

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”**

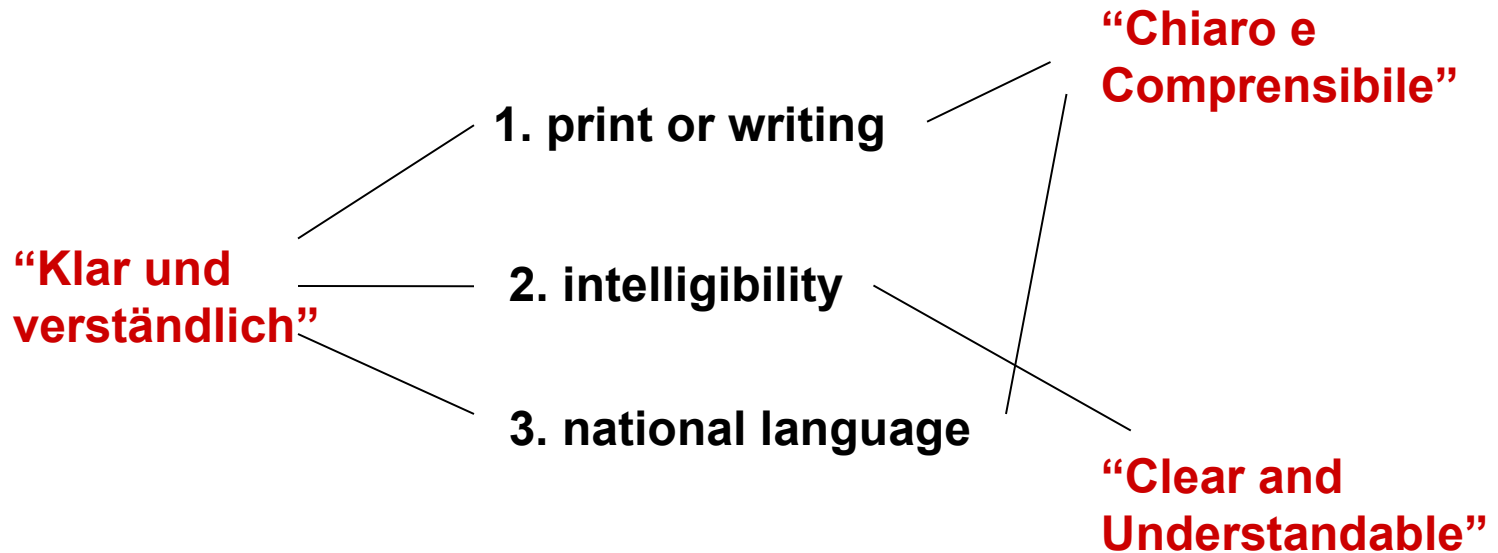
- 1 - OK
- 2 - ???
- 3 - OK

English **“Clear and Comprehensible”**

- 1 - ???
- 2 - OK
- 3 - ???

Terms are enough?

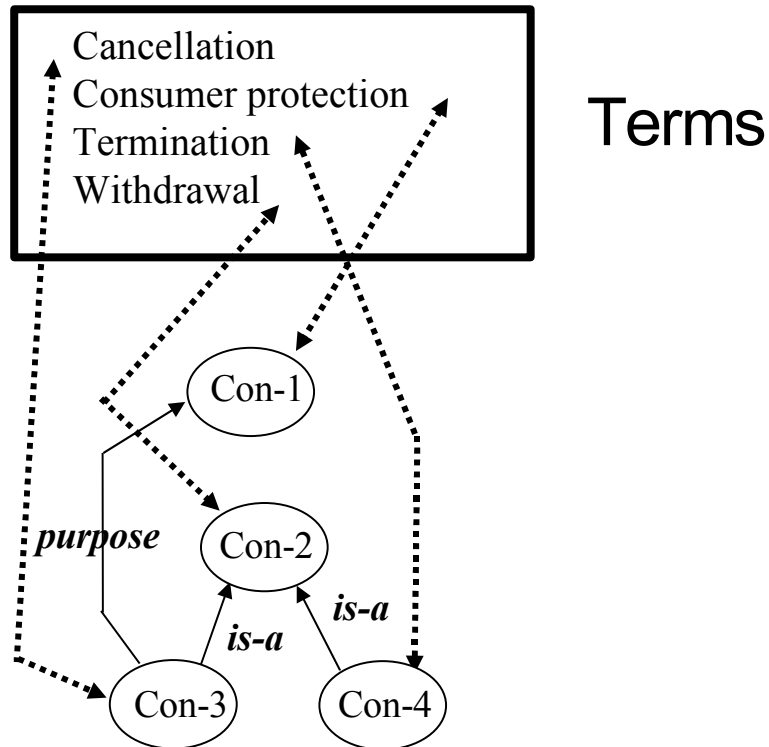
- Need to distinguish between **terms** and meanings (**concepts**)



