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# La knowledge base LiLa a supporto dell'interoperabilità tra risorse linguistiche distribuite per il latino

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5 Maggio, 2021



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## Introduction and fundamentals

LiLa: mission and architecture

## LiLa now!

LiLa Lemma Bank and Lexical Resources

Textual Resources

Text Linker

To sum up

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Scattered and unconnected



## ERC Consolidator Grant 2018-2023

A collection of multifarious, interoperable linguistic resources described with the same vocabulary for knowledge description (by using common data categories and ontologies)

### Interlinking as a Form of Interaction



Infrastructure



Interoperability

# The Linked Data Principles

...just to be FAIR



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- ▶ Include links to other URIs

# Benefits of Applying LD to Linguistic Resources

Chiarcos et al. (2013)



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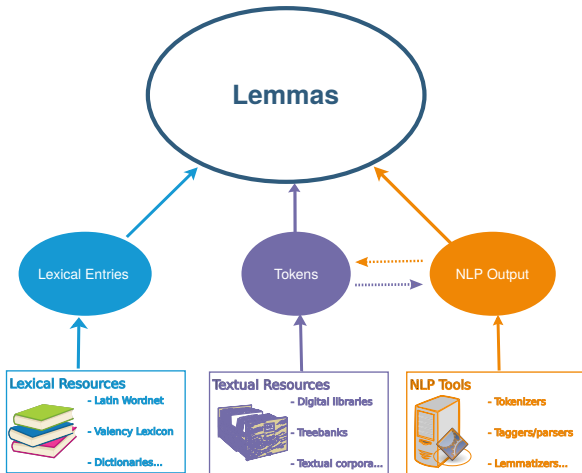
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- ▶ Federation: to combine information from physically separated repositories
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- ▶ Ecosystem: maintained by a large and active community with common tools and practices



## LiLa reflects the annotation granularity of the resources it connects

No data enrichment or further analysis is performed  
...but we can help you to enrich your (meta)data

# LiLa: Requirements

Connecting resources in the Knowledge Base



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- ▶ Online!

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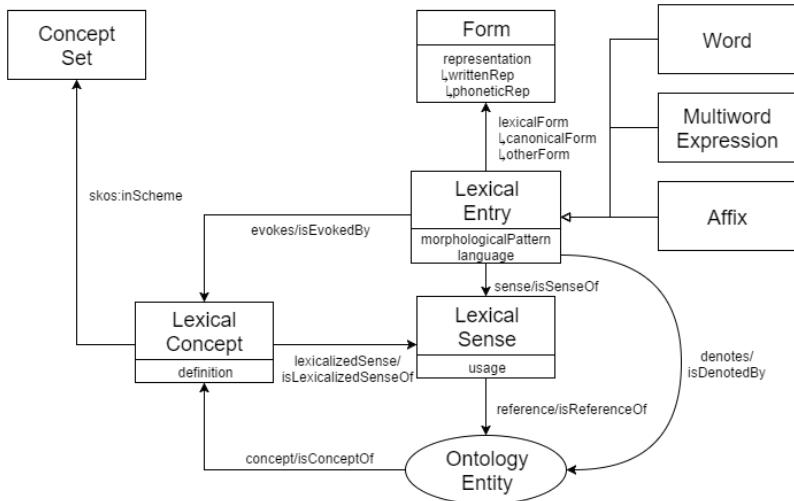
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Lemma *admiror* 'to admire, to respect'

<https://lila-erc.eu/data/id/lemma/87541>

- ▶ Lemma Bank
- ▶ A derivational lexicon (Word Formation Latin)
- ▶ A polarity lexicon (LatinAffectus)
- ▶ An etymological dictionary (De Vaan)
- ▶ A Valency Lexicon (Latin Vallex)
- ▶ A manually checked subset of the Latin WordNet

