Multilingual Conceptual Dictionaries Based on Ontologies

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The problem:

The legal language used by the European Union is not the same of that of the Member States

• It is problematic the European Directive translation

• It is problematic the European Directive implementation

• It is problematic the European Directive drafting
The problem:

The legal language used by the European Union is not the same of that of the Member States

An example:

- in Directive 99/44/EC
- English word: “reasonably”
- Italian (translation of Directive): “ragionevolmente”
- Italian (transposition law): “con ordinaria diligenza”

(the latter is highly specialised, common to the terminology of the Italian legal literature and especially representing the correct fulfilment of the duties of the contractual parties: Art. 1176 civil code)

This is an evidence of extra-EU polysemy
But we also have **conceptual misalignment:**

Example: German “Klar und verständlich”
1) the print or the writing of the information must be clear and legible ("Gestaltung der Information")
2) the information must be intelligible by the consumer ("Formulierung der Information")
3) the language of the information must be the national of consumer ("Sprache der Information")

Italian “Chiaro e comprensibile”
1 - OK
2 - ???
3 - OK

English “Clear and Comprehensible”
1 - ???
2 - OK
3 - ???
Terms are enough?

• Need to distinguish between terms and meanings (concepts)

1. print or writing
   "Klar und verständlich"

2. intelligibility

3. national language
   "Chiaro e Comprensibile"

   "Clear and Understandable"
ONTOLOGIES

- An ontology (computer science sense) is a set of interconnected concepts

- The concepts must be connected to each other via meaning relations
A fragment of ontology

But ontologies depend on the legal system!
The picture becomes more complex

Italian ontology

EU ontology

German ontology
Multi-lingual terms and multi-system ontologies

- Cancellation
- Consumer protection
- Termination
- Withdrawal

- Conclusione del contratto
- Difesa del consumatore
- Diritto di recesso
- Recesso
- Risoluzione
European Ontology

• European ontology plays a key role for translation

• Translators can use European Ontology in order to have a rich annotated lexicon
The Syllabus

• An European Project aiming at Uniform Terminology

• In-depth analysis of terms in different systems (including European Directives)

• Manual comparison based on legislation, jurisprudence, and doctrine

• Idea: Using the result of this study as a bottom-up starting point for the construction of a light-weight ontology
The Syllabus

• Aims at implementing and maintaining the structure described above

• Its goal is to provide the user with a friendly interface designed for experts in the legal field

• Two levels:
  • Data introduction
  • Data access
Data introduction
# Data access

## Syllabus

Logged as admin

logout

**Term search**

**Umeaning Management**

**Relations**

**Legal languages**

**Users**

**Log**

**Database Maintenance**

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### Insert the search terms

<table>
<thead>
<tr>
<th>Meaning id</th>
<th>Juridic language</th>
<th>Level</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>eu2</td>
<td>italiano</td>
<td>european</td>
<td>chiaro e comprensibile</td>
<td>&quot;...tali clausole devono essere sempre redatte in modo chiaro e comprensibile.&quot;</td>
</tr>
<tr>
<td>na4</td>
<td>italiano</td>
<td>national</td>
<td>in modo chiaro, comprensibile ed inequivocabile</td>
<td>&quot;...il prestatore, salvo diverso accordo tra le parti che non siano consumatori, deve fornire in modo chiaro, comprensibile ed inequivocabile&quot;</td>
</tr>
<tr>
<td>eu5</td>
<td>italiano</td>
<td>european</td>
<td>chiaramente</td>
<td>&quot;... vanno chiaramente indicati sui documenti commerciali.&quot;</td>
</tr>
</tbody>
</table>
Towards XML-OWL format

• The syllabus SQL encoding is based on the Gene Ontology (GO) model
• GO allows for conversion from SQL to XML and (!) OWL
• But GO does not take term-concept distinction into account
Conclusions

- Arguments in favour of **tools** able to deal with interconnected terminologies and ontologies

- *First phase*: Bottom-up development of knowledge bases (more than 400 terms included until now). Empirical verification about **conceptual misalignment**

- *Second phase*: **merging** with top- & middle-level ontologies (planned December 2006)

- **Result**: An **ontology** expressly designed for jurists, with an associated search engine for document retrieval