Connecting European Cultural Diversity: a Case Study on Colour Terms

Challenges in a digital lexicographic context

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Outline

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- Colours and Culture across Europe
- Language Diversity and Colour Terms
- Challenges for a Digital Lexicographic Output
- Heterogeneous Data in a Digital Humanities Context
- Conclusion and summary

Introduction

Colours and colour terminology

→ widely studied across different disciplines:

linguistics, psychology, physics, anthropology, natural sciences

→ an important part of many fields of life

→ highly inter/trans-disciplinary research area

Introduction

Colours and colour terminology

→ relativist vs universalist approach (cf. Berlin & Kay, 1969, Wierzbicka, 2006)

→ areas of interest in the literature: colour semantics and perception (cf. Berlin & Kay, 1969; Deutscher, 2010; Gage, 1993; Wierzbicka, 2006)

→ a language‘s colour system may depend on general perception and people‘s experiences

Colours and Culture across Europe

Colour terms and cultural associations (emotions, superstitions, traditions)

→ manifested in phrases, idioms, collocations

→ naming orientated on the immediate nature, environment and everyday life

→ possibly subject to change over time

Language diversity and colour terms

Colours in a European cross-cultural context

Colour terms within the COST ENeL framework

→ conference on colour naming (Lisbon 2015)

→ *European roots* (collecting words concerning *colours* and *emotions*)

→ Study on idioms concerning *colours and emotions – „red“ and „anger“*

(Blanck, 2015 at eLex ; Dorn, Villalva, Giouli, Blanck, Kovalenko & Wandl-Vogt, submitted)

Language diversity and colour terms

Colours in a European cross-cultural context

→ idioms concerning *colours and emotions:* similarities + differences

e.g. English *red with anger*
German *rot vor Wut*
French *rouge de colère*
Portuguese *verde de raiva*

Language diversity and colour terms

Colours in a European cross-cultural context

diversity = challenge for electronic lexicographic output

- how should linguistic/cultural diversity be addressed?
- translation – which language?
- dealing with heterogeneous data?
- how to display and model the concept behind the idioms across languages?

Challenges for a lexicographic output

Colours in a European cross-cultural context

Modelling the concepts behind the idioms across languages?

English	*red with anger*
	[red referring to colour of the face]
German	*rot vor Wut*
	[red referring to colour of the face]
Portuguese	*verde de raiva*
	[green referring to colour of …]

Heterogeneous data in a DH context

→ DH: linking, disciplines, sources and resources of various fields

→ offering tools for dealing with heterogeneous data

→ linking lexicographic information/output with other areas

example: *Red wine* → *vino tinto, vi negre, vino rosso*

Heterogeneous data in a DH context: Colour of wine, colour of grape

→ **Red wine** is a type of wine made from dark-coloured (black) grape varieties {@en}

→ **Rotwein** ist ein aus blauen Weintrauben hergestellter Wein {@de}

→ Un **vin rouge** est obtenu par la fermentation du moût de raisins noirs {@fr}

→ El **vino tinto** es un tipo de vino procedente mayormente de mostos de uvas tintas {@es}

→ El **vi negre** és aquell procedent de mostos de raïm negre {@ca}

→ Il **vino rosso** è prodotto unicamente con uve a bacca rossa {@it}

Heterogeneous data in a DH context: Use of Knowledge Sources -- Wikidata

→ A URI for the *concept* “Red Wine”: https://www.wikidata.org/wiki/Q1827

→ Labels in many languages linked to this source (represented in JSON):

→ {"item":{"type":"uri","value":"http://www.wikidata.org/entity/**Q1827**"},"itemLabel":{"xml:lang":"ca","type":"literal","value":"Vi negre"}}

→ {"item":{"type":"uri","value":"http://www.wikidata.org/entity/**Q1827**"},"itemLabel":{"xml:lang":"de","type":"literal","value":"Rotwein"}}

→ {"item":{"type":"uri","value":"http://www.wikidata.org/entity/**Q1827**"},"itemLabel":{"xml:lang":"en","type":"literal","value":"red wine"}}

