP wall-to white paint-ACC sprayed
   ‘(lit.) Today, (I) sprayed paint on the wall white.’

b. Kyou-wa *kabe*-o *penki*-de siroku nutta.
   today-TOP wall-ACC paint-with white sprayed
   ‘Today, (I) sprayed paint on the ceiling and wall white.’

(6) cf. location-oriented resultative in English

a. *John loaded the hay into the wagon full.* (Williams 1980:204)

b. John loaded *the wagon full* with *hay.*
3.3 locatum-oriented resultatives in the locative alternation

The oblique NPs which resultative phrases are predicated of are not limited to the *ni*-marked locative NPs.

(7) **locatum-** oriented resultative (from BCCWJ-NT corpus)

a. me-no-ue-o **houtai**-de atuku mai-ta. [Nijo 2000; simplified]
eye-GEN-top-ACC bandage-with thick bound
‘(lit.) (Someone) bound the top of eyes with bandage thick.’

b. me-no-ue-ni **houtai**-o atuku maita.
eye-GEN-top-LOC bandage-ACC thick bound
4. Valency alternation verbs in Mandarin Chinese
4.1 Locative alternation verbs

The verb *tu* ‘smear’ is a locative alternation verb:

(8) a. John zai-qiangmian-shang tu-le youqi (locatum-as-object variant)
    John LOC-wall-LOC smear-PERF paint
    ‘John smeared the paint on the wall’

    b. John yong-youqi tu-le qiangmian (location-as-object variant)
    John with-paint smear-PERF wall
    ‘John smeared the wall with paint’

Cao (2018)
4.1 Locative alternation verbs

The verb *pu* ‘spread’ is a locative alternation verb:

(9) a. John zai-zhuozi-shang pu-le baozhi (locatum-as-object variant)
John LOC-wall-LOC spread-PERF newspaper
‘John spread the newspaper on the table’

b. John yong-baozhi pu-le zhuozi (location-as-object variant)
John with-newspaper spread-PERF table
‘John spread the table with newspaper’

Cao (2018)
4.2 Locative alternation with resultative verb compounds

Locatum-oriented resultatives in the locative alternation

Locative alternation verb tu ‘smear’ can be a resultative verb compound by combining a resultative verbal suffix yun ‘even’, shown as tu-yun, which still can go through the locative alternation.

(10) a. John zai-qiangmian-shang tu-yun-le youqi
    John LOC-wall-LOC smear-even-PERF paint
    ‘(lit.) John smeared the paint even on the wall’

    b. John yong-youqi tu-yun-le qiangmian
    John with-paint smear-even-PERF wall
    ‘(lit.) John smeared the wall with paint even’

➤ The resultative yun ‘even’ describes the resultant state of youqi ‘paint’, regardless of whether the locatum is expressed as a direct object in (a) or as oblique in (b).
Location-oriented resultatives in the locative alternation

Locative alternation verb *pu* ‘spread’ can be a resultative verb compound by combining a resultative verbal suffix *man* ‘full’, shown as *pu-man*, which still can go through the locative alternation.

(11)a. John zai-**zhuozi**-shang pu-**man**-le baozhi
John LOC-table-LOC spread-full-PERF newspaper
‘(lit.) John spread the newspaper on the table full’

b. John yong-**baozhi** pu-**man**-le **zhuozi**
John with-newspaper spread-full-PERF table
‘(lit.) John spread the table full with newspaper’

The resultative *man* ‘full’ describes the resultant state of *zhuozi* ‘table’, regardless of whether the location is expressed as oblique in (a) or as a direct object in (b).
4.3 Locative alternation with resultative phrase

Locatum-oriented resultatives in the locative alternation

The verb *chan* ‘wrap’ is a locative alternation verb:

(12)a. yong-\textit{jiaodai} mimi chan-le yibian dadaizi [Wobubai 2017; simplified] with- sellotape thick wrap-PERF around big bag
‘(lit.) (someone) wrapped the sellotape around the big bag thick’

b. zai-dadaizi-shang mimi chan-le yibian \textit{jiaodai} LOC-big bag-LOC thick wrap-PERF around sellotape

➢ The resultative phrase *mimi* ‘thick’ describes the resultant state of *jiaodai* ‘sellotape’, regardless of whether the locatum is expressed as oblique in (a) or as a direct object in (b).
4.3 Locative alternation with resultative phrase

Locatum-oriented resultatives in the locative alternation

The verb gai-zhu ‘cover’ is a locative alternation verb:

(13)a.chuanghu yong-baozhi houhoude gaizhu-le [Sino news 2019; simplified]
    window-TOP with-newspaper thick cover-PERF
    ‘(lit.) (someone) covered the window with newspaper thick’

    b. zai-chuanghu-shang houhoude gaizhu-le baozhi
       LOC-window -LOC thick cover-PERF newspaper

➢ The resultative phrase houhoude ‘thick’ describes the resultant state of baozhi ‘newspaper’, regardless of whether the locatum is expressed as oblique in (a) or as a direct object in (b).
5. Analysis
5.1 Locative alternation

What makes the locative alternation possible to start with?

