LEXICAL TYPOLOGY

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Lexical motivation (C.): quality of the sign relation

Fig. 30

Koch, Lexical typology, 2010-8-25
6. Lexical motivation: basics

![Diagram](image)

C: concept

F: form = signifier

sign relation
6. Lexical motivation: basics

C

quality of the sign relation

F

→ motivation of signs

• Plato, *Kratylos*
• Peirce 1902
• Saussure 1916
• Benveniste 1966
• Ullmann 1966
• Keller 1998
• Ungerer 2002
• Radden/Panther 2004

Fig. 32

Koch, Lexical typology, 2010-8-25
6.1. Symbol, index, icon

Fig. 36

(c.f. Peirce 1902)
6.1. Symbol, index, icon

Fig. 38

contiguity  

index

type of C-F motivation
6.1. Symbol, index, icon

C

similarity

F

icon
type of C-F motivation

Fig. 40

Koch, Lexical typology, 2010-8-25
6.2. Onomatopoeia – word-formation – polysemy

Types of (relative) lexical motivation according to Saussure 1916:

• onomatopoeia

• word-formation
6.2. Onomatopoeia – word-formation – polysemy

Fig. 41

Koch, Lexical typology, 2010-8-25
6.2. Onomatopoeia – word-formation – polysemy

Fig. 42

Koch, Lexical typology, 2010-8-25
6.2. Onomatopoeia – word-formation – polysemy

Types of (relative) lexical motivation according to Ullmann 1966:

- onomatopoeia (‘phonetic’ motivation)
- word-formation (‘morphological’ motivation)
- metaphor, metonymy (‘semantic’ motivation)
6.2. Onomatopoeia – word-formation – polysemy

\[ C_1 \text{SOFT} \rightarrow (\text{metaphorical similarity}) \rightarrow \text{SWEET} \rightarrow C_2 \]

polysemy

type of \( C-C/F \)
motivation

\[ F_{1/2} \text{lt. } dolce \]

Fig. 43
6.2. Onomatopoeia – word-formation – polysemy

Fig. 44

Koch, Lexical typology, 2010-8-25
6.2. Onomatopoeia – word-formation – polysemy

Page: Koch, Lexical typology, 2010-8-25

Fig. 45
6.2. Onomatopoeia – word-formation – polysemy

Fig. 46

Koch, Lexical typology, 2010-8-25
6.2. Onomatopoeia – word-formation – polysemy

Cognitive relation

Motivational square

Formal relation


Fig. 47
6.2. Onomatopoeia – word-formation – polysemy

Fig. 48

(c.f. Koch 2001: 1158; Koch/Marzo 2007: 265; also Radden/Panther 2004)
7.1. The cognitive and the formal dimension

Fig. 52

Koch, Lexical typology, 2010-8-25
7.1. The cognitive and the formal dimension

\[ C_1 \text{(MOTOR)} \rightarrow \text{taxonomic sub-/superordination} \rightarrow \text{VEHICLE} \]

\[ C_2 \]

polysemy

\[ F_{1/2} \text{Hung. } kocsi \]

(cf. Koch 2001: 1166f.)
7.1. The cognitive and the formal dimension

\[ C_1 \quad (\text{MOTOR}) \quad \text{CAR} \]

\[ F_1 \quad \text{Swed. bil} \]

synchronically opaque

(cf. Koch 2001: 1166f.)

Fig. 54
7.1. The cognitive and the formal dimension

Fig. 55

7.1. The cognitive and the formal dimension

Two-dimensional grid

<table>
<thead>
<tr>
<th>Conceptual identity</th>
<th>Contiguity</th>
<th>Metaphorical similarity</th>
<th>Taxonomic similarity</th>
<th>Taxonomic sub-/superordination</th>
<th>Contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>formal identity → polysemy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gender alternation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>word-class alternation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>suffixation</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>préfixation</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>composition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 56
### 7.1. The cognitive and the formal dimension

