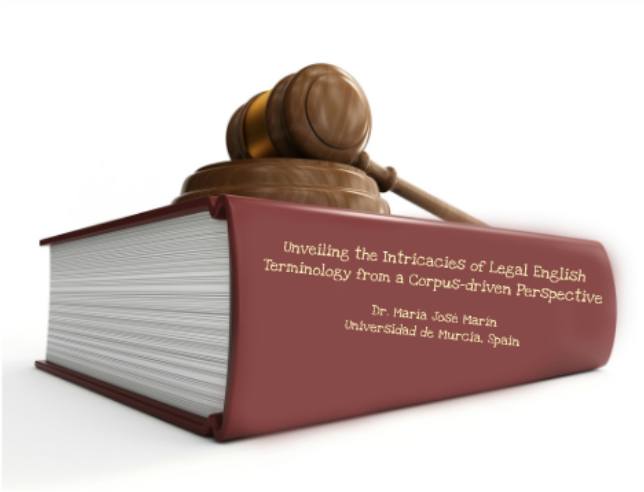
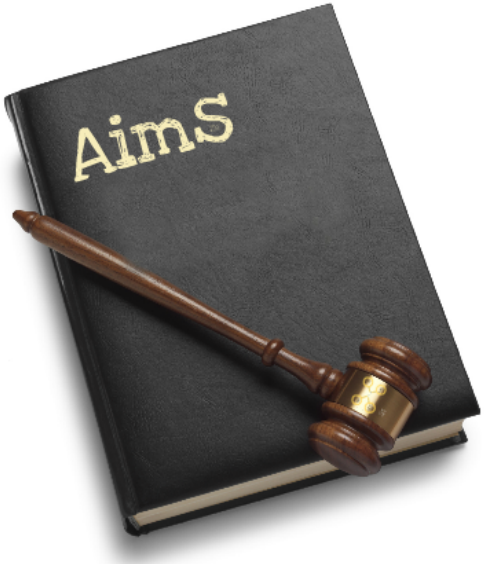
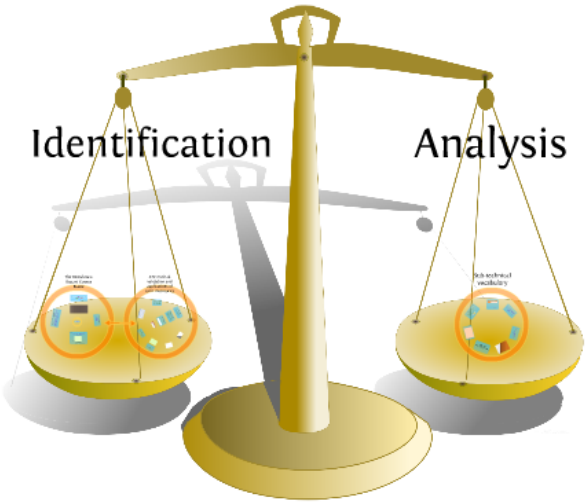
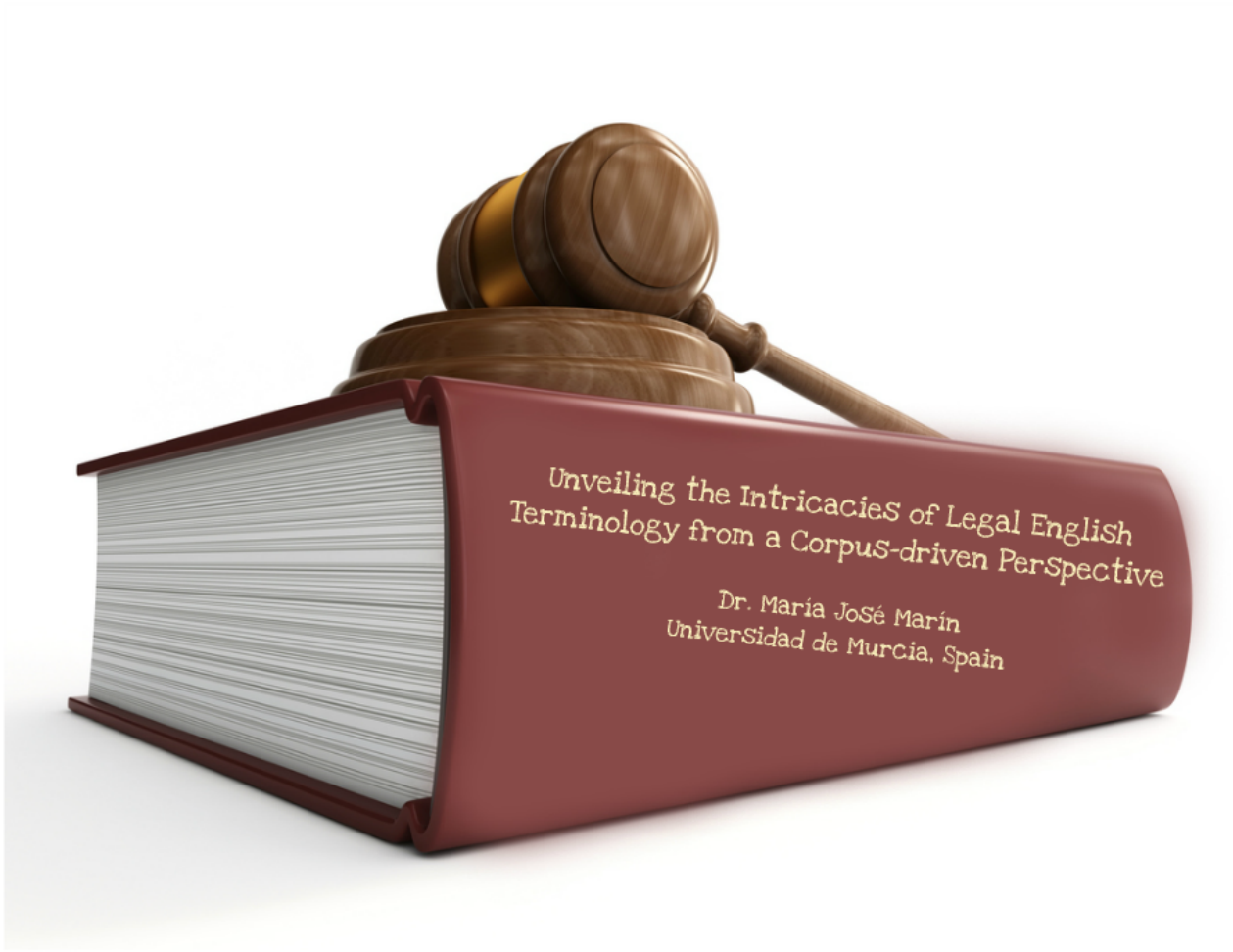