→ …

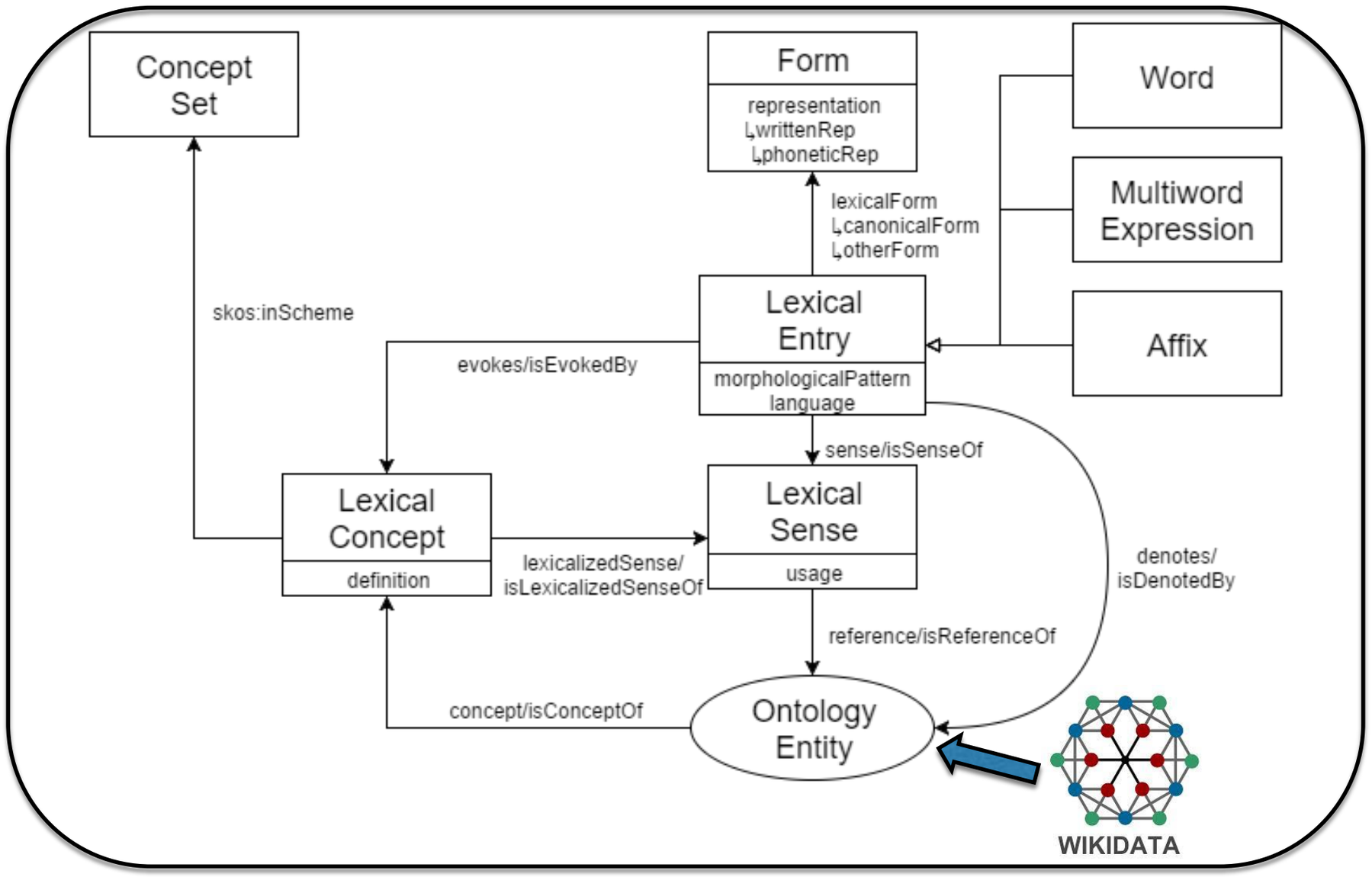
→ But no further lexical information given.

Heterogeneous data in a DH context: Combining Wikidata and Ontolex

→ Ontolex is a specification of the *lexicon model for ontologies* (lemon) as resulting from the work of the W3C Ontology Lexicon Community Group: https://www.w3.org/community/ontolex/wiki/Final_Model_Specification.

Heterogeneous data in a DH context: Combining Wikidata and Ontolex

Ontolex



Graph: courtesy of John McCrae

Encoding lexical data in Ontolex

→ **Rotwein** ist ein aus blauen Weintrauben hergestellter Wein {@de}

→ „Rotwein“ is a compound word, a Noun, consisting of an Adjective and a Noun. The Adjective is in first position and the Noun in the second one. The Adjective refers to a colour, and the Noun to an alcoholic beverage.

Encoding lexical data in Ontolex (simplified)

:Rotwein_lex

rdf:type ontolex:LexicalEntry ;

lexinfo:partOfSpeech lexinfo:noun ;

rdf:_1 :Rot_comp ;

rdf:_2 :wein_comp ;

decomp:constituent :Rot_comp ;

decomp:constituent :wein_comp ;

decomp:subterm :Wein_lex ;

decomp:subterm :rot_lex ;

ontolex:denotes <http://www.oeaw.ac.at/acdh/compound#https://www.wikidata.org/wiki/Q1827> .

```
:Wein_lex
   rdf:type ontolex:LexicalEntry ;
   lexinfo:partOfSpeech lexinfo:noun .
```

```
:rot_lex
  rdf:type ontolex:LexicalEntry ;
  lexinfo:partOfSpeech lexinfo:adjective .
```

