

Contribuciones del Procesamiento del Lenguaje Natural a la navegación de corpus digitales

Jornada BNE, 12/2017

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Miembro del proyecto POSTDATA - Poetry Standardization and Linked Open Data

Plan

- Introducción
 - Exploración de corpus
 - Procesamiento del Lenguaje Natural
 - Relación con la edición digital (académica)
- Estudios de caso
 - Earth Negotiations Bulletin
 - Manuscritos de Jeremy Bentham
 - Diachronic Spanish Sonnet Corpus

- **Introducción**
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 - Earth Negotiations Bulletin
 - Manuscritos de Jeremy Bentham
 - DISCO: Diachronic Spanish Sonnet Corpus

Exploración simple de corpus

Search

Lexical Extraction

Corpus Maps ▾

Bentham

date

1765 - 1770	(1)
1770 - 1775	(3)
1775 - 1780	(3)
1780 - 1785	(3)
1785 - 1790	(4)
1790 - 1795	(3)
1800 - 1805	(18)
1805 - 1810	(18)
1810 - 1815	(41)
1815 - 1820	(203)
1820 - 1825	(559)
1825 - 1830	(9)
1830 - 1835	(20)

885 results found in 9 ms Page 1 of 89 [next](#)

[1819 March Deontology True](#)

[More Like This](#)

... 1819 March

Deontology

True it is in this case he may have miscalculated. But so he may in any other case: in any case in which the contention is between one self regarding pleasure and another

By uniting more **happiness** producible at less expence any other means. By a given sum the poorest receives the greater the **happiness** ...

Exploración simple de corpus

happiness jeremy bentham

Author name

Journal/book title

Volume

Issue

386 results

Refine by:

Years

2018 (6)

2017 (18)

2016 (18)

Show more ▾

Article type

Review articles (16)

Research articles (174)

Encyclopedia (75)

Book chapters (71)


Show more ▾

Publication title

History of European Ideas (25)

Encyclopedia of Applied Ethics (Second Edition), 2012 (25)

International Encyclopedia of the Social & Behavioral Sciences, 2001 (17)

 Download selected articles

Bentham, Jeremy (1748–1832)

Encyclopedia

International Encyclopedia of the Social & Behavioral Sciences (Second Edition), 2015, William Twining

[Get Access](#) [Abstract ▾](#) [Export Citation ▾](#)

Jeremy Bentham's 'unusually liberal' representative democracy

Research article

History of European Ideas, Volume 37, Issue 4, December 2011, Pages 446-453

Filimon Peonidis

[Get Access](#) [Abstract ▾](#) [Export Citation ▾](#)

Bentham, Jeremy (1748–1832)

Encyclopedia

International Encyclopedia of the Social & Behavioral Sciences, 2001, Pages 1145-1151
W.L. Twining

[Get Access](#) [Abstract ▾](#) [Export Citation ▾](#)

Jeremy Bentham, the French Revolution and political radicalism

Research article

History of European Ideas, Volume 30, Issue 4, 2004, Pages 381-401

Philip Schofield

 Download PDF (248 KB) [Abstract ▾](#) [Export Citation ▾](#)



- Anotaciones automáticas de características lingüísticas
- Permiten acotar búsquedas según criterios lingüísticos
- Generación automática de metadatos
 - Palabras clave
 - Locutores, temas, ...

¿PLN + Navegación de corpus + Edición digital ?



POSTDATA

Poetry Standardization
and Linked Open Data

- Edición (digital académica) implica enriquecimiento de los textos mediante trabajo filológico
- PLN proporciona anotaciones que pueden ayudar en este proceso
- ¿Navegación? *Edición digital académica como interfaz*



POSTDATA

Poetry Standardization
and Linked Open Data

International Symposium

Digital Scholarly Editions as Interfaces

organized at the Centre for Information Modelling –
Austrian Centre for Digital Humanities
at the University of Graz
and endorsed by DiXiT.



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Estudios de caso

APPS LATTICE: PRF

Demos for Pablo Ruiz Fabo's PhD thesis at the [Lattice](#) lab (2014-2017)

Climate Negotiation Analysis

Navigating actors and their statements in the [Earth Negotiations Bulletin](#), a corpus on international climate negotiations

[Pablo Ruiz Fabo](#), [Clément Plançq](#) & [Thierry Poibeau](#)

Mapping the Bentham Corpus

Wikification and visualization of over 15,000 pages of [manuscripts](#) by the philosopher and social reformer Jeremy Bentham (collaboration with [University College London](#)).

[Pablo Ruiz Fabo](#), [Frédérique Mélanie-Becquet](#) & [Thierry Poibeau](#)

PolInformatics

Entity Linking/Wikification case study on the [PolInformatics](#) corpus, about the American financial crisis of 2007-2008

[Pablo Ruiz Fabo](#), [Frédérique Mélanie-Becquet](#) & [Thierry Poibeau](#)

Estudios de caso

APPS LATTICE: PRF

Demos for Pablo Ruiz Fabre's PhD thesis at the LATTICE lab (2014-2017)

Climate Negotiation Analysis

Navigating actors and their statements in the *Earth Negotiators Bulletin*, a corpus on international climate negotiations

Pablo Ruiz Fabre, Clément Ponsard & Thierry Poitrenou

<http://apps.lattice.cnrs.fr/prf/>

PolInformatics

Entity Linking/Wikification case study on the *PolInformatics* corpus, about the American financial crisis of 2007-2008

Pablo Ruiz Fabre, Emmanuel Miliute-Bouquet & Thierry Poitrenou

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PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

