The syntax-semantics interface of PP resultatives in Italian and English

Rainer Osswald\textsuperscript{1} & Anna Riccio\textsuperscript{2}

\textsuperscript{1}Heinrich-Heine-Universität Düsseldorf, Germany
\textsuperscript{2}Università degli Studi di Napoli “L’Orientale”, Italy

International Symposium on Verbs, Clauses and Constructions
Universidad de La Rioja
Logroño, 22. – 24. 10. 2014
1. Examples of PP resultative constructions in English and Italian
2. Informal semantic analysis of the different types of PP resultatives
3. Role and Reference Grammar and the syntax-semantics interface
4. Decompositional frame semantics
5. Syntactic analysis of PP resultative constructions
6. Constructional schemas with frame semantics for PP resultatives
7. Formal decomposition of the constructional schemas


**English**


(1)  
   a. John **cut** the meat **in(to)** cubes.  
   b. Mary **tore** the sheet **into strips**.  
   c. The grocer **ground** the beans **(in)to a fine powder**.  
   d. They **gathered** the wood **into a pile**.  
   e. She **pounded** the dough **into a pancake**.  
   f. The iceberg **broke** **into several small pieces**.  
   g. The butter **melted** **into a lumpy liquid**.

(2)  
   a. Kim **swept** the leaves **into a pile**.  
   b. She **ran** her sneakers **to tatters**.  
   c. The professor **talked** us **into a stupor**.  
   d. He **sang** himself **to exhaustion**.

(3)  
   a. John **ran/danced** **into the kitchen**.  
   b. The ball **rolled** under the table.  
   c. John **pushed/rolled** the barrel **into the kitchen**.  
   d. Mary **sneezed** the tissue **off the table**.
PP resultatives


(4) a. Gianni **ha rotto** il vaso **in mille pezzi**.
‘Gianni **broke** the vase **in a thousand pieces.**’

b. La lastra di cristallo **si è rotta** in cinque pezzi.
‘The crystal platter **broke** into five pieces.’

c. Il metallo **fonde** in una massa bollente.
‘The metal **melted** to a boiling mass.’

d. La cuoca **ha pressato** la carne **a fettine sottili**.
‘The cook **pressed** the meat **to thin slices.’

e. **Hanno rastrellato** le foglie **in un mucchio**.
‘They **raked** the leaves **into a pile.’

(5) a. #Hanno **spazzato** le foglie **in un mucchio**.
‘They **swept** the leaves **into a pile.’

b. #**Corre** le sue scarpe **a brandelli**.
‘He **runs** his shoes **to pieces.’

(6) a. Gianni è **corso/#danzato nella stanza**.
‘Gianni **ran/danced** into the room.’

b. La palla **rotolò sotto il tavolo**.
‘The ball **rolled under the table.’

c. Ho **spinto** il pianoforte **nella sala da pranzo**.
‘I **pushed** the piano **into the dining room.’
PP resultatives

English

- High flexibility with respect to adding (and dropping) semantic arguments in resultative constructions.
- The meaning of the verb does not necessarily entail or implicate the type of change expressed in the construction.
  → strong resultatives are allowed

Italian

- Only arguments of the verbal predicate can occur in resultative constructions.
- The meaning of the verb naturally entails or implicates the type of change expressed in the construction.
  → only weak resultatives are permitted

[cf. Washio 1997]
Semantic analysis

The event structure of strong resultatives

- An additional (telic) subevent is added by the meaning of the result PP which is (interpreted as being) caused by the event denoted by the verb.

- The additional subevent is about a change of state or location of an entity which is (usually) not referred to by an argument of the verb.

- The composition of the semantic representations is (fairly) straightforward:

  \[
  \text{talk} \quad \text{do}'(x, \text{talk}'(x))
  \]
  \[
  \text{into a stupor} \quad \text{BECOME be-in-a-stupor}'(y)
  \]
  \[
  \rightarrow \quad [\text{do}'(x, \text{talk}'(x))] \text{ CAUSE } [\text{BECOME be-in-a-stupor}'(y)]
  \]

  \[
  \text{sneeze} \quad \text{do}'(x, \text{sneeze}'(x))
  \]
  \[
  \text{off the table} \quad \text{BECOME NOT be-on}'(\text{table}, y)
  \]
  \[
  \rightarrow \quad [\text{do}'(x, \text{sneeze}'(x))] \text{ CAUSE } [\text{BECOME NOT be-on}'(\text{table}, y)]
  \]

Semantic analysis

The event structure of weak resultatives

- The result PP does not introduce an additional subevent but imposes a result condition on a (dynamic) component of the event denoted by the verb.