#### Two-dimensional grid

<table>
<thead>
<tr>
<th>Conceptual identity</th>
<th>Conceptual contiguity</th>
<th>Metaphorical similarity</th>
<th>Taxonomic similarity</th>
<th>Taxonomic sub-/superordination</th>
<th>Contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal identity → polysemy</td>
<td>Fig. 50 lt. <em>cucchiaio</em></td>
<td>Fig. 43 lt. <em>dolce</em></td>
<td>Fig. 53 Hung. <em>kocsi</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender alternation</td>
<td></td>
<td>Fig. 46 Sp. <em>tora</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word-class alternation</td>
<td></td>
<td></td>
<td>Fig. 52 Arab. <em>sajjarā</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suffixation</td>
<td></td>
<td>Fig. 45 Sp. <em>torero</em></td>
<td></td>
<td>Fig. 44 Sp. <em>torito</em></td>
<td></td>
</tr>
<tr>
<td>Prefixation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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...
7.1. The cognitive and the formal dimension

**Two-dimensional grid**

<table>
<thead>
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<th>Conceptual identity</th>
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<th>Metaphorical similarity</th>
<th>Taxon. similarity</th>
<th>Taxonomic sub-/superordination</th>
<th>Contrast</th>
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<td>...</td>
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</tr>
</tbody>
</table>

 التىWhich of these combinations exist in human languages, which not? Why?

By which formal relations can a given cognitive relation be expressed in different languages? ➔ 7.2.

Fig. 56
Lexical ‘converses’

(11) E. John *rented* this house from an agency.

(12) E. The agency *let* this house to John.

(same frame ➔ very salient contiguity)

opaque ➔ atypical of this domain

(cf. also Russian, partly Hungarian)

(cf. Fillmore 1977)
### 7.2. From meaning to form (case study V): RENT/LET

(c.f. Koch: 2001: 1166f.)

Formal relations for marking ‘converses’ in the domain RENT/LET

<table>
<thead>
<tr>
<th>Language</th>
<th>Example</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anc. Gr.</td>
<td><em>místhûståi – místhûn</em></td>
<td>voice alternation</td>
<td></td>
</tr>
<tr>
<td>Arab.</td>
<td>’ista’ <em>ýara</em> (X) – ’a <em>ý</em> ýara (II) / ’ā <em>ý</em>- ýara (IV)</td>
<td>“stem” alternation</td>
<td></td>
</tr>
<tr>
<td>Germ.</td>
<td><em>mieten – vermieten</em></td>
<td>prefixation</td>
<td></td>
</tr>
<tr>
<td>Swahili</td>
<td>-panga / -kodi – -pangisha / -kodisha</td>
<td>suffixation</td>
<td></td>
</tr>
<tr>
<td>Chin.</td>
<td><em>chū – chūzû</em></td>
<td>serial verb</td>
<td></td>
</tr>
<tr>
<td>Hung.</td>
<td><em>bérbe venni – bérbe adni</em></td>
<td>idiom</td>
<td></td>
</tr>
</tbody>
</table>
7.2. From meaning to form (case study V): RENT/LET

**Formal relations for marking ‘converses’ in the domain RENT/LET**

<table>
<thead>
<tr>
<th>Language</th>
<th>Word</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turk.</td>
<td><em>kiralamak</em></td>
<td>• wide-spread motivational solutions based on underlying frame</td>
</tr>
<tr>
<td>Anc.Gr.</td>
<td><em>misthûsthai</em> – <em>mistiûn</em></td>
<td>• functional equivalence of a great variety of formal devices</td>
</tr>
<tr>
<td>Arab.</td>
<td><em>ʼistaʼ ybara</em> (X) – <em>ʼa ẓ ybara</em> (II) / <em>ḥ ẓ- ybara</em> (IV)</td>
<td>• in part grammatical devices assuming a lexical function</td>
</tr>
<tr>
<td>Germ.</td>
<td><em>mieten</em> – <em>vermieten</em></td>
<td>• in part typologically typical formal devices</td>
</tr>
<tr>
<td>Swahili</td>
<td><em>-panga</em> / <em>-kodi</em> – <em>-pangisha</em> / <em>-kodisha</em></td>
<td>• no clear directionality between the two concepts</td>
</tr>
<tr>
<td>Swed.</td>
<td><em>hyra</em> – <em>hyra ut</em></td>
<td>serial verb</td>
</tr>
<tr>
<td>Chin.</td>
<td><em>chū</em> – <em>chûzû</em></td>
<td>idiom</td>
</tr>
<tr>
<td>Hung.</td>
<td><em>bérbe venni</em> – <em>bérbe adni</em></td>
<td>idiom</td>
</tr>
</tbody>
</table>
Interesting questions concerning lexical motivation:

- How many words of a given language are motivated?
- Have different languages / language types different proportions of motivated words? (cf. Ullmann 1966)
- **How** are the motivated word motivated, i.e. which formal and cognitive relations are involved in different languages?