30 NOVEMBRE - 11 DÉCEMBRE 2015

21^E CONFÉRENCE DES NATIONS UNIES SUR LE CHANGEMENT CLIMATIQUE

TOUS ENSEMBLE POUR LE CLIMAT

30 NOVEMBER - 11 DECEMBER 2015

21ST UNITED NATIONS CLIMATE CHANGE CONFERENCE

UNITED FOR CLIMATE ACTION

cop21.gouv.fr

- Resúmenes de negociaciones diplomáticas entre países sobre el cambio climático

Extracción de relaciones

The EU, **with** NEW ZEALAND and **opposed by** CHINA, MALAYSIA and BHUTAN, **supported** *including the promotion of natural regeneration within the definitions of "afforestation" and "reforestation."*

	ACTORES	PREDICADOS	MENSAJES
1	European_Union	supported	including the promotion of natural regeneration within the definitions of "afforestation" and "reforestation."
2	New_Zealand		
3	China	~supported	
4	Malaysia		
5	Bhutan		

Navegación por relaciones

Actors... Actions... Points... 5 ▾ 5 ▾ 1995 ▾ 2015 ▾ Point Only ▾

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

ActorView	ActionView	AgreeDisagree	< >		
Actor	Action	Point	COP	Year	Conf
Afghanistan	stressed	that adaptation funding must be additional to, and separate from, official development assistance (ODA)	15	2009	5
Afghanistan	supported	changing references to ``contributions" to ``commitments" noting that the former is not in the Convention	19	2013	5
African Group	added	that carbon markets would collapse without an agreement	17	2011	5
African Group	advocated	a single decision on INDCs and the elements of a negotiating text	20a	2014	5

6792 sentences | 15394

Sentences	Docs	KeyPhrase	DBpedia	ClimTag
Sentence	COP	Year		
AFGHANISTAN stressed that adaptation funding must be additional to, and separate from, official development assistance (ODA).	15	2009		
With AFGHANISTAN, the Philippines, for the LMDCs, supported changing references to ``contributions" to ``commitments" noting that the former is not in the Convention.	19	2013		
The AFRICAN GROUP added that carbon markets would collapse without an agreement, and said African soil should not become the Protocol's ``graveyard."	17	2011		
Sudan, for the AFRICAN GROUP, advocated a single decision on INDCs and the elements of a negotiating text.	20a	2014		
Swaziland, for the AFRICAN GROUP, highlighted, inter alia, the need to: work towards				

Navegación por relaciones

Actores Actions... 5 ▾ 5 ▾ 1995 ▾ 2015 ▾ Point Only ▾

support oppose report

Free text... help | about

12211 messages [p 1 / 245]

ActorView ActionView AgreeDisagree < >

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6792 sentences | 15394

Sentences Docs KeyPhrase DBpedia ClimTag

Sentence	COP	Year
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Navegación por relaciones

 Mensajes

 support oppose report


[help](#) | [about](#)

12211 messages [p 1 / 245]

ActorView	ActionView	AgreeDisagree			
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6792 sentences | 15394

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Navegación por relaciones

Actors... Actions... Points... 5 5 1995 2015 Point Only

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

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6792 sentences | 15394

Sentences	Docs	KeyPhrase	DBpedia	ClimTag
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Swaziland, for the AFRICAN GROUP, highlighted, inter alia, the need to: work towards

Triples
(proposiciones)
correspondientes
a la búsqueda

Navegación por relaciones

Actors... Actions... Points... 5 5 1995 2015 Point Only

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

ActorView ActionView AgreeDisagree < >

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6792 sentences | 15394

Sentences Docs KeyPhrase DBpedia ClimTag

Oraciones y documentos para las triples

Navegación por relaciones

Actors... Actions... Points... 5 ▾ 5 ▾ 1995 ▾ 2015 ▾ Point Only ▾

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

ActorView ActionView AgreeDisagree < >

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6792 sentences | 15394

Sentences Docs KeyPhrase DBpedia ClimTag

Metadatos extraídos de los mensajes

Navegación por relaciones

Actors... Actions... Points... 5 5 1995 2015 Point Only

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

ActorView ActionView AgreeDisagree < >

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6792 sentences | 15394

Sentences Docs KeyPhrase DBpedia ClimTag

Metadatos extraídos de los mensajes

Navegación por relaciones

Actors... Actions... Points... 5 5 1995 2015 Point Only

support oppose report

Free text...

help | about

12211 messages [p 1 / 245]

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6792 sentences | 15394

Sentences Docs KeyPhrase DBpedia ClimTag

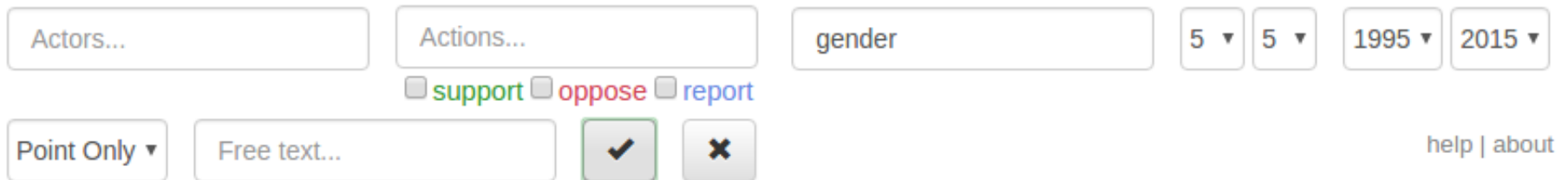
Metadatos

- Palabras clave
- Conceptos genéricos (DBpedia)
- Conceptos de dominio (Tesauro)

Ejemplo de búsqueda

- **Objetivo:** Comparar cómo los actores hablan de *género* (*gender*)

Paso 1: Buscar *gender* en los mensajes



The image shows a search interface with the following elements:

