The Interaction between Verbs and Construction

Goldberg (1995)

Presenter 郭京嫚
Outline

2.1 Frame Semantics

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2.3 The Nature of Construction Meaning
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- Humanly Relevant Scenes

2.4 The Interaction of Verbs and Construction
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- Representing the Meaning of Construction
- Mismatch of Roles
- Unexpressed Profiled Participant Roles

2.5 Possible Relation between Verbs and Constructions

2.6 Conclusion
Questions:

1. What is the nature of verb meaning?
2. What is the nature of constructional meaning?
3. When can a given verb occur in a given construction?
Frame Semantics

- Meanings are relativized to scenes.
  Charles Fillmore (1977a)

- Meanings are typically defined relative to some particular background **frame** or **Scene**, which itself may be highly structured

- Ex: bachelor

  ![Diagram](Diagram.png)

  Pope

  A gay man
The Nature of Verb Meaning

- Verbs, as well as nouns, involve frame-semantic meanings; that is, their designation must include reference to a background frame rich with world and cultural knowledge.

- It is typically difficult to capture frame-semantic knowledge in concise paraphrase, let alone in formal representation or in a static picture.

- X CAUSE Y to RECEIVE Z
- X ACTS
- X CAUSE Y to MOVE Z

Sneezed
The Nature of Verb Meaning

- X CAUSE Y to RECEIVE Z
- X ACTS
- X CAUSE Y to MOVE Z

- Ex: I’ve been sneezing all morning.
- Ex: Sam sneezed the napkin off the table.
The Nature of Verb Meaning

- What needs to be recognized is that what Pinker takes to be the “syntactically relevant” aspect of verbal meaning are aspects of constructional meaning. Constructions are closed-class elements, so they are predicted to have the semantics of closed-class elements.
In order to account for the distribution of adverbs and adjuncts, reference to the nature of the manner designate by the verb is essential.

Ex: Joe walked into the room slowly.

?? Joe careened into the room slowly.

What aspects of meaning are relevant for a particular highly circumscribed domain?
Another reason to include frame-semantic knowledge in lexical entries is in order to account for the phenomenon of **preemption**, or “**blocking**.”

Ex:  

- **go** → **goed**  
  - Cease to produce **goed**

- **doer**  
  - Teacher → cooker → **cook**
  - Cooker is preempted by **cook**

- **went**
To Summarized:
rich frame-semantic knowledge associated with verbs is necessary for
(1) felicitous use of adverbs and adjuncts
(2) interpretation and translation
(3) the process of preemption, or "blocking"
(4) making correct inferences
The Nature of Constructional Meaning

- Ditransitive expressions in English typically imply that the agent argument acts to cause transfer of an object to a recipient (basic sense of the construction).
The Nature of Constructional Meaning

- **For-dative**
  EX: Chris baked Jan a cake
  (verbs of creation: bake, make, build, cook)

- **Expressions involving verbs of permission**
  (permit, allow)
  EX: Joe allowed Billy a popsicle.

- **Expressions involving verbs of refusal**
  (refuse, deny)
  EX: Joe refused Bob a raise in salary and His mother denied Billy a birthday cake.
The ditransitive form is associated with a set of systematically related senses. Thus the ditransitive can be viewed as a case of constructional polysemy: the same form is paired with different but related senses.
The Nature of Constructional Meaning

- Nonsense word: topamased
  EX: She topamased him something.

- *Word Frequency*: (5,000,000-word corpus)
  give (3,366); tell (3,715); take (4,089); get (5,700); make (8,333)

- The point of the experience was exactly to test whether speakers were aware of the close relation between *give* and the ditransitive construction; the result seem to indicate they are.
Human Relevant Scenes

- **Scene Encoding Hypothesis:**
  Constructions which correspond to basic sentence types encode as their central senses event types that are basic to human experience.

- Clark (1987) observe that “general purpose verbs” such as go, put, make, do, and get are often among the first verbs to be used.
- Not only are these general-purpose verbs learned early crosslinguistically, they are also the most commonly used verbs in children’s speech.
We may conclude that data from language acquisition gives us some independent evidence for the claim that the events encoded by constructions are in some sense basic to human experience.
The Integration of Verbs and Construction

- Participant Roles of Verbs
  Part of a verb’s frame semantics includes the delimitation of **participant role**. Participant roles are to be distinguished from the roles associated with the construction, which will be called **argument structure**.