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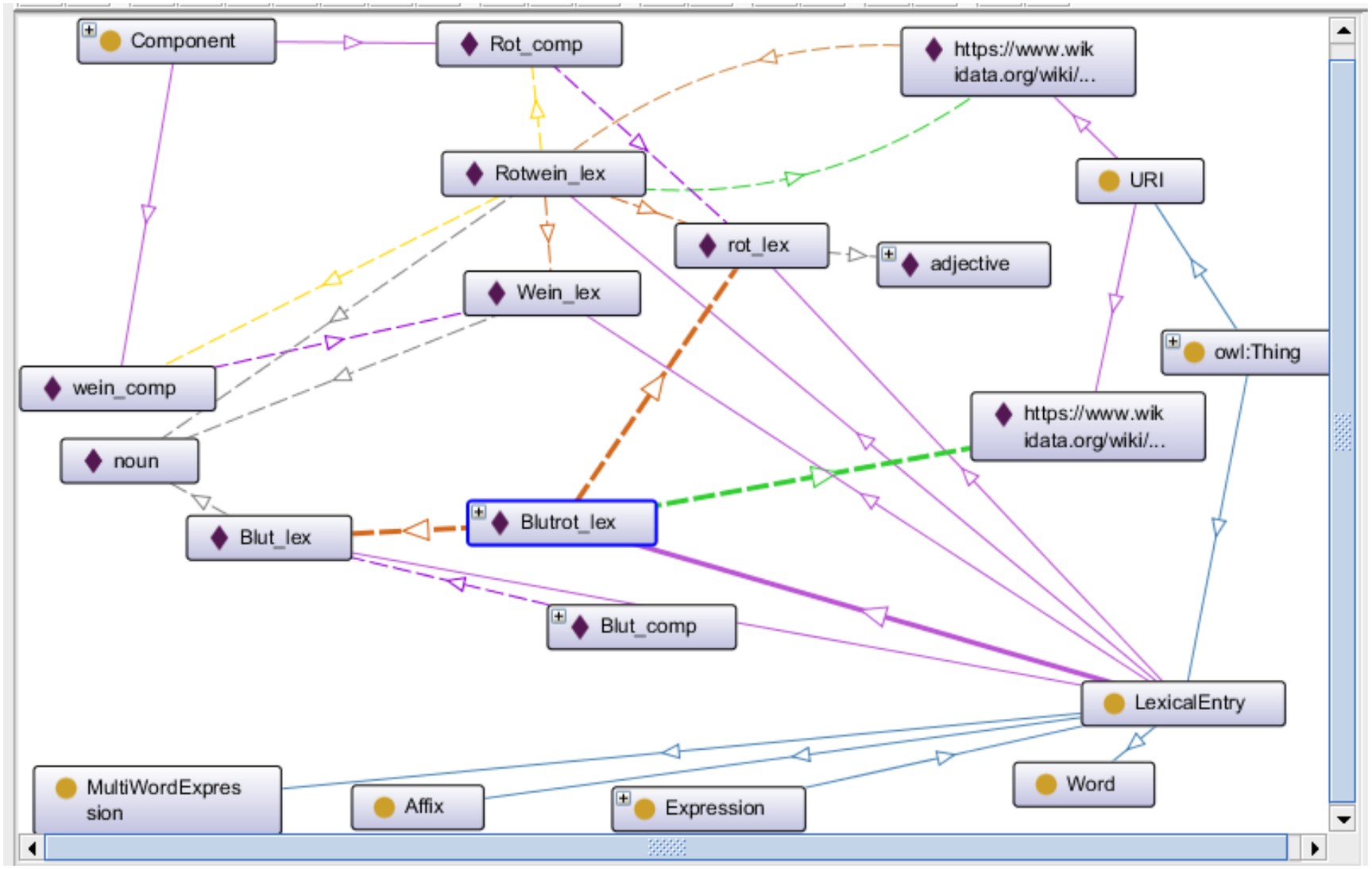
Encoding language specific data in Ontolex



Conclusions

Colours and colour terminology

- Linguistically and culturally diverse
- Challenge in dealing with heterogeneous data → DH tools offering possibilites of linking and connecting different sources
- Challenge for a lexicographic output → connecting concepts; displaying structure of languages

Conclusions

Colours and colour terminology

- Linguistically and culturally diverse
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- Challenge for a lexicographic output → connecting concepts; displaying structure of languages

Conclusions

Colours and colour terminology

- Linguistically and culturally diverse
- Challenge in dealing with highly variable data → DH tools offering possibilites of linking and connecting different sources
- Challenge for a lexicographic modelling → including cultural concepts; comparing languages structurally

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Thank you!

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Ontolex graph slide 14: courtesy of John P. McCrae
Graph slide 17: Thierry Declerck