- Actors... (input field)
- Actions... (input field)
- gender (input field)
- 5 ▼ (dropdown menu)
- 5 ▼ (dropdown menu)
- 1995 ▼ (dropdown menu)
- 2015 ▼ (dropdown menu)
- support oppose report (checkboxes with labels)
- Point Only ▼ (dropdown menu)
- Free text... (input field)
- ✓ (checkbox)
- ✗ (checkbox)
- help | about (links)

Ejemplo de búsqueda

Paso 2: Examinar palabras clave usadas por diferentes actores en mensajes que hablan de *gender*

17 messages [p 1 / 1]

ActorView ActionView AgreeDisagree

Actor	Action	Point	COP	Year	Conf
Iceland	noted	that gender balance is merely one aspect of gender equality	19	2013	5
Samoa	called	for consideration of gender balance	7	2001	5
Bulgaria	called	for consideration of gender balance	7	2001	5
European Union	called	for consideration of gender balance	7	2001	5

26 sentence

Sentences Docs KeyPhrase DBpedia ClimTag

Label	Count
gender balance	6
consideration of gender balance	3
lima work	3
lima work programme	3
work programme	3
gender equality	2

Ejemplo de búsqueda

Paso 2: Examinar palabras clave usadas por diferentes actores en mensajes que hablan de *gender*

17 messages [p 1 / 1]

ActorView ActionView AgreeDisagree

Actor	Action	Point	COP	Year	Conf
Iceland	noted	that gender balance is merely one aspect of gender equality	19	2013	5
Jamaica	stated	that the proposed actions should be guided by gender equality , not merely gender balance	20a	2014	5

26 sentences

Sentences Docs KeyPhrase DBpedia ClimTag

Label	Count
gender balance	6
consideration of gender balance	3
lima work	3
lima work programme	3
work programme	3
gender equality	2

Tasa de error

- Anotación automática implica tasa de error
- Scores de confianza

Actors... Actions... gender 5 ▼ 5 ▼ 1995 ▼ 2015 ▼

support oppose report

Point Only ▼ Free text...

[help](#) | [about](#)

Tasa de error

- Anotación automática implica tasa de error
- Scores de confianza

The image shows a user interface for manual annotation. It includes several input fields and controls:

- Actors... (text input)
- Actions... (text input)
- gender (text input)
- Two score input fields, both containing the value '5' with a dropdown arrow. These two fields are highlighted with a pink rectangular box.
- 1995 (dropdown menu)
- 2015 (dropdown menu)
- support (checkbox), oppose (checkbox), report (checkbox) (radio buttons)
- Point Only (dropdown menu)
- Free text... (text input)
- Checkmark button (green)
- X button (grey)
- help | about (text)

- Dos aspectos a evaluar
 - Las anotaciones automáticas per se (evaluación cuantitativa)
 - La utilidad de estas, y de su presentación en interfaces, para expertos en el corpus analizado (evaluación cualitativa)

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Manuscritos de Jeremy Bentham



POSTDATA

Poetry Standardization
and Linked Open Data

- Filósofo y reformador inglés (1748-1832)
- Corpus inédito
- Transcribe Bentham (UCL, Causer & Terras)
- Transcripción por voluntarios (crowdsourcing)
- Muestra de 17.000 páginas



Transcribe Bentham

Transcribe Bentham (Causer, Terras et al.)



POSTDATA

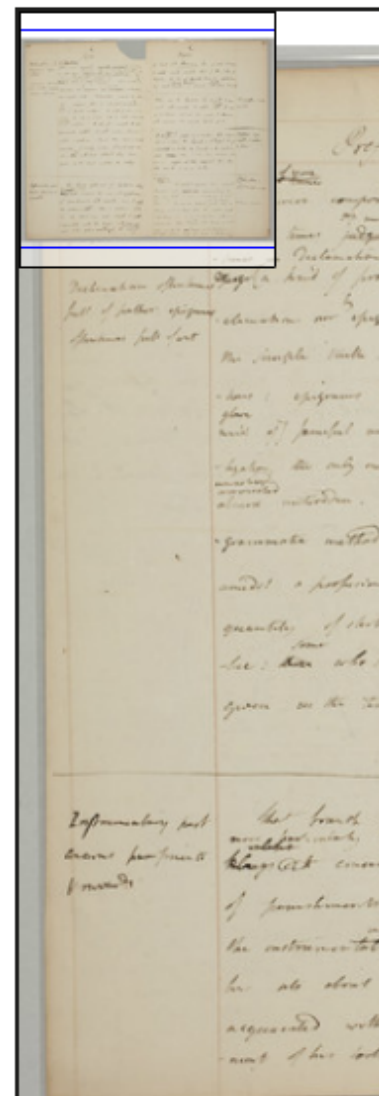
Poetry Standardization
and Linked Open Data

(Causer & Terras)

```
⏪ pbA P [+] # ? [...] ☺ U x² SIG fr & - ⏩
[[file:JB_027_143_002.jpg|520px|right]]
'''[{{fullurl:JB/027/143/002|action=edit}} Click
Here To Edit]'''
<!-- ENTER TRANSCRIPTION BELOW THIS LINE -->

<head>106</head><head>C</head><head>Prefat</head>
<p><note>Declamations and Epigrams reprobated.
</note>

<add>In <del>ancient times</del> <add>days of
yore</add></add> Laws were composed
<del>originally composed</del> in verse:<lb/> in
later times <del>judgment has been passed
of</del> <del>in</del> <add>the merits of these
have been discussed sometimes</add> <lb/> <add>
in declamations, sometimes in</add> <del><gap/>
</del> [a kind of prose] epigrams.
<note>Declamations oftentimes full of pathos:
epigrams oftentimes full of wit</note>But neither
<add>by</add> declamations, <lb/> nor
<add>by</add> epigrams<del>are calculated</del>
<add>is it possible</add> to display<lb/> the
simple< truth. Declamations pervert the
affections: <lb/> epigrams blind the
understanding <add>by </add> [with a <lb/>mist
<add>glare</add> of] <unclear>fanciful</unclear>
analogies the path of sober
<unclear>concretization</unclear><!-- The 1971
full-sized OED gives an example of "concretize"
being used in 1884 -->, <lb/> the only one which
leads to truth, remains<lb/>
<add>unvisited <add>unnoticed</add></add> almost
untrodden. He who first invented the
epigrammatic <lb/> method did good service:
```