  - the distinction is intended to capture the fact that verbs are associated with frame-semantic role, whereas construction are associated with more general roles such as agent, patient, goal
The Integration of Verbs and Construction

- Verbs: Rob vs. Steal

  EX: (1a) Jess robbed the rich (of all their money)
      (1b) *Jess robbed a million dollars (from the rich)

      (2a) Jess stole money (from the rich)
      (2b) *Jess stole the rich (of money)

rob <thief target goods>
steal <thief target goods>
The Integration of Verbs and Construction

Syntactic Stipulation

rob <thief target goods>  Steal <target goods>

Profiling Difference:

rob <thief target goods>  Steal <thief target goods>
The Integration of Verbs and Construction

- Steal focus on the fact that the stolen goods are not legitimately the thief’s property, rather than the fact that they are actually someone else’s. The victim is often vague or unknown:

EX: He stole jewels for a living.
Which participant roles are fused with which argument roles is determined by two principles:

1. **The Semantic Coherence Principle:** Only roles which are semantically compatible can be fused.
2. **The Correspondence Principle:** Each participant role that is lexically profiled and expressed must be fused with a profiled argument role of the construction.
Representing the meaning of Construction

Ditransitive Construction

Sem | CAUSE-RECEIVE | < agt | rec | pat |
R: instance, means | R | |
Syn | PRED | < |
| V | < SUBJ | OBJ | OBJ2 | >
Representing the meaning of Construction

Composite Fused Structure: Ditransitive + hand

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-RECEIVE</th>
<th>&lt; agt rec pat &gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: instance, means</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Syn</td>
<td>HAND</td>
<td>&lt; hander handee handed &gt;</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>&lt; SUBJ OBJ OBJ₂ &gt;</td>
</tr>
</tbody>
</table>

EX: The waiter smiled politely as he handed me my bill.
Mismatches of Roles- Profiling Mismatches

Caused-Motion Construction

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th>&lt;cause goal theme&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: instance, means</td>
<td>PRED</td>
<td>&lt;</td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>&lt; SUBJ OBJ OBJ &gt;</td>
</tr>
</tbody>
</table>
Mismatches of Roles- Profiling Mismatches

Composite Fused Structure: Cause-Motion + put

<table>
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<th>&lt;cause goal theme&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: instance, means</td>
<td>PRED</td>
<td>&lt;</td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>&lt; subj obj obj &gt;</td>
</tr>
</tbody>
</table>

EX: She put her bag **on the table**.
Mismatches of Roles-
Mismatches in the Number of Roles

Composite Structure: Cause-Motion + Sneeze:

<table>
<thead>
<tr>
<th>Sem</th>
<th>CAUSE-MOVE</th>
<th>&lt; cause goal theme &gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>R: means</td>
<td>SNEEZE</td>
<td>&lt; sneezer &gt;</td>
</tr>
<tr>
<td>Syn</td>
<td>V</td>
<td>&lt; SUBJ OBJ OBJ &gt;</td>
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</table>
The specific conditions under which a profiled participant role may fail to be expressed are:

1. The verb occurs in a construction which specifically shades, cuts, or merges the role.
2. The verb lexically specifies that the role may be unexpressed with a definite interpretation.
Shading:
- denotes a process whereby a particular participant is “put in the shadows,” and thus no longer profiled
- A shaded participant may be expressed by an adjunct

Cutting:
- is intended to invoke the notion of a director cutting one of the participants out of the picture
- cut participant role cannot be expressed

*This bread cuts easily by Sarah*
Unexpressed Profiled Participant Role

- **Role merging:**
  - Reflexive constructions in Romance
  - serve to merge on particular role with another

- **Null complement:**
  - first type: indefinite null complement
    
    EX: After the operation to clean her esophagus, Pat ate and drank all evening.
  
  - second type: definite null complement
    
    EX: Chris blame Pat [ ].
Possible Relations Between Verbs and Construction

- Verbs which do not directly denote the meaning associated with the construction often denote the means by which the action is performed.

  **EX:** Joe kicked Bob the ball.
  (Joe caused Bob to receive the ball by kicking it)

Chichewa (southern central Africa)

  **EX:** Nungu i-na-phik-its-a maungu kwa kadzidzi
  cooked-CAUSE
Possible Relations Between Verbs and Construction

- The Causal Relation Hypothesis:
  Croft (1991) suggests that “individual lexical items appear to denote only causally linked event.

EX: The boat sailed into the cave.
(the sailing manner and the implication of motion can only be conflated if the activity of sailing causes the motion)

*The boat burned into the cave.
Possible Relations  
Between Verbs and Construction

- Restated– Causal Relation Hypothesis: The meaning designated by the verb and the meaning designated by the construction must be integrated via a (temporally contiguous) causal relationship.

- Challenge: 
  EX: She kicked her way out of the room. (allow verbs which designate events not causally related)
Possible Relations Between Verbs and Construction

- The Fusion of Roles (Japanese)
  - **Shared Participant Condition:**
    when two verbs are combined to form a complex motion predicate in Japanese, they must share at least one participant role.
Summary of the Relation between Verbs Semantics and Construction Semantics

1. $e_v$ (event type designated by the verb) must be related to $e_c$ (the event type designated by the construction) in one of the following ways:
   
   A. $e_v$ may be a subtype of $e_c$
   B. $e_v$ may designate the means of $e_c$
   C. $e_v$ may designate the result of $e_c$
   D. $e_v$ may designate a precondition of $e_c$
   E. To a very limited extent, $e_v$ may designate the manner of $e_c$, the means of identifying $e_c$, or the intended result of $e_c$

2. $e_c$ and $e_v$ must share at least one participant (Matsumoto 1991)
Conclusion

- Form-meaning mapping

- Particular syntactic frames are associated with a family of related meanings