

Legal Taxonomy Syllabus: Handling Multilevel Legal Ontologies

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Abstract

The Legal Taxonomy Syllabus methodology has been used to represent legal information at different levels such, e.g., European Directives, and their transpositions into national legislations. In this paper we point out the main issues of this approach, and extend it to account for a further level, the Acquis Principles level.

Index Terms: Formal Ontologies, European Directives, Legal Drafting Support.

1. Introduction

The European Union produces each year a large number of Union Directives (EUD), which are translated into each of the Member States' languages. The EUD are sets of norms that have to be implemented by the national legislations. The problem of multilingualism in European legislation has recently been addressed by using linguistic and ontological tools, e.g. [1, 2, 3]. The management of EUD is particularly complex since the implementation of a EUD does not correspond to the straight transposition into a national law. An EUD is subject to further interpretation, and this process can lead to unexpected results. Comparative Law has studied in details the problems concerning EUD and their complexities. On the other hand managing with appropriate tools this kind of complexity can facilitate the comparison and harmonization of national legislation [1]. Based on this research, in this paper we describe a tool for building multilingual conceptual dictionaries that we developed for representing and analysing terminologies and concepts used in EUD. We also point out some recent advances of the Legal Taxonomy Syllabus¹ (LTS) that have been designed to generalize our methodology to a broader set of legal contexts.

The main assumptions of our methodology are motivated by studies in comparative law [4] and ontologies engineering [5] and they can be listed as follows:

1. Terms and concepts must be distinguished; for this purpose, we use lightweight ontologies, i.e. simple taxonomic structures of primitive or composite terms together with associated definitions. They are hardly axiomatized as the intended meaning of the terms used by the community is more or less known in advance by all members, and the ontology can be limited to those structural relationships among terms that are considered as

relevant [6]².

2. We distinguish the ontology implicitly defined by EUD, the *EU level*, from the various national ontologies. Each one of these "particular" ontologies belongs to the *national level*: i.e., each national legislation refers to a distinct national legal ontology. We do not assume that the transposition of an EUD automatically introduces in a national ontology the same concepts that are present at the EU level.
3. Corresponding concepts at the EU level and at the national level can be denoted by different terms in the same national language.

Another feature of European law has to be taken into account in knowledge engineering: the *Acquis communautaire*, the existing body of EU primary and secondary legislation as well as the ECJ decisions. Nowadays the *acquis* comprising 80,000 pages around. However, notwithstanding the importance of this existing body of settled laws, the Acquis is also a far wider notion, encompassing an impressive set of principles and obligations, going far beyond the internal market and including areas, such as, agriculture, the environment, energy and transport. Today, some areas of Acquis are in the way to be consolidated in order to ensure greater coherence in their implementation in the Member States and their interpretation by courts. In February 2003, the European Commission published an Action Plan aimed at achieving greater coherence in European contract law by adopting a non-binding Common Frame of Reference (CFR) [7].

In this paper we show how LTS is used to build a dictionary of Consumer Law within the broader scope of the Uniform Terminology Project³ [4]. The paper is structured as follows. In Section 2 we stress two main problems raised in comparative law as regards as EUD and their transpositions. In Section 3 we describe how the methodology of the LTS allows to cope with these problems. In section 4 we describe the *Acquis level* and illustrate how the LTS can be enriched to account for the Acquis Principles [8], as well. Finally in Section 5 we provide some conclusions and elaborate about future works.

2. Terminological and conceptual misalignment

Comparative Law has identified two key points in dealing with EUD, which make more difficult dealing with the polysemy of

¹ The current version of our system can be found at the address: www.eulawtaxonomy.org.

² See <http://cos.ontoware.org/>

³ <http://www.uniformterminology.unito.it>

legal terms: we call them the *terminological* and *conceptual misalignments*.

In the case of EUD (usually adopted for harmonising the laws in the Member States), the terminological matter is complicated by the need to implement them in the national legislations. In order to have a precise transposition in a national law, a Directive may be subject to further interpretation. Thus, a *legal concept* can be expressed in different ways in a Directive and in its implementing national law. A single concept in a particular language can be expressed in a number of different ways in a EUD and in the national law implementing it. As a consequence we have a terminological misalignment. For example, the concept corresponding to the word *reasonably* in English, is translated into Italian as *ragionevolmente* in the EUD, and as *con ordinaria diligenza* into the transposition law.

