Metaphor Corpus Annotated for Source – Target Domain Mappings

Ekaterina Shutova\(^1\)  Simone Teufel\(^1\)

\(^1\)Natural Language and Information Processing Group
Computer Laboratory
University of Cambridge, UK
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Outline

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   Examples
   Conceptual Metaphor Theory

2. Mappings Annotation Scheme
   Source and target domain categories
   Annotation procedure
   Annotation experiment

3. Corpus
   Data analysis
   Issues for mappings annotation
What is metaphor?

Metaphors arise when one concept is viewed in terms of the properties of the other.

A few conventional metaphors

*Inflation has* eaten up all my savings.
*How can I kill a process?* (Martin, 1988)

W. Wordsworth

*And then my heart with pleasure fills,*
*And dances with the daffodils.*
Metaphor is based on association

Conceptual Metaphor Theory
(Lakoff and Johnson, 1980)

**Source – Target Domain Mapping**

WAR ← ARGUMENT

**Examples**

He *shot down* all of my arguments.
He *attacked* every weak point in my argument.
Metaphor identification is done using the Metaphor Identification Procedure (MIP) (Pragglejaz group, 2007)

Identifying single-word metaphors
- expressed by a verb
- excluding auxiliary verbs, modal verbs, aspectual verbs, light verbs.

Annotating interconceptual mappings
- by selecting the relevant concepts from the source and target concept lists
**Source and target domain categories**

Taken from the Master Metaphor List (Lakoff et al., 1991)

<table>
<thead>
<tr>
<th>Source concepts</th>
<th>Target concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL OBJECT</td>
<td>LIFE</td>
</tr>
<tr>
<td>LIVING BEING</td>
<td>DEATH</td>
</tr>
<tr>
<td>ADVERSARY/ENEMY</td>
<td>TIME/MOMENT IN TIME</td>
</tr>
<tr>
<td>LOCATION</td>
<td>FUTURE</td>
</tr>
<tr>
<td>CONTAINER</td>
<td>CHANGE</td>
</tr>
<tr>
<td>GROWTH/RISE</td>
<td>CAREER</td>
</tr>
<tr>
<td>MOTION</td>
<td>FEELINGS/EMOTIONS</td>
</tr>
<tr>
<td>JOURNEY</td>
<td>MIND</td>
</tr>
<tr>
<td>VEHICLE</td>
<td>IDEAS</td>
</tr>
<tr>
<td>MACHINE/MECHANISM</td>
<td>TASK/DUTY</td>
</tr>
<tr>
<td>STORY</td>
<td>POLITICAL SYSTEM</td>
</tr>
<tr>
<td>LIQUID</td>
<td>RELATIONSHIP</td>
</tr>
</tbody>
</table>
Annotation Procedure

1. For each verb establish its meaning in context.

2. Try to imagine a more basic meaning of this verb in other contexts. Basic meanings normally are (MIP):
   - more concrete;
   - related to bodily action;
   - more precise (as opposed to vague);
   - historically older;

3. If the basic meaning is distinct from the meaning of the verb in this context, the verb is likely to be used metaphorically.

4. Try to identify a mapping between the source domain (where the basic meaning comes from) and the target domain (the concepts forming the context of the verb in front of you) using the provided lists of source and target categories.

Metaphor Corpus Annotated for Source – Target Domain Mappings
Example

If he asked her to post a letter or buy some razor blades from the chemist, she was transported with pleasure.
If he asked her to post a letter or buy some razor blades from the chemist, she was \textit{transported} with pleasure.

- The first 3 verbs are used in their basic sense.
- The verb \textit{transport} is used metaphorically.
- and the associated mapping is EMOTIONS – VEHICLES.
Annotation Experiment

- 3 independent volunteer annotators
- native speakers of English
- 142 verbs to annotate
- received 2 lists of categories: the source and the target
- were allowed to introduce their own categories
- inter-annotator agreement for identification $\kappa = 0.64$
- inter-annotator agreement for mappings annotation $\kappa = 0.57$
  (0.61 with merged categories)
Corpus

- Subset of the British National Corpus (BNC)
- includes various genres
- 761 sentences; 13642 words
- annotated by the authors and volunteer annotators

<table>
<thead>
<tr>
<th>Text</th>
<th>ID</th>
<th>Genre</th>
<th>Words</th>
<th>Met.</th>
<th>M./S.</th>
<th>V. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand in Glove, Goddard</td>
<td>G0N</td>
<td>Literature</td>
<td>3927</td>
<td>41</td>
<td>0.12</td>
<td>30</td>
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<td>After Gorbachev, White</td>
<td>FYT</td>
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<td>23</td>
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<td>CEK</td>
<td>News</td>
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<td>Tortoise by Candlelight, Bawden</td>
<td>HH9</td>
<td>Literature</td>
<td>1366</td>
<td>12</td>
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<tr>
<td>The Masks of Death, Cecil</td>
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<td>Sociology</td>
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<td>70</td>
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<tr>
<td>Radio broadcast (current affairs)</td>
<td>HM5</td>
<td>Speech</td>
<td>1828</td>
<td>10</td>
<td>0.17</td>
<td>7</td>
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<tr>
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<td>J85</td>
<td>Article</td>
<td>1485</td>
<td>37</td>
<td>0.54</td>
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<td>Total</td>
<td></td>
<td></td>
<td>13642</td>
<td>241</td>
<td>0.32</td>
<td>164</td>
</tr>
</tbody>
</table>

Met. - number of metaphors
M./S. - metaphors per sentence
V. M. - number of verbal metaphors

Metaphor Corpus Annotated for Source – Target Domain Mappings
Data Analysis

- Metaphor statistics across genres
  - Highest frequency: essay on sociology
  - Lowest frequency: transcribed speech
  - Surprising: literature has a relatively low score

- Syntactic constructions
  - 68% of metaphors are expressed by a verb

- Mappings statistics
  - Source: MOTION; VISION; LIVING BEING; GROWTH
  - Target: VIEWS; CHANGE; TIME; PROGRESS
Issues for Mappings Annotation

- Level of abstraction
  Sons aspired to follow in their fathers’ trades and professions.
  CAREER – PATH or LIFE – JOURNEY?

- Relations between mappings
  Subsumption?

- Multiple mappings
  The impressionist painters caught the contagion ...
  Chain-like association structure:
  IDEA/VIEW – INFECTION; INFECTION – PHYSICAL OBJECT
We would like to thank...

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