⇒ Project *LexiType*$_{Syn}$ (Tübingen, 2005-08), pilot study on portions of French and Italian vocabulary

http://www.sfb441.uni-tuebingen.de/b6/index-engl.html
Starting-point:

• onomasiological? e.g. Buck?

  necessity of a previous polysemy analysis

• frequency of words

  necessity to consider different frequency portions of the vocabulary

  ➔ correlation between frequency and morphological complexity/polysemy

  ➔ not sufficiently fine-grained with respect to polysemy

Koch, Lexical typology, 2010-8-25
Three-step procedure:

1. **polysemy** analysis of a (random) choice of high- and low-frequency words

2. **motivational** analysis (first part): finding out the motivational “partner” for each stimulus

3. **motivational** analysis (second part): finding out the cognitive relation for each couple of motivational “partners”
1. **polysemy** analysis of a (random) choice of high- and low-frequency words:
   - empirical inquiry (internet form), 30 informants per stimulus
     → **sentence generation** task for every “sense”
     → **definition** task for every “sense”

   ➔ type of result:

<table>
<thead>
<tr>
<th>Fr. <em>pension</em></th>
<th>responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOARDING-SCHOOL</td>
<td>16</td>
</tr>
<tr>
<td>BOARDING-HOUSE</td>
<td>10</td>
</tr>
<tr>
<td>OLD AGE PENSION</td>
<td>9</td>
</tr>
<tr>
<td>(FINANCIAL) SUPPORT</td>
<td>7</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

→ most salient sense
→ 2nd most salient sense

2. **motivational** analysis (first part)
2. **motivational** analysis (first part): finding out the motivational “partner” for each stimulus (30 informants per stim.):

- results for 100 **French** (left) and 100 **Italian** (right) stimuli:

  ![Diagram showing motivational analysis results for French and Italian stimuli.](http://www.sfb441.uni-tuebingen.de/b6/ergebnisse.html)

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Fig. 57

http://www.sfb441.uni-tuebingen.de/b6/ergebnisse.html

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Fig. 58
3. **motivational** analysis (**second** part): finding out the cognitive relation for each couple of motivational “partners”:

- empirical inquiry (internet form, half-closed questionary), 30 informants per stimulus

with diagnostic templates like:

- $X$ is a type of $Y$, because… (taxonomic subordination)
- $X$ and $Y$ do not have anything to do with each other, but you can nevertheless see a similarity between them, because… (metaphorical similarity)
- $X$ and $Y$ are normally linked in space and/or in time, because… (contiguity)

etc.
3. **motivational** analysis (second part): finding out the cognitive relation for each couple of motivational “partners”:

→ results for the motivated stimuli (from 2.):

• formal-cognitive combinations

• cognitive relations: →

Koch, Lexical typology, 2010-8-25
8. Case study VI: French and Italian vocabulary

Cognitive relations for French

- Metaphorical similarity: 25%
- Contiguity: 20%
- Opacity: 15%
- Conceptual identity: 13%
- Taxonomic superordination: 2%
- Cotaxonomic similarity: 7%
- Stand-off: 7%
- Unclear: 4%
- Taxonomic subordination: 7%

Fig. 59  http://www.sfb441.uni-tuebingen.de/b6/ergebnisse.html
Cognitive relations for Italian

- cotaxonomic similarity: 3%
- stand-off: 6%
- unclear: 17%
- taxonomic subordination: 6%
- metaphorical similarity: 11%
- more than one implicit step: 6%
- contrast: 6%
- contiguity: 18%
- opacity: 16%
- conceptual identity: 6%