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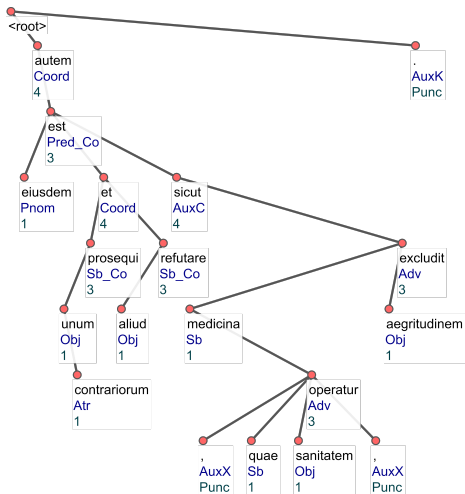
To sum up

# (Annotated) Corpora in LiLa

Source: The *Index Thomisticus* Treebank (original scheme)

*eiusdem autem est unum contrariorum prosequi et aliud refutare sicut medicina , quae sanitatem operatur , aegritudinem excludit .* (IT-TB: SCG, lib. 1, cap. 1, n. 6)

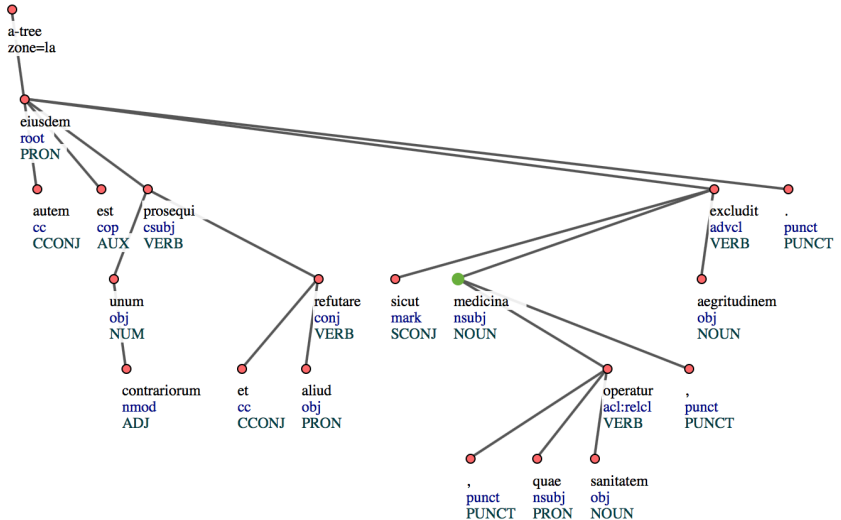
Now it belongs to the same thing to pursue one contrary and to remove the other: thus **medicine**, which effects health, removes sickness. (Trans. Laurence Shapcote)





# (Annotated) Corpora in LiLa

Source: The *Index Thomisticus* Treebank (UD scheme)



Token *medicina*

‘the healing art, medicine, surgery’

[https://lila-erc.eu/lodview/data/corpora/  
ITTB/id/token/005.SCG\\*LB1.CP--++1.N.-6.  
1-1.4-1W11](https://lila-erc.eu/lodview/data/corpora/ITTB/id/token/005.SCG*LB1.CP--++1.N.-6.1-1.4-1W11)