Análisis léxico y visualización

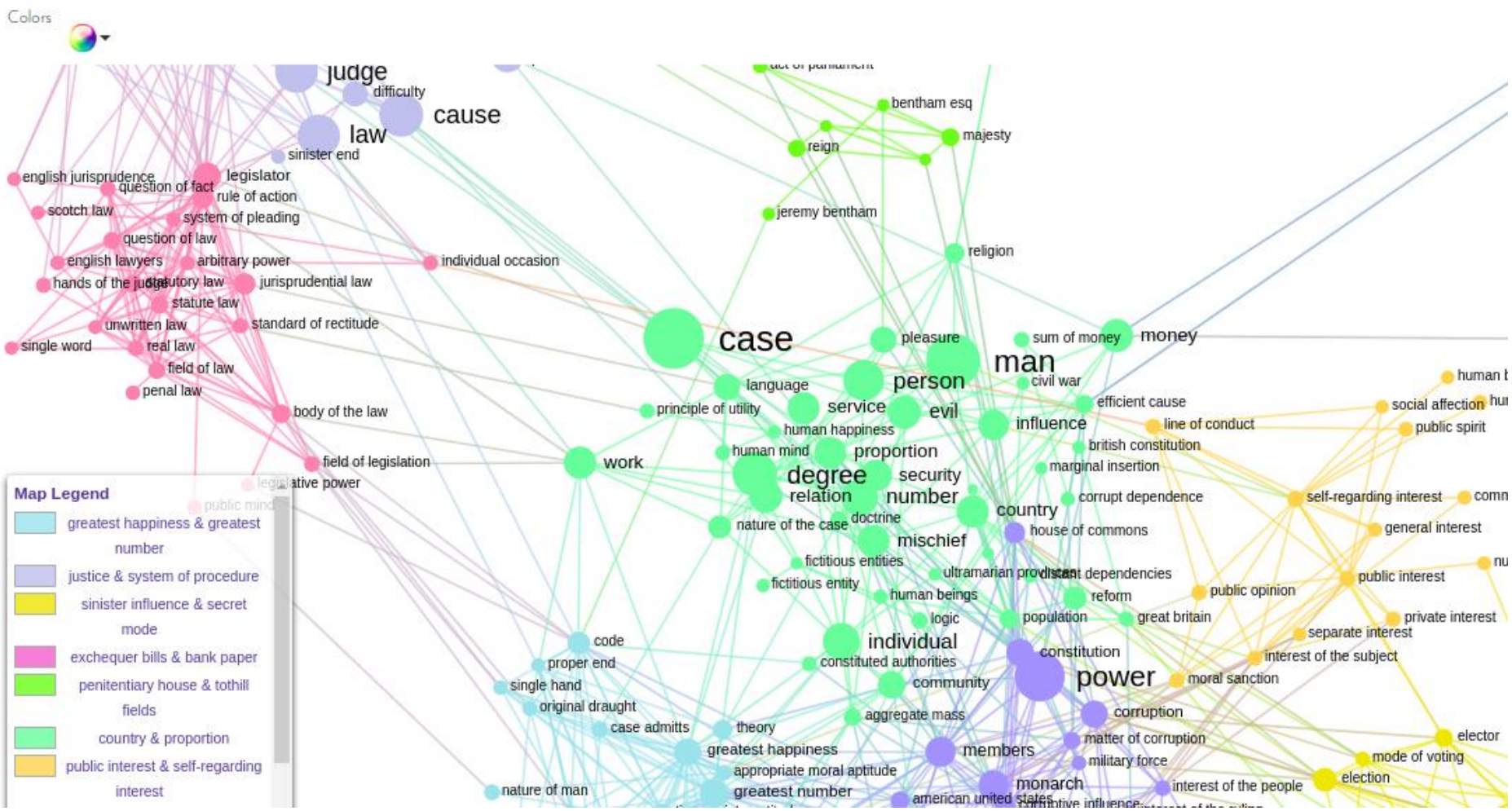
- Extracción léxica (palabras clave)
- Agrupación según similitud contextual (clustering)
- Visualización en forma de red de coocurrencias