Unveiling the Intricacies of Legal English Terminology from a Corpus-driven Perspective
Dr. María José Marín
Universidad de Murcia. Spain


AimS


Identification
Analysis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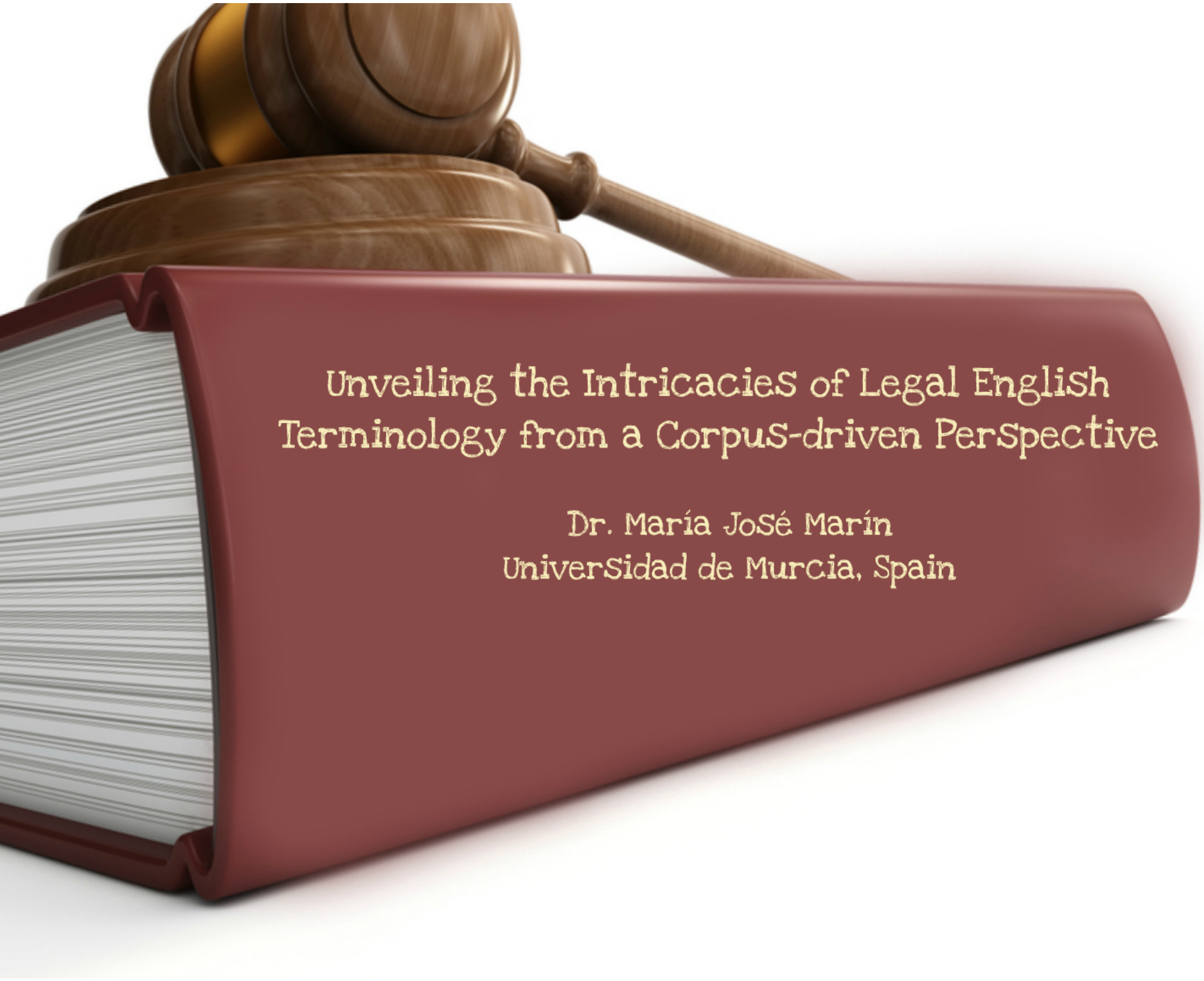
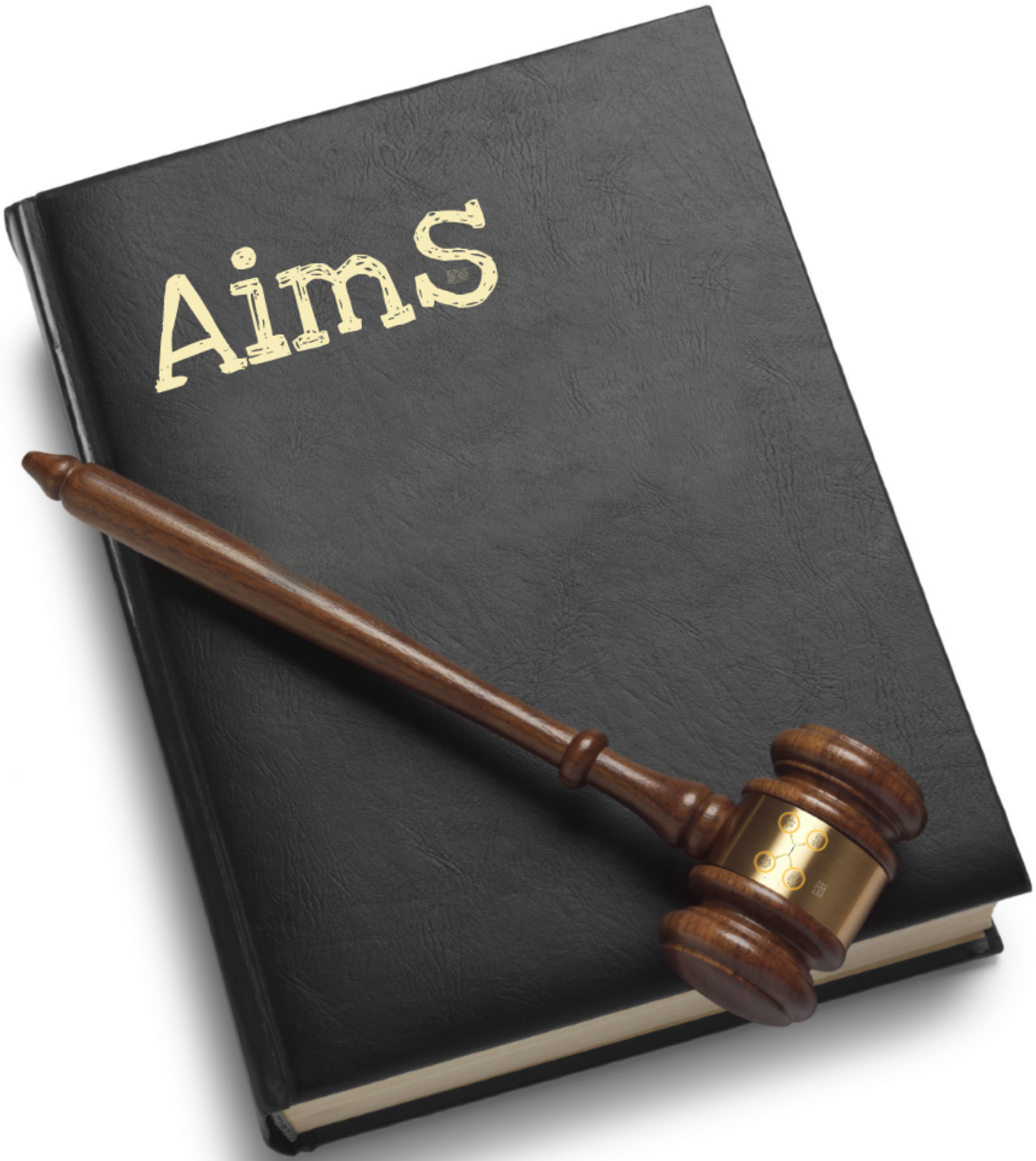
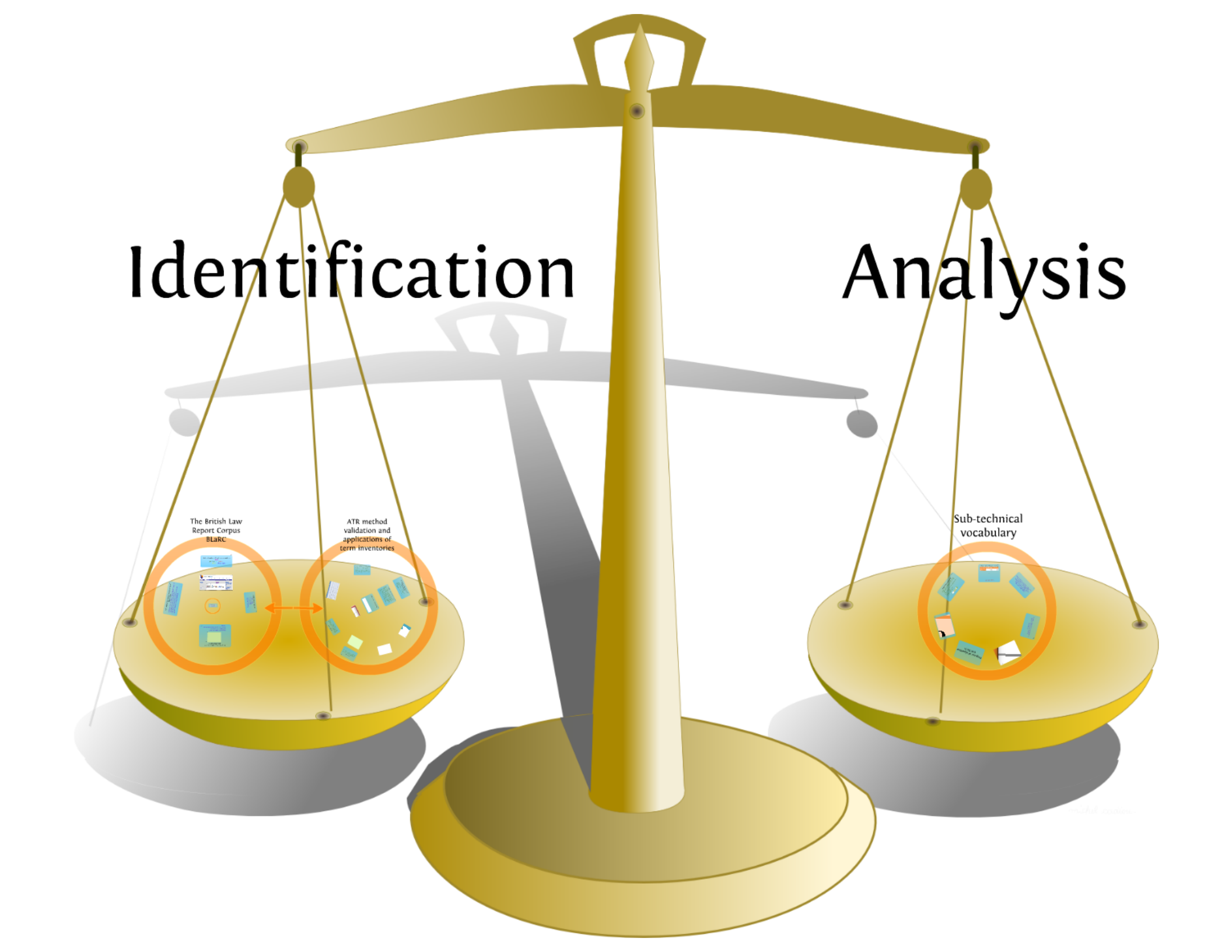