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LILA: TEXT LINKER (β) ©

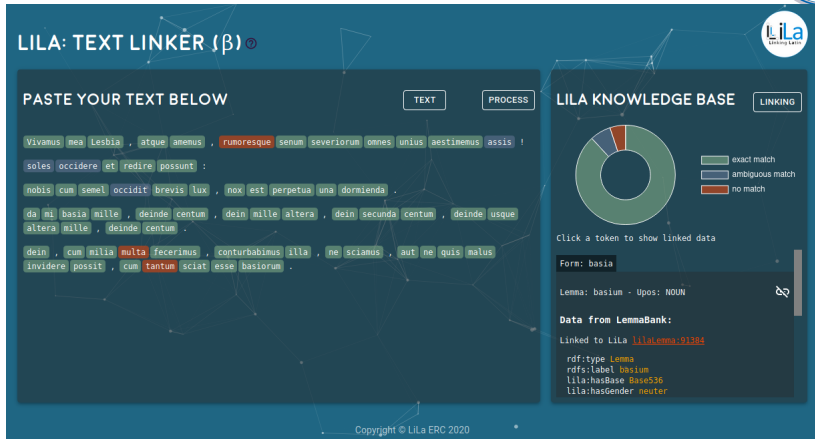
PASTE YOUR TEXT BELOW

TEXT PROCESS

Vivamus mea Lesbia, atque amemus,  
rumoresque senum severiorum  
omnes unius aestimemus assis!  
soles occidere et redire possunt:  
nobis cum semel occidit brevis lux,  
nox est perpetua una dormienda.  
da mi basia mille, deinde centum,  
dein mille altera, dein secunda centum,  
deinde usque altera mille, deinde centum.  
dein, cum milia multa fecerimus,  
conturbabimus illa, ne sciamus,  
aut ne quis malus invidere possit,  
cum tantum sciat esse basiorum. |

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Figure: LiLa's Text Linker



**LILA: TEXT LINKER (β)**

**PASTE YOUR TEXT BELOW** [TEXT] [PROCESS]

Vivamus nea Lesbia , atque amemus , rumoresque senum severiorum omnes unius aestinemus assis !  
soles occidere et redire possunt :  
nobis cum semel occidit brevis lux , nox est perpetua una dormienda .  
da mi basia mille , deinde centum , dein mille altera , dein secunda centum , deinde usque altera mille , deinde centum .  
dein , cum milia multa fecerimus , conturbabimus illa , ne sciamus , aut ne quis malus invidere possit , cum tantum sciat esse basiorum .

**LILA KNOWLEDGE BASE** [LINKING]

Legend: exact match (green), ambiguous match (blue), no match (red)

Click a token to show linked data

Form: basia

Lemma: basium - Upos: NOUN

Data from LemmaBank:

Linked to LiLa [lilaLemma:91294](#)

rdf:type Lemma  
rdfs:label basium  
lila:hasBase Base536  
lila:hasGender neuter

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Figure: Text processed against the LiLa Knowledge Base

<http://lila-erc.eu:8080/LiLaTextLinker/>

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## ► Corpora

- ✓ Index Thomisticus Treebank (*Summa contra Gentiles*): ca. 450,000 nodes
- ✓ Dante Search (700th death anniversary): ca. 46,000 tokens
- ✓ *Querolus sive Aulularia*: ca. 17,000 tokens
- PROIEL and LLCT treebanks
- Computational Historical Semantics, LASLA and CroALa Corpora

## ► Lexica

- ✓ Word Formation Latin: ca. 46,000 lemmas (Classical Latin)
- ✓ Etymological dictionary of Latin & the other Italic Langs.: ca. 1,400 entries
- ✓ LatinAffectus: ca. 2,300 entries
- ✓ Index Graecorum Vocabulorum in Linguam Latinam: ca. 1,800 entries
- ✓ Latin WordNet: ca. 1,000 manually checked entries
- ✓ Latin Vallex 2.0: Valency Lexicon
- Lewis & Short Dictionary

## ► NLP tools

- ✓ LEMLAT (lemma bank): ca. 150,000 lemmas

## ► TOTAL: approximately 13 million triples

## Query Interface, Triplestore and Linker

- ▶ Query interface; Triplestore
- ▶ Linker

## Linguistic Resources. Corpora

- ▶ Index Thomisticus Treebank
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## Linguistic Resources. Lexica

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- ▶ Latin WordNet
- ▶ Latin Vallex 2.0



# Thanks!

Get in touch



## LiLa: Linking Latin

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CIRCSE Research Centre



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<https://github.com/CIRCSE>



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