Fig. 60
http://www.sfb441.uni-tuebingen.de/b6/ergebnisse.html
9.1. Iconicity and diagrammaticity

icons:

- images (e.g. onomatopoes)
- diagrams
- metaphors

(cf. Peirce 1902)
9.1. Iconicity and diagrammaticity

(c.f. Peirce 1902)

Fig. 62

Koch, Lexical typology, 2010-8-25
9.1. Iconicity and diagrammaticity

Fig. 63

Koch, Lexical typology, 2010-8-25
9.1. Iconicity and diagrammaticity

C₁

similarity

F₁

‘iconicity’

type of

C-F motivation

Fig. 64
9.1. Iconicity and diagrammaticity

(cf. Jakobson 1965)

\[ \text{C}_1 \xrightarrow{\text{GENERATION} + 2} \text{C}_2 \]

\[ \text{F}_1 \xrightarrow{\text{E. } \text{grandfather}} \text{F}_2 \xrightarrow{\text{E. } \text{father}} \]

Fig. 66
9.1. Iconicity and diagrammaticity

Fig. 67

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9.1. Iconicity and diagrammaticity

C₁  C₂

F₁  F₂

similarity ➔ icon ➔ diagram

type of C-F motivation

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9.1. Iconicity and diagrammaticity

Fig. 69

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9.2. Case study VII: TREE and FRUIT

Germ. *Eiche* ‘oak’

Germ. *Eichel* ‘acorn’

Fr. *pommier* ‘apple-tree’

Fr. *pomme* ‘apple’

Fig. 71

Koch, Lexical typology, 2010-8-25
9.2. Case study VII: TREE and FRUIT

A cross-linguistic investigation

Concepts: BEECH/BEECHNUT and PEAR-TREE/PEAR

Sample of 27 languages
(Arabic, Basque, Breton, Catalan, Check, Chinese, Danish, Dutch, English, French, German, Ancient Greek, Modern Greek, Hungarian, Italian, Japanese, Latin, Norwegian, Persian, Polish, Portuguese, Rumania, Russian, Sardinia, Spanish, Swedish, Turkish)

(cf. Koch 1999)
### 9.2. Case study VII: TREE and FRUIT

<table>
<thead>
<tr>
<th></th>
<th>BEECH/ BEECHNUT</th>
<th>PEAR-TREE/ PEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>identity (polysemy)</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>gender alternation</td>
<td>—</td>
<td>4</td>
</tr>
<tr>
<td>FRUIT $\leftarrow$ TREE</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>TREE $\leftarrow$ FRUIT</td>
<td>—</td>
<td>20</td>
</tr>
<tr>
<td>no link</td>
<td>7</td>
<td>—</td>
</tr>
</tbody>
</table>

Koch, Lexical typology, 2010-8-25
Fig. 72

iconicity: diagrammaticity

9.2. Case study VII: TREE and FRUIT

BEECH

PEAR

Koch, Lexical typology, 2010

iconicity: diagrammaticity
Fig. 73

9.2. Case study VII: TREE and FRUIT

C1 BEECH-NUT

BEECH C2

F1 x + y

F2 x

similarity ➔ icon ➔ diagram

Koch, Lexical typology, 2010-8-25
9.2. Case study VII: TREE and FRUIT

Figure 74

Koch, Lexical typology, 2010-8-25
Task 2 for students

Polysemy
Task 2 for students: polysemy

\[ C_1 \text{SOFT} \rightarrow \text{(metaphorical) similarity} \rightarrow \text{SWEET} C_2 \]

polysemy

type of C-C/F

motivation

\[ F_{1/2} \text{ lt. } \text{dolce} \]

Koch, Lexical typology, 2010-8-25
Task 2 for students: polysemy

\[ C_1 \text{SOFT} \quad \sim \quad \text{SWEET} \quad C_2 \]

\[ F_{1/2} \quad \text{lt. dolce} \]

icon? diagram?

Koch, Lexical typology, 2010-8-25
Questions with respect to polysemy:

1. Does polysemy (identity of F) represent the relation between $C_1$ and $C_2$ by similarity?

2. Is polysemy iconic/diagrammatic?