(14) a. John loaded hay into the wagon.
    b. John loaded the wagon with hay.

- Locative alternation verbs describe events of “covering surfaces and putting things into containers.” (Levin 1993: 118)

- All verbs involve two internal arguments:
  (i) a locatum argument, hay, that refers to what undergoes motion, and
  (ii) a location argument, the wagon, that refers to the goal of motion.

- The simultaneous changes of state and position of the two arguments make it possible to perceive the same event in two alternative ways through “gestalt shift” (Pinker 1989).
5.2 Interpretation of resultative phrases in the locative alternation

What determines the predication relation of resultative phrases in Japanese and Chinese in the locative alternation?

- The previous examples in Japanese and Chinese all show that resultative phrases can be predicated of either location or locatum argument regardless of which argument is expressed as direct object.

- There is no syntactic clue as to which argument a resultative phrase is predicated of, and a resultative phrase is interpreted on the semantic basis.
5.3 Representing locative alternation verbs

nutta ‘sprayed’ in *kabe-ni penki-o nutta ‘sprayed paint on a wall’ in (4):

\[
\begin{align*}
\text{ARG-ST} & < \text{NP}_1, \text{NP}_j, \text{NP}_k > \\
\text{INDEX} & s_1 \\
\text{RELN} & \text{smear} \\
\text{SMEARER} & i \\
\text{LOCATION} & j \\
\text{LOCATUM} & k \\
\text{BECOME} & < s_2, s_3 > \\
\text{SIT} & s_1 \\
\text{RELN} & \text{colored} \\
\text{INST} & j \\
\text{SIT} & s_2 \\
\text{RELN} & \text{spread} \\
\text{INST} & k \\
\text{SIT} & s_3 
\end{align*}
\]

Lexical entries for each locative alternation verb share the single underspecified semantic representation which identifies two arguments undergoing a change (cf. Beavers 2005, 2010; Markantonatou and Sadler 1997).
5.3 Representing locative alternation verbs

`nutta 'sprayed' in kabe-ni penki-o nutta 'sprayed paint on a wall' in (4):

The verb's main semantic content is a smearing relation among the individuals indexed as $i$ for agent (SMEARER), the LOCATION $j$, and the LOCATUM $k$. 
5.3 Representing locative alternation verbs

`nutta 'sprayed' in kabe-ni penki-o nutta 'sprayed paint on a wall' in (4):

The **BECOME** feature identifies two arguments undergoing a change through situation indexes $s_2$ and $s_3$: one argument is the location $j$ to become colored, and the other is the locatum $k$ to become spread.
5.3 Representing locative alternation verbs

nutta ‘sprayed’ in kabe-ni penki-o nutta ‘sprayed paint on a wall’ in (4):

ARG-ST < NP₁, NPⱼ, NPₖ >

SEM

INDEX $s₁$

RESTR <

RELN smear
SMEARER $i$
LOCATION $j$
LOCATUM $k$
BECOME < $s₂, s₃$
SIT $s₁$

HEAD verb

SYN

VAL

spr < NP₁-ga >

COMPS < NPⱼ-ni, NPₖ-o >

The value of COMPS specifies that the locatum $k$ is realized as direct object suffixed by the accusative marker -o.
5.4 Resultative lexical rule

The lexical rule appends a resultative phrase XP to the ARG-ST list of an input locative alternation verb.
5.4 Resultative lexical rule

The predication [2] of the resultative phrase further instantiates one of the properties already in the lexical entry of the input verb.
5.5 “Weak” vs. “strong” resultatives

Why does the resultative lexical rule instantiate an existing property, rather than adding a new predication to the verb’s RESTR list?

➢ “weak resultatives” (Washio 1997); “Type B resultatives” (Iwata 2006):
  resultative phrases that describe only a predictable result

➢ The resultative construction in Japanese only allows:
  (i) description of arguments that are lexically specified to undergo a change of state, and
  (ii) instantiation of a predictable result of such a change.

➢ Since Chinese allows “strong resultatives,” a resultative lexical rule for Chinese may be formulated in such a way to add a new predication to the RESTR list of the input verb.
6. Conclusion
6. Conclusion

- The restriction on the predication relation in the resultative construction in Japanese and Chinese is shown to be semantic rather than syntactic: resultatives can describe the state of an argument that undergoes a change of state regardless of whether such an argument is expressed as direct object or not.

- The data involving locative alternation verbs are used because they are known to denote an event in which both location and locatum arguments are lexically specified to undergo concurrent changes.
References


Sources of Japanese examples (taken from BCCWJ-NT compiled by National Institute for Japanese Language and Linguistics, indicated by the square brackets [ ] in the text)


Sources of Mandarin examples (taken from BCC compiled by Beijing Language and Culture University, indicated by the square brackets [ ] in the text)