- The event denoted by the verb can be characterized as a change along a certain dimension or scale (of one of the arguments), and the result PP describes some (final) value on that scale.

  \[
  \begin{array}{ll}
  \text{run} & \text{into the room} \\
  \text{path (scale)} & \text{location of the end point of the path} \\
  \text{rake (= gather with a rake)} & \text{into a pile} \\
  \text{accumulation (scale)} & \text{form of the resulting accumulation}
  \end{array}
  \]

- The semantic composition operation needs to access the internal structure of the event representation associated with the verb.

  This issue is closely related to the question of the proper semantic representation of active accomplishments!

  [→ Van Valin, yesterday’s talk]

Remark: Weak resultatives can also denote complex events given that the verbal predicate does so (e.g., fare scivolare ‘(make) slide’).
The syntax-semantics interface

Two kinds of frameworks

“Syntactocentric” frameworks [Hale & Keyser, Ramchand, and many others]

- Assumption of a tight coupling of event structure and morphosyntax.
- Predicate decompositions are regarded as syntactic representations.
- Assumption of a very abstract level of syntax.
- Elimination of the traditional distinction between the lexical and the phrasal level.

[on PP resultatives see, e.g., Folli & Ramchand 2005, Mateu 2012]

“Linking” frameworks [Van Valin, Bresnan, Sag, Wunderlich, etc.]

- A more concrete and surface-oriented notion of syntax.
- The distinction between the syntactic and the semantic levels is maintained.
- A linking theory is concerned with the interaction between syntax and semantics.

→ The difference between strong and weak resultatives may not be visible at the level of syntactic representations.
The syntax-semantics interface

Overall organization of Role and Reference Grammar (RRG) [e.g. Van Valin 2005]

Syntactic representation

Semantic representation

Linking algorithm

Constructional schemas

Lexicon

Syntactic inventory

[do'\{(x, \emptyset)\} CAUSE [INGER shattered'\{(y)\}]

\langle IF INT \langle TNS PRES \langle ASP PERF PROG \langle do'\{Kim, [cry'(Kim)]\}\rangle \rangle \rangle

MORPHOLOGY —

SYNTAX
- Juncture: nuclear
- Nexus: cosubordination
- Construction:

SEMANTICS

[SEM_{NUCL1} CAUSE [SEM_{NUCL2}]

PRAGMATICS
- unspecified
The syntax-semantics interface

Overall organization of Role and Reference Grammar (RRG) [e.g. Van Valin 2005]

Syntactic inventory → Syntactic representation

Linking algorithm → Constructional schemas

Lexicon → Semantic representation

MORPHOLOGY —
SYNTAX
Juncture: nuclear
Nexus: cosubordination
Construction:

Linking: default

SEMANTICS
CAUSE
EFFECT

PRAGMATICS unspecified

Rainer Osswald & Anna Riccio

The syntax-semantics interface of PP resultatives in Italian and English
Decompositional frame semantics

From logical structures to decompositional frames

\[ \text{(7) } [\text{do'}(x, \emptyset)] \text{ CAUSE } \text{[INGER shattered'}(y)] \]

**Decompositional frames** as (minimal) models of attribute-value descriptions

**Frame/Feature Structure**

- **Cause**
- **Activity**
- **Effector**
- **Result**
- **Shattered-state**

**Description in Attribute-Value Logic**

\[ \exists e' \exists e'' \exists s \left( \text{causation}(e) \land \text{cause}(e, e') \land \text{effect}(e', e'') \land \text{activity}(e') \land \text{effector}(e', e) \land \text{ingr-of-state}(e'') \land \text{result}(e'', s) \land \text{shattered-state}(s) \land \text{patient}(s, v) \right) \]

**Attribute-Value Matrix Notation**

\[
\begin{array}{c}
\text{causation} \\
\text{cause} [\text{activity}] \\
\text{effector} [\text{ingr-of-state}] \\
\text{result} [\text{shattered-state}] \\
\text{patient} [v] \\
\end{array}
\]
Decompositional frame semantics

Basic assumption

Semantic components (participants, subevents, etc.) can be (recursively) addressed by (functional) roles or attributes.