# Unveiling the Intricacies of Legal English Terminology from a Corpus-driven Perspective

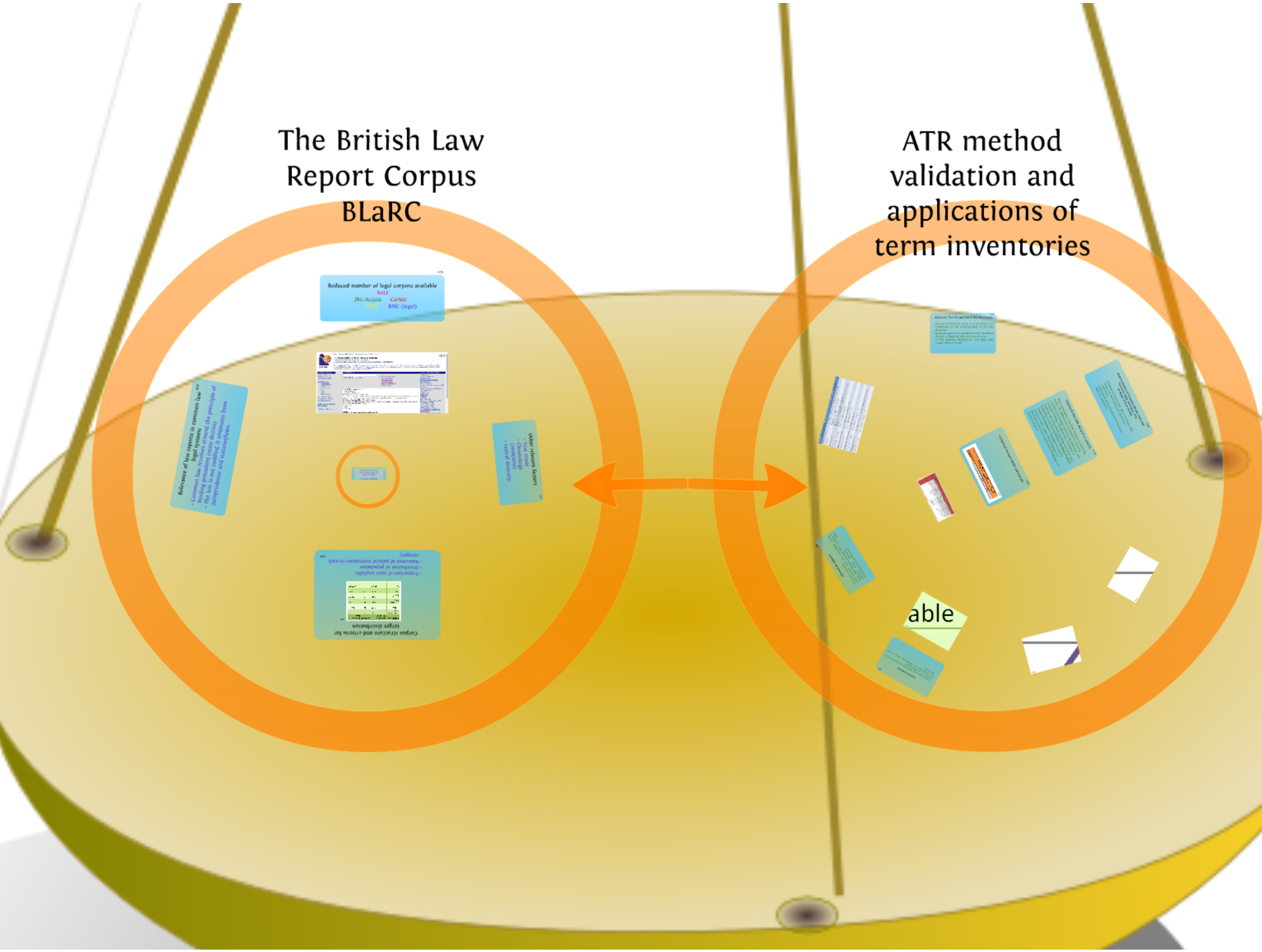
Dr. María José Marín
Universidad de Murcia, Spain