In the EUD transposition laws a further problem arises from the different national *legal doctrines*. A legal concept expressed in an EUD may not be present in a national legal system. In this case we can talk about a conceptual misalignment. To make sense for the national lawyers' expectancies, the European legal terms have not only to be translated into a sound national terminology, but they also need to be correctly detected when their meanings are to refer to EU legal concepts or when their meanings are similar to concepts which are known in the Member states. Consequently, the transposition of European law in the parochial legal framework of each Member state can lead to a set of distinct national legal doctrines, that are all different from the European one. In case of consumer contracts (like those concluded by the means of distance communication as in Directive 97/7/EC, Art. 4.2), the notion to provide in a *clear and comprehensible manner* some elements of the contract by the professionals to the consumers represents a specification of the information duties which are a pivotal principle of EU law. Despite the pairs of translation in the language versions of EU Directives (i.e., *klar und verständlich* in German - *clear and comprehensible* in English - *chiaro e comprensibile* in Italian), each legal term, when transposed in the national legal orders, is influenced by the conceptual filters of the lawyers' domestic legal thinking. So, *klar und verständlich* in the German system is considered by the German commentators referring to three different legal concepts: 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*). In Italy, the judiciary tend to control more the formal features of the concepts 1 and 3, and less concept 2, while in England the main role has been played by the concept 2, though considered as plain style of language (not legal technical jargon) thanks to the historical influences of plain English movement in that country.

Note that this kind of problems identified in comparative law has a direct correspondence in the ontology theory. In particular Klein [5] has remarked that two particular forms of ontology mismatch are *terminological* and *conceptualization* ontological mismatch which straightforwardly correspond to our definitions of misalignments.

3. The methodology of the Legal Taxonomy Syllabus

A standard way to properly manage large multilingual lexical databases is to do a clear distinction among terms and their in-

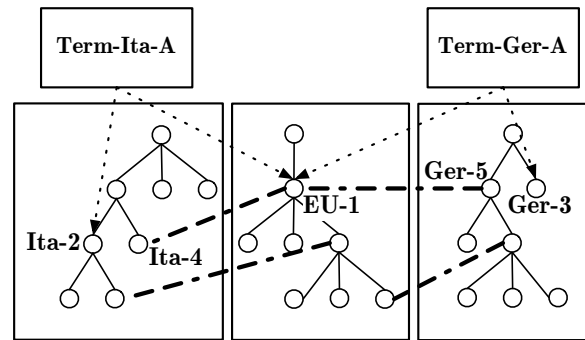


Figure 1: Relationship between ontologies and terms. The thick arcs represent the inter-ontology "association" link.

terlingual acceptations (or *axes*) [9, 10]. In our system to properly manage terminological and conceptual misalignment we distinguish in the LTS project the notion of legal term from the notion of legal concept and we build a systematic classification based on this distinction. The basic idea in our system is that the conceptual backbone consists in a taxonomy of concepts (ontology) to which the terms can refer to express their meaning. One of the main points to keep in mind is that we do not assume the existence of a single taxonomy covering all languages. In fact, it has been convincingly argued that the different national systems may organize the concepts in different ways. For instance, the term *contract* corresponds to different concepts in common law and civil law, where it has the meaning of *bargain* and *agreement*, respectively [11]. In most complex instances, there are no homologous between terms-concepts such as *frutto civile* (legal fruit) and *income*, but respectively civil law and common law systems can achieve functionally same operational rules thanks to the functioning of the entire taxonomy of national legal concepts [12]. Consequently, the LTS includes different ontologies, one for each involved national language plus one for the language of EU documents. Each language-specific ontology is related via a set of *association* links to the EU concepts, as shown in Fig. 1.

Although this picture is conform to intuition, in LTS it had to be enhanced in two directions. First, it must be observed that the various national ontologies have a reference language. This is not the case for the EU ontology. For instance, a given term in English could refer either to a concept in the UK ontology or to a concept in the EU ontology. In the first case, the term is used for referring to a concept in the national UK legal system, whilst in the second one, it is used to refer to a concept used in the European directives. This is one of the main advantages of LTS. For example *klar und verständlich* could refer both to concept GER-379 (a concept in the German Ontology) and to concept EU-882 (a concept in the European ontology). This is the LTS solution for facing the possibility of a correspondence only partial between the meaning of a term has in the national system and the meaning of the same term in the translation of a EU directive. This feature enables the LTS to be more precise about what "translation" means. It puts at disposal a way for asserting that two terms are the translation of each other, but just in case those terms have been used in the translation of an EU directive: within LTS, we can talk about direct EU-national translations of terms, but only about *implicit* national-system translations of terms. In other words, we distinguish between

