# Metaphor Corpus Annotated for Source – Target Domain Mappings

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LREC, May 21, 2010

# Outline

# 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.

# Annotation Setup

1. Metaphor identification is done using the Metaphor Identification Procedure (MIP) (Pragglejaz group, 2007)

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

3. 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)

| Source concepts | Target concepts |
|---|---|
| PHYSICAL OBJECT | LIFE |
| LIVING BEING | DEATH |
| ADVERSARY/ENEMY | TIME/MOMENT IN TIME |
| LOCATION | FUTURE |
| CONTAINER | CHANGE |
| GROWTH/RISE | CAREER |
| MOTION | FEELINGS/EMOTIONS |
| JOURNEY | MIND |
| VEHICLE | IDEAS |
| MACHINE/MECHANISM | TASK/DUTY |
| STORY | POLITICAL SYSTEM |
| LIQUID | RELATIONSHIP |

# 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.

# Annotation Example

> **Example**
>
> If he asked her to post a letter or buy some razor blades from the chemist, she was *transported* with pleasure.

# Annotation Example

## Example

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

- The first 3 verbs are used in their basic sense
- The verb *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

| Text | ID | Genre | Words | Met. | M./S. | V. M. |
|------|-----|-------|-------|------|-------|-------|
| *Hand in Glove*, Goddard | G0N | Literature | 3927 | 41 | 0.12 | 30 |
| *After Gorbachev*, White | FYT | Politics | 1384 | 23 | 0.51 | 17 |
| *Today* newspaper | CEK | News | 2086 | 48 | 0.41 | 30 |
| *Tortoise by Candlelight*, Bawden | HH9 | Literature | 1366 | 12 | 0.15 | 10 |
| *The Masks of Death*, Cecil | ACA | Sociology | 1566 | 70 | 1.17 | 42 |
| Radio broadcast (current affairs) | HM5 | Speech | 1828 | 10 | 0.17 | 7 |
| *Language and Literature* journal | J85 | Article | 1485 | 37 | 0.54 | 28 |
| Total | | | 13642 | 241 | 0.32 | 164 |

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

# 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...

- Volunteer annotators!

- Anna Korhonen and Ann Copestake for their most helpful feedback on this work

- LREC reviewers for their time and comments

- Cambridge Overseas Trust who funds Katia's studies

- Computer Laboratory and Pembroke College who supported Katia's travel to this conference

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