Mapa del corpus

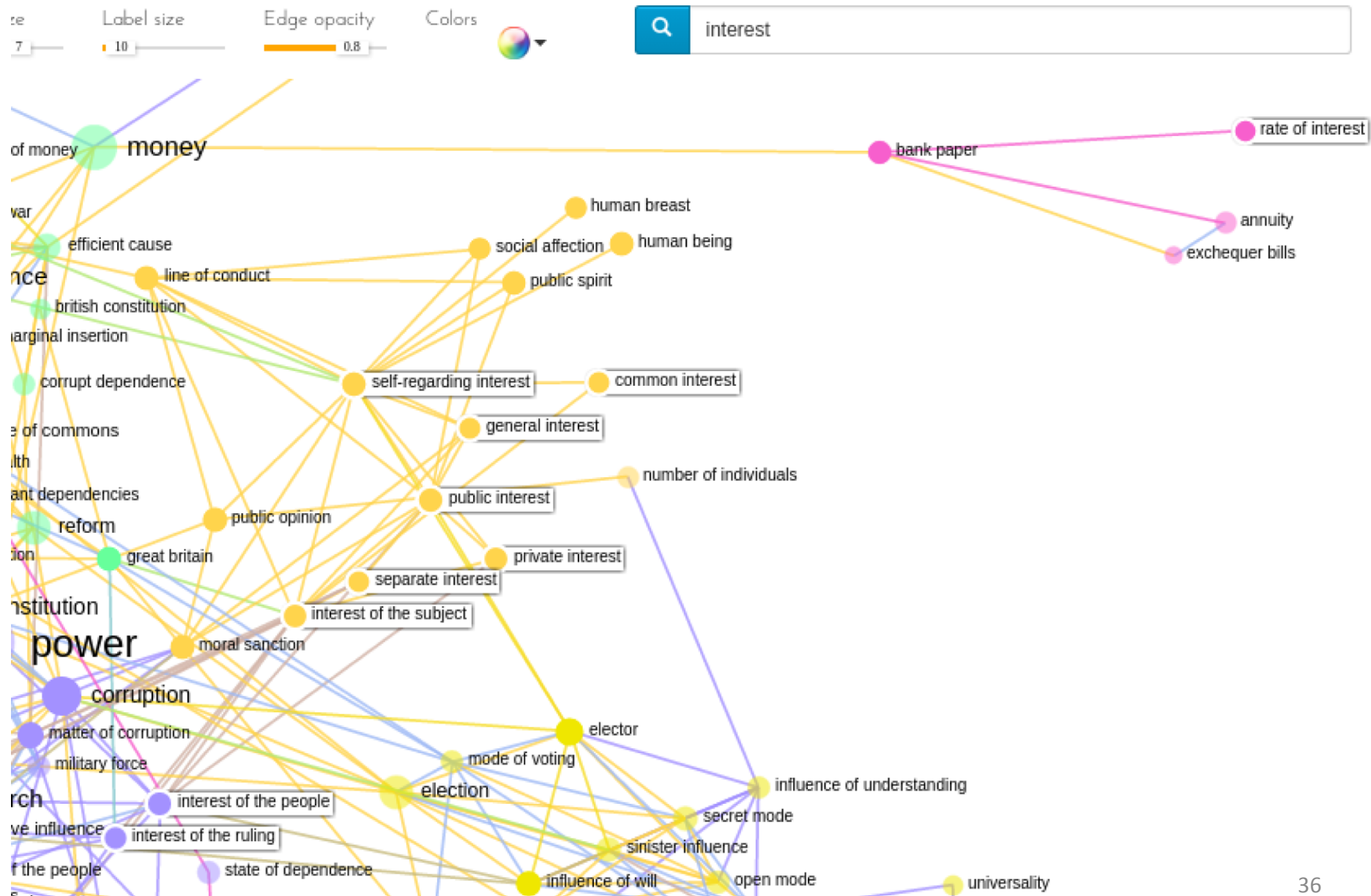
Search Lexical Extraction **Corpus Maps** References

Change Level Selector size Node size Label size Edge opacity

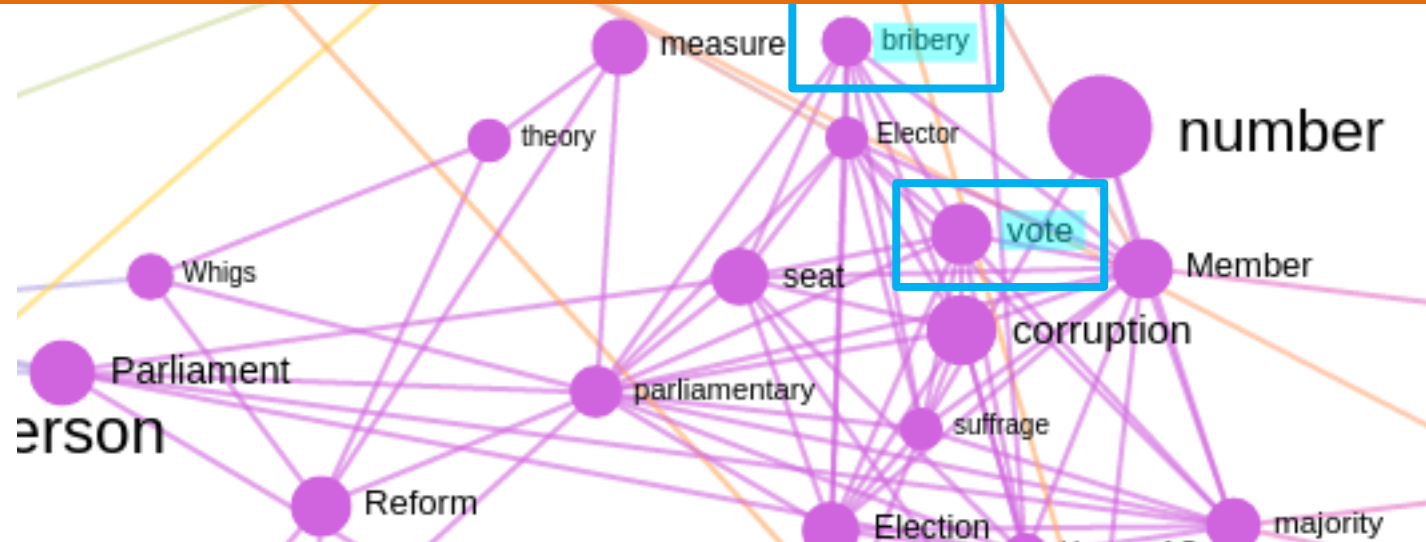
Select node(s) Add to selection



Noción de *interest* en el corpus



Ejemplo de búsqueda



Bentham

date

- [1805 - 1810](#) (14)
- [1810 - 1815](#) (19)
- [1815 - 1820](#) (42)
- [1820 - 1825](#) (1)

[previous](#) 76 results found in 10 ms Page 3 of 8 [next](#)

[1819 Oct. 9 Parl. Reform Bill](#)

[More Like This](#)

... made by or on behalf of a candidate, but intimation is given but the fact is assumed[?] assumed[?] without exception or limitation that of all Electors who **vote** in his favour the wishes are in the most exact unison with their votes. So far as **bribery** is the instrument employed so far the briber is certain that what he thus says is not true: the proof is the giving of the bribe: for if the wish were already what the **vote** declares it to be, no use would there be in the bribe. ... 1819 Oct.