→ inherently structured representations, composition by unification

Example

\[
\begin{array}{c}
\text{cause} \\
\text{CAUSE} \rightarrow \text{EFFECT} \\
\text{EFFECTOR} \rightarrow \text{RESULT} \\
\text{EXPERIENCER}
\end{array}
\]

\[
\begin{array}{c}
\text{causation} \\
\text{talk-activity} \\
\text{inchoation-of-state} \\
\text{stupor-state} \\
\text{EXPERIENCER}
\end{array}
\]

\[
\begin{array}{c}
\text{cause} \\
\text{CAUSE} \rightarrow \text{EFFECT} \\
\text{EFFECTOR} \rightarrow \text{RESULT} \\
\text{EXPERIENCER}
\end{array}
\]

\[
\begin{array}{c}
\text{causation} \\
\text{talk-activity} \\
\text{inchoation-of-state} \\
\text{stupor-state} \\
\text{EXPERIENCER}
\end{array}
\]
Decompositional frame semantics

Basic assumption
Semantic components (participants, subevents, etc.) can be (recursively) addressed by (functional) roles or attributes.
→ inherently structured representations, composition by unification

Formalization
Base-labeled feature structures with types and relations

Possible constraints:
\[ P : T \preceq s, \quad s \land t \preceq P \cong Q, \ldots \]
**Proposal:** Weak and strong (PP) resultatives in Italian and English are *nuclear cosubordination* structures.  

[≈ Van Valin 2014]

**Diagram:**

- **Clausal** and **propositional** structures are shown.
- **Mary** has sneezed **the tissue** off **the table**.

*English*

- **Strong motion**
- **PP resultative**
Syntactic representation

Proposal: Weak and strong (PP) resultatives in Italian and English are nuclear cosubordination structures.  

[≈ Van Valin 2014]

English

weak motion
PP resultative

Mary has pushed the box under the table
Proposal: Weak and strong (PP) resultatives in Italian and English are nuclear cosubordination structures. [≈ Van Valin 2014]
**Proposal:** Weak and strong (PP) resultatives in Italian and English are **nuclear cosubordination** structures.

[≈ Van Valin 2014]
Proposal: Weak and strong (PP) resultatives in Italian and English are **nuclear cosubordination** structures.  

[≈ Van Valin 2014]
Syntactic representation

Argument for nuclear cosubordination:

Aspectual operators cannot take scope over the nuclei separately.

→ There is a single nuclear level to which the operators apply.

→ \([\text{NUC} [\text{NUC} \ldots]] [\text{NUC} \ldots]\)
Constructional schemas

Strong PP resultative construction in English (German, etc.):

Locational variant (similar to adjectival resultatives):
Constructional schemas

Strong PP resultative construction, decomposed:

- **Basic idea:** Define constructional schemas by means of tree and frame descriptions in a modular way. [cf. Kallmeyer & Osswald 2013]
Constructional schemas

Weak PP resultative construction in Italian (English, etc.)

Idea/to do: The incremental change of the undergoer expressed by the verb is enriched with a bounded scalar structure by the constructional schema; the PP characterizes the final stage of the undergoer on that scale.
Some further topics

Directional and locational prepositions

- Consequence of the fact that Italian has no “proper” directional preposition like English *to*. [cf. Folli & Ramchand 2005]
- Decompositional representation of complex prepositions such as *onto* and *into* into directional (confinal) and locational components. [≈ Kracht 2006]

Interaction with related typological differences

- Interrelation with the lexical and syntactic encoding of active and causative accomplishments in general.
- Interrelation with Talmy’s verb vs. satellite framing distinction and the more recent refinements thereof.
Thank you very much for your attention!
References