ONTOLOGIES

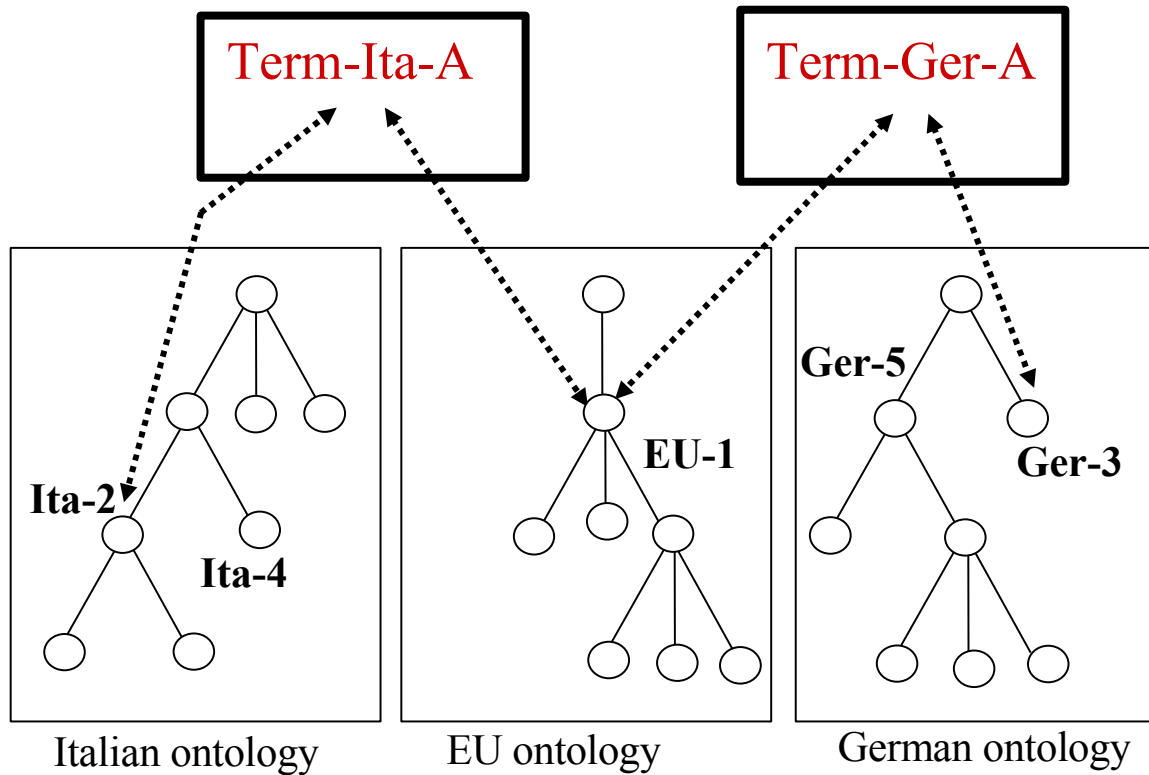
- An **ontology** (computer science sense) is a set of interconnected concepts
- The concepts must be connected to each other via **meaning relations**