- Ejercicio de uso de la interfaz y entrevista con un investigador de Bentham



POSTDATA

Poetry Standardization
and Linked Open Data



POSTDATA

Poetry Standardization
and Linked Open Data

Análisis automático de encabalgamiento



POSTDATA

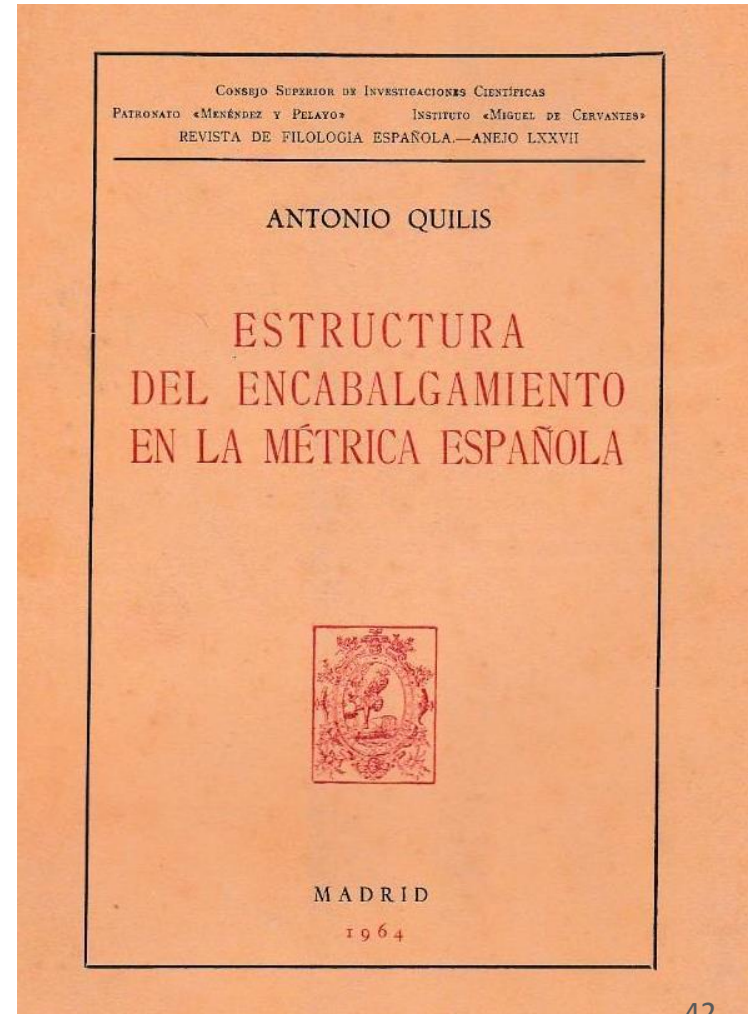
Poetry Standardization
and Linked Open Data

- ANJA: **A**utomatic **E**njambment **A**nalyzer
- DISCO: **D**iachronic Spanish **S**onnet **C**orpus

[https://sites.google.com/site/
spanishenjambment](https://sites.google.com/site/spanishenjambment)

- Desacuerdo entre pausas métricas (versos) y unidades sintácticas (sintagmas)
- Se puede detectar con análisis gramatical automático
- Mismas tecnologías que las usadas para extraer actores y sus mensajes en Earth Negotiations Bulletin

- Quilis, A. (1964).
Estructura del
encabalgamiento
en la métrica
española. Madrid.
CSIC.