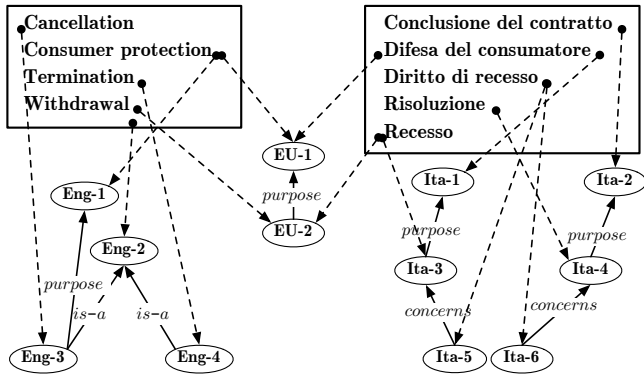


Figure 2: An example of interconnections among terms.

explicit and *implicit* associations among concepts belonging to different levels. The former ones are direct links that are explicitly used by legal experts to mark a relation between concepts. The latter ones are indirect links: if we start from a concept at a given national level, by following a direct link we reach another concept at European level. Then, we will be able to see how that concept is mapped to further concepts at the various national levels.

The situation enforced in LTS is depicted in Fig. 1, where it is represented that, the Italian term *Term-Ita-A* and the German term *Term-Ger-A* have been used as corresponding terms in the translation of an EU directive, as shown by the fact that both of them refer to the same EU-concept EU-1. In the Italian legal system, *Term-Ita-A* has the meaning Ita-2. In the German legal system, *Term-Ger-A* has the meaning Ger-3. The EU translations of the directive is correct insofar no terms exist in Italian and German that characterize precisely the concept EU-1 in the two languages (i.e., the “associated” concepts Ita-4 and Ger-5 have no corresponding legal terms). A practical example of such a situation is reported in Fig. 2, where we can see that the ontologies include different types of arcs. Beyond the usual *is-a* (linking a category to its supercategory), there are also a *purpose* arc, which relates a concept to the legal principle motivating it, and *concerns*, which refers to a general relatedness. The dotted arcs represent the reference from terms to concepts. Some terms have links both to a National ontology and to the EU Ontology (in particular, *withdrawal* vs. *recesso* and *difesa del consumatore* vs. *consumer protection*).

The last item above is especially relevant: note that this configuration of arcs specifies that: 1) *withdrawal* and *recesso* have been used as equivalent terms (concept EU-2) in some European Directives (e.g., Directive 90/314/EEC). 2) In that context, the term involved in an act having as purpose the some kind of protection of the consumer. 3) The terms used for referring to the latter are *consumer protection* in English and *difesa del consumatore* in Italian. 4) In the British legal system, however, not all *withdrawals* have this goal, but only a subtype of them, to which the code refers to as *cancellation* (concept Eng-3). 5) In the Italian legal system, the term *diritto di recesso* is ambiguous, since it can be used with reference either to something concerning the *risoluzione* (concept Ita-4), or to something concerning the *recesso* proper (concept Ita-3).

Finally, it is possible to use the LTS to translate terms into different national systems via the transposed concepts at the European level, i.e. by using the implicit associations. For in-

stance suppose that we want to translate the legal term *credito al consumo* from Italian to German. In the LTS *credito al consumo* is associated to the national meaning Ita-175. We find that Ita-175 is the transposition of the European meaning EU-26 (*contratto di credito*). EU-26 is associated to the German legal term *Kreditvertrag* at European level. Again, we find that the national German transposition of EU-26 corresponds to the national meaning Ger-32 that is associated with the national legal term *Darlehensvertrag*. Then, by using the European ontology, we can translate the Italian legal term *credito al consumo* into the German legal term *Darlehensvertrag*.

4. Work in progress: adding further levels

One major feature of the LTS approach relies on distinguishing legal information as belonging to different levels. At the current stage of development, the system manages terms and meanings at both EU and national levels. The former one is an ontology of legal concepts derived from the EUD; the latter one includes national legal ontologies coming from the various national legal systems. It is worth emphasizing that not only the current approach is general enough to account for heterogeneous legal sources (like, e.g., EUD and “Decreti Legislativi” for European and Italian national levels respectively), but also it be generalised by adding further levels.

To add a level into the system, we link the new legal ontology to that in one of the existing levels. Linking a new ontology means that we define *explicit* associations between concepts in the new ontology and concepts in an ontology from an existing level.