A fragment of ontology

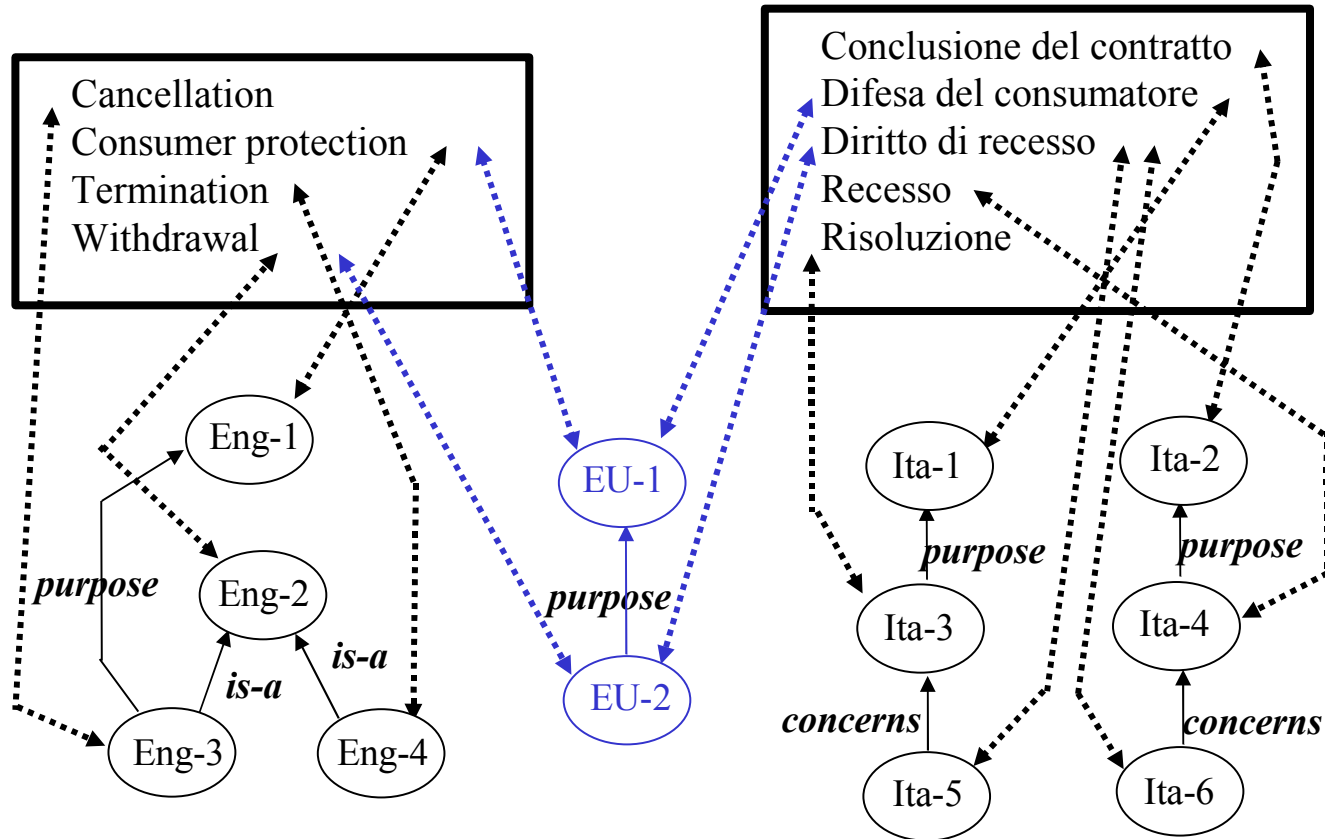


But ontologies depend on
the legal system!

The picture becomes more complex



Multi-lingual terms and multi-system ontologies



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

Syllabus
Interface Language

Show translations

Logged as admin

logout

Term search

Umeaning Management

Relations

Legal languages

Users

Log

Database Maintenance

Ontology



[Ontology Graph](#)

- eu6 contract
 - **IS_A eu10 electronic contract** (remove relation)
- PART_OF eu7 contract term
 - **IS_A eu11 unfair term** (remove relation)

Umeaning of european level eu10

Actions	Giuridic language	Term	Description	References	Attachments
Edit Delete Insert synonym Insert translation Insert attachment Insert association Add child Create child	english	<ul style="list-style-type: none"> • electronic contract 	restrictions for the use of electronic contracts with regard to contracts requiring by law the involvement of courts, public authorities,	Directive 2000/31/EC	

Data access

Syllabus Interface Language  

Logged as admin
logout

Term search

- Umeaning Management**
- Relations**
- Legal languages**
- Users**
- Log**
- Database Maintenance**

Insert the search terms

legal language

level

umeaning id

term name

description

references

Search results (3 entries found; page 1 of 1)

umeaning id	giuridic language	level	term	description
eu2	italiano	europaean	chiaro e comprensibile	...tali clausole devono essere sempre redatte in modo chiaro e comprensibile.
na4	italiano	national	in modo chiaro, comprensibile ed inequivocabile	"...il prestatore, salvo diverso accordo tra le parti che non siano consumatori, deve fornire in modo chiaro, comprensibile ed inequivocabile"
eu5	italiano	europaean	chiaramente	"... vanno chiaramente indicati sui documenti commerciali."

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