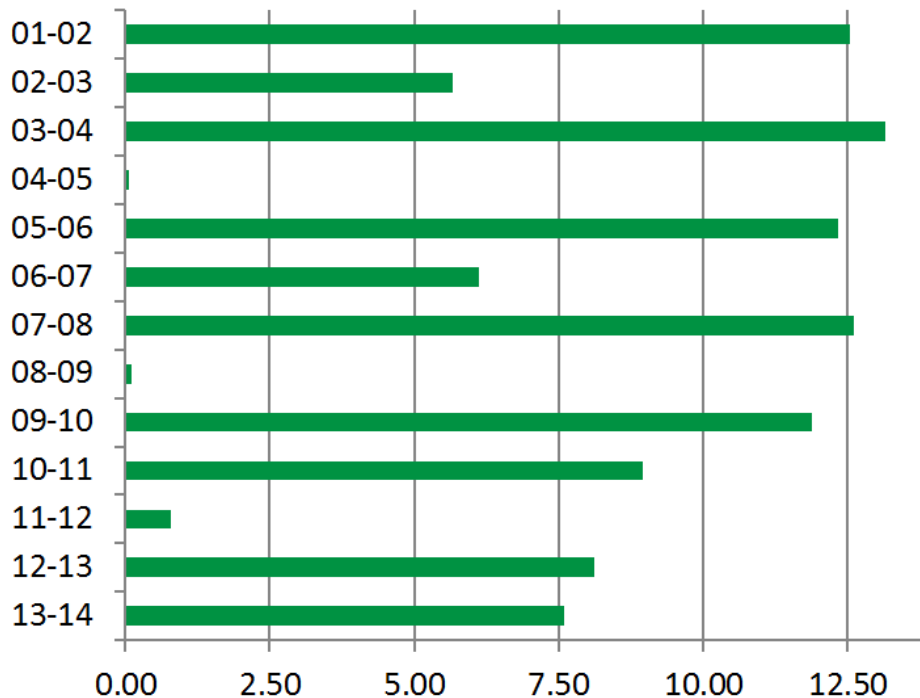


Aporte de la automatización

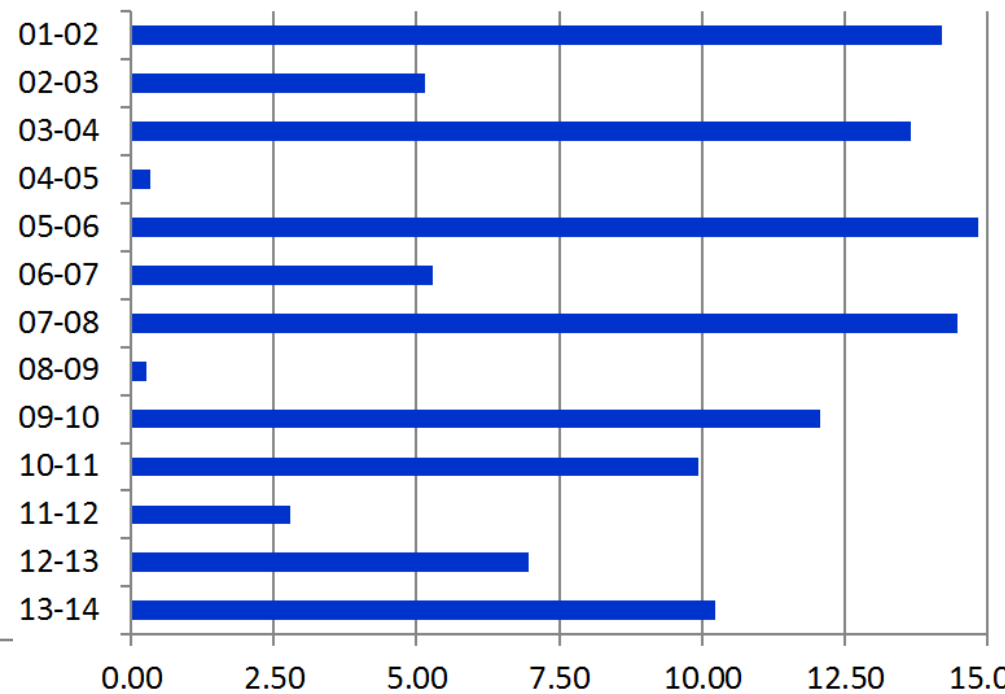
- Análisis de gran volumen de textos
- Análisis cuantitativo de la evolución del fenómeno en el tiempo