Moreover, the EC Commission on Common Frame of Reference should provide common principles, terminology, and rules for contract law to address gaps, conflicts, and ambiguities emerging from the application of European contract law. In drafting the Action Plan the Commission emphasized that the CFR would eliminate market inefficiencies arising from the diverse implementation of European directives, providing a solution to the non-uniform interpretation of European contract law due to vague terms and rules, now present in the existing Acquis. In particular, two issues arise out from the vague terminology of EUD. First, directives adopt broadly defined legal concepts, therefore leaving too much discretion in their implementation to national legislators or judges. Second, directives introduce legal concepts that are different from national legal concepts. Thus, when judges face vague terms, they can either interpret them by referring to the broad principles of the *acquis communautaire*, or they can refer to the particular goals of the directive in question.

To respond to the Action Plan, in the last few years, within the general framework of a “Network of Excellence” EU Project, a research group aiming at consolidating the existing EC law is working on the “Principles of the Existing EC Private Law” or “Acquis Principles” (ACQP). These Principles will be discussed and compared with other outcomes from different European research groups, such as Von Bar or Lando group, and, during a complex process of consultation with stakeholders under the direction of EC Commission, the CFR will be set up. The Acquis Principles should provide a common terminology as well as common principles to constitute a guideline for uniform implementation and interpretation of European law [13, 14].

One outcome of such project is the Acquis Principles glossary, i.e., a set of interconnected terms and concepts. We introduce the *Acquis level* into the LTS by defining explicit associations between Acquis Principles concepts and EU-level con-

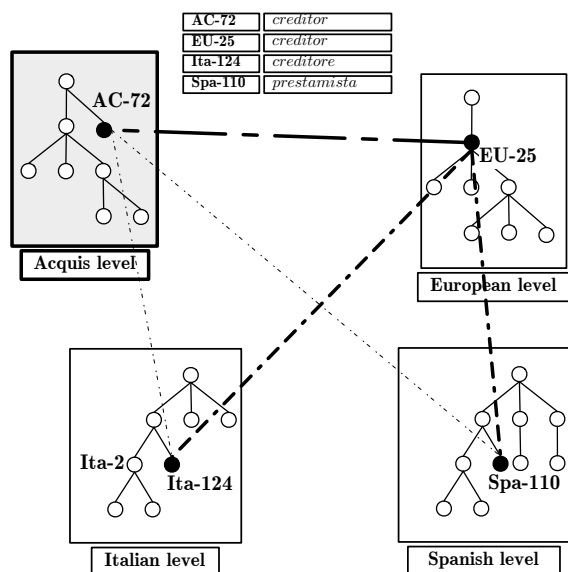


Figure 3: LTS augmented with the Acquis level. Thick lines indicate *explicit* associations; thin lines indicate *implicit* associations.

cepts.

For example, in Figure 3 we have that the concept EU-25 (corresponding to the English legal term *creditor*) present in a EUD is explicitly associated to the national legal concepts Ita-124 (*finanziatore*) and Spa-110 (*prestamista*) for Italian and Spanish, respectively. We now add the term *creditor* from the Acquis Level by inserting an explicit association between the Acquis legal concept AC-72. As a consequence, the concept AC-72 is implicitly associated to the legal concepts Ita-124 and Spa-110.

This fact has deep consequence on the way one can build systems for reasoning, that are allowed to make paths passing through more than two levels, thereby offering new insights (and ready-to-use associations between terms) to scholars in comparative law.

5. Conclusions

In this paper we discuss some features of the LTS, a tool for building multilingual conceptual dictionaries for the EU law. The tool is based on lightweight ontologies to allow a distinction of concepts from terms. Distinct ontologies are built at the EU level and for each national language, to deal with polysemy and terminological and conceptual misalignment.

Many attempts have been done to use ontologies in legal field, e.g. [15, 3] and LOIS project (that is based on EuroWordNet project [16], <http://www.loisproject.org>), but to our knowledge the LTS is the first attempt which starts from fine grained legal expertise on the EUD domain.

The present work illustrates how further levels can be added to the EU and national levels. In particular, we introduced how a novel set of principles (along with a terminology) can be added to the LTS. This work has two main virtues: firstly, legal experts will be allowed to recover information from diverse kinds of data. Secondly, legal reasoning systems will benefit of a framework enriched by new explicit and implicit associations

between Acquis and European and national levels.

Future work will address how the LTS can be used as a thesaurus for general EUD, even if the currently implemented version of the LTS knowledge base is limited to EUD concerning consumer law.

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