Distribución de versos con encabalgamiento por período en sonetos

Siglos XV a XVII



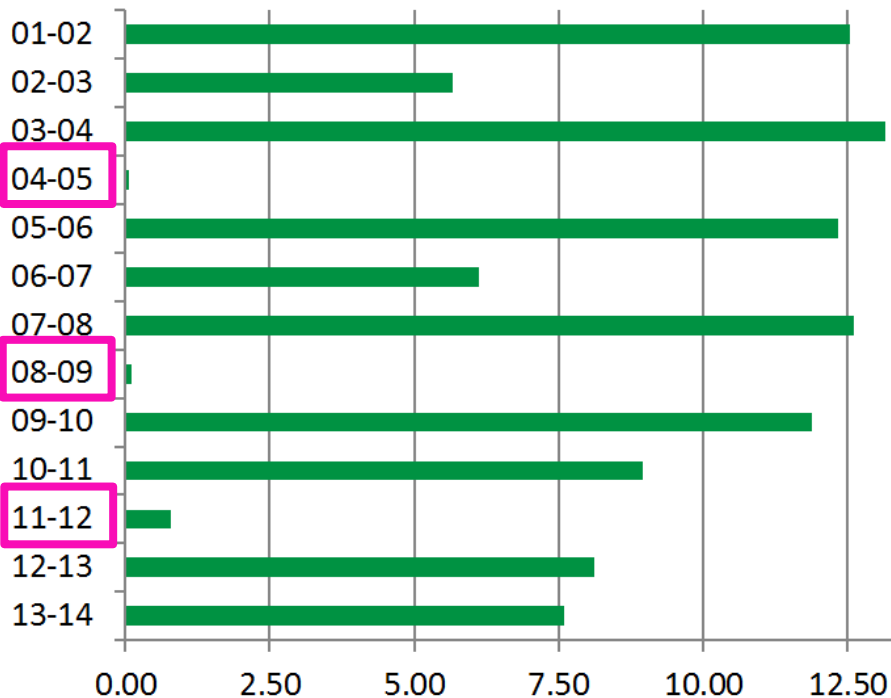
Siglo XIX



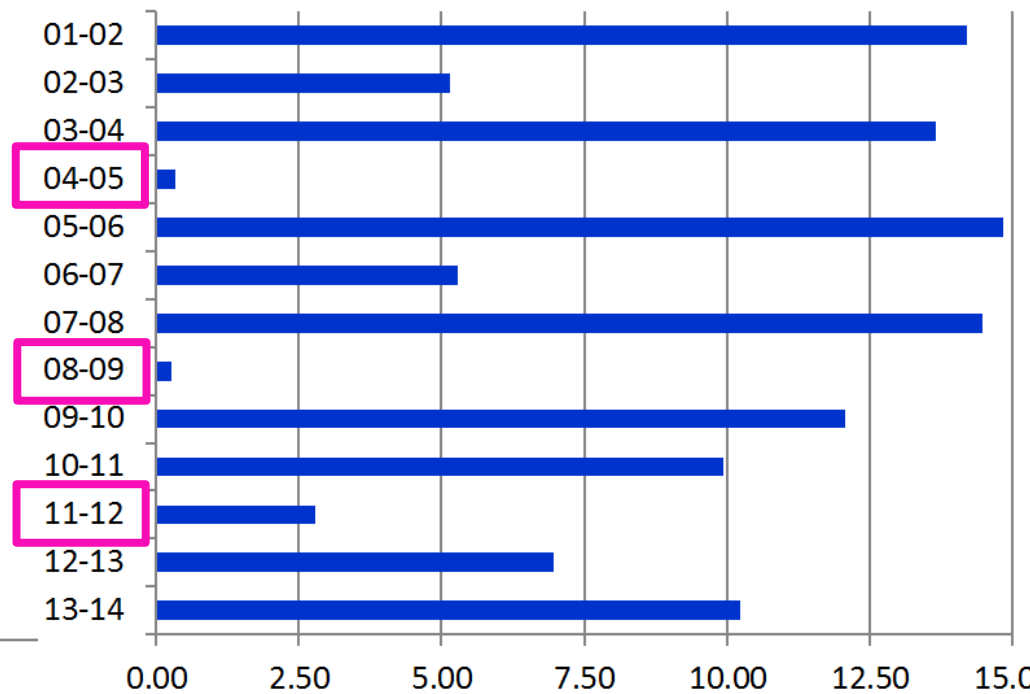
Porcentaje de encabalgamientos por par de versos en sonetos

Distribución de versos con encabalgamiento por período en sonetos

Siglos XV a XVII

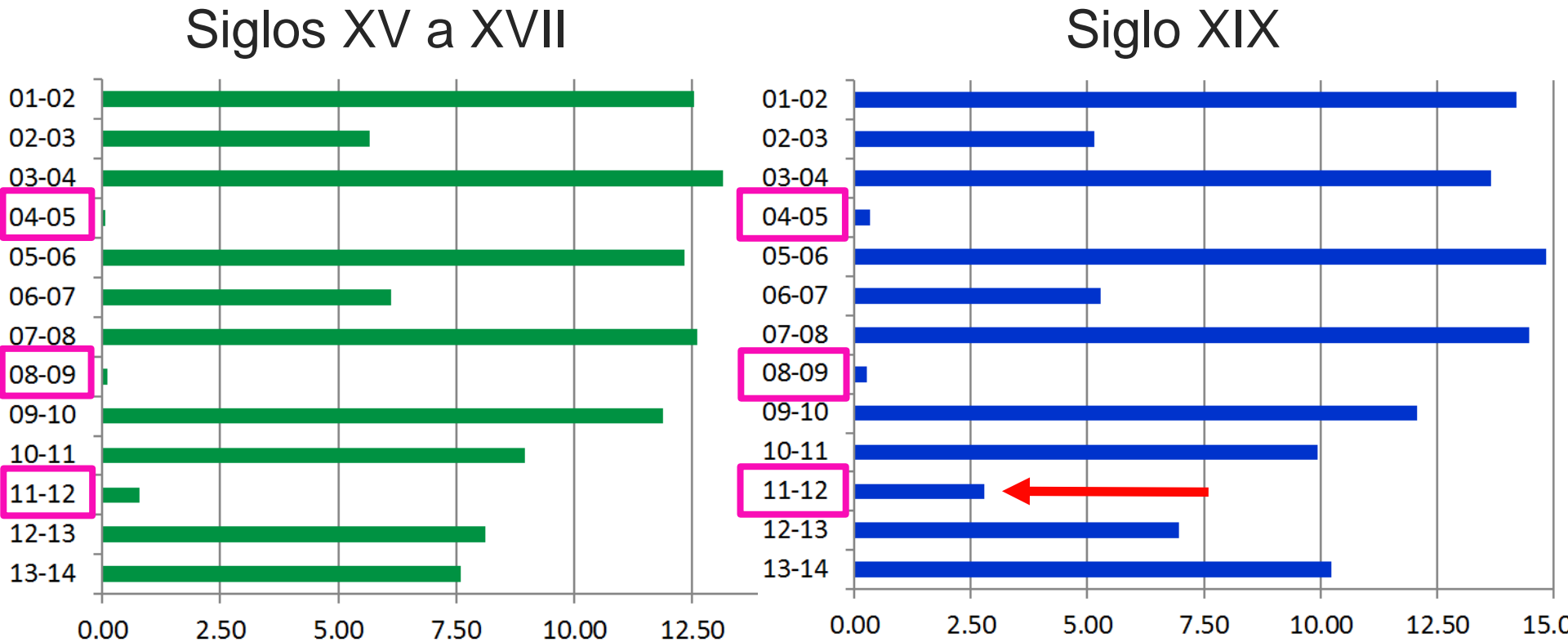


Siglo XIX



Porcentaje de encabalgamientos por par de versos en sonetos

Distribución de versos con encabalgamiento por período en sonetos



Porcentaje de encabalgamientos por par de versos en sonetos

DISCO: Diachronic Spanish Sonnet Corpus

DOI [10.5281/zenodo.1012568](https://doi.org/10.5281/zenodo.1012568)

Let's party

The Diachronic Spanish Sonnet Corpus (DISCO) contains sonnets in Spanish in XML-TEI, between the 15th and the 19th centuries (4087 sonnets by 1204 authors from 21 different countries). It includes well-known authors, but also less canonized ones. Texts and authors are enriched with identifiers and metadata.

- Atributos de certitud según la fiabilidad de la detección automática para cada tipo de encabalgamiento

- Tecnologías de anotación lingüística automática (PLN)
- Integración en interfaces de navegación
- Contribución al acceso relevante a contenidos textuales
- Utilidad para la edición
- Evaluación

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