AimS

- Providing a reliable source of information for the study of legal English owing to the scarceness of legal corpora available.
- Validating varied ATR methods to determine their efficiency in legal term extraction.
- Producing inventories of single and multi-word legal terms for varied applications.
- Analysing such a complex phenomenon as sub-technicality in legal English from a quantitative perspective.


Identification
Analysis
The British Law Report Corpus BLaRC
ATR method validation and applications of term inventories
Sub-technical vocabulary


Identification


The British Law Report Corpus BLaRC
ATR method validation and applications of term inventories
Reduced number of legal corpora available
BoLC
JRC-Acquis
Cortec
BNC (legal)
able

# The British Law Report Corpus

## BLaRC

Reduced number of legal corpora available

BoLC

JRC-Acquis Cortec

HOLJ BNC (legal)

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# Relevance of law reports in common law legal systems

- Common law revolves around the principle of binding precedent (stare decisis).
- The law is not codified, it emanates from jurisprudence and statutes/laws.

# Corpus structure and criteria for target distribution



| Jurisdictions | Available texts 2008-2010 | % of total | Final word target |
|---|---|---|---|
| Commonwealth Countries | 152 | 0.91% | 55,693 |
| UK Courts | 4,273 | 25.64% | 4,246,965 |
| England and Wales | 8,972 | 54.06% | 3,322,810 |
| Northern Ireland | 2,006 | 12.1% | 736,263 |
| Scotland | 1,209 | 7.29% | 495,466 |
| **Total** | **16,612** | | **8,857,197** |

- Proportion of texts available
- Distribution of population
- Relevance of judicial institutions in each category

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# Other relevant factors

- Text mode
- Chronology (2008/2010)
- Lexical diversity

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Tom Cobb's LEXTUTOR

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# ATR method validation and applications of term inventories

# Automatic Term Recognition in specialised texts

- Getting to know the terms in a specialised text contributes to the understanding of the text aboutness.
- Automatic access to specialised terms facilitates the task of handling large amounts of data.
- 10 ATR methods validated on 2.6m word pilot corpus subset of BLaRC.

| METHOD | IMPLEMENTATION ON *UKSCC*, THE PILOT CORPUS |
|---|---|
| *TermoStat* (Drouin, 2003) | Online: http://olst.ling.umontreal.ca/~drouinp/termostat_web/index.php |
| Chung (2003) | Manual: Ratio formula applied on excel spreadsheet.<br>*LACELL*: Reference corpus |
| Kit and Liu (2008) | Manual: Rank difference formula applied on spreadsheet.<br>*UKSCC* lemmatised and POS tagged (Tree tagger). BNC lemmatised lists used as reference. |
| *TF-IDF* (Sparck Jones, 1972) | Manual: Formula applied on spreadsheet |
| *RIDF* (Church and Gale, 1995) | Automatic: JATE java tool set (Zhang et al. 2008) |
| *Keywords* (Scott, 2008) | Automatic: *Wordsmith 5.0* (Scott, 2008) |
| *Terminus* (Nazar and Cabré, 2012) | Online: http://terminus.upf.edu/ |
| *C-value* (Frantzi et al., 1999) | Automatic: JATE tools (Zhang et al., 2008) |
| *Termextractor* (Sclano and Velardi, 2007) | Online: http://lcl.uniroma1.it/sso/index.jsp?returnURL=%2Ftermextractor%2F |
| *Textract* (Park et al., 2002) | Automatic: JATE tools (Zhang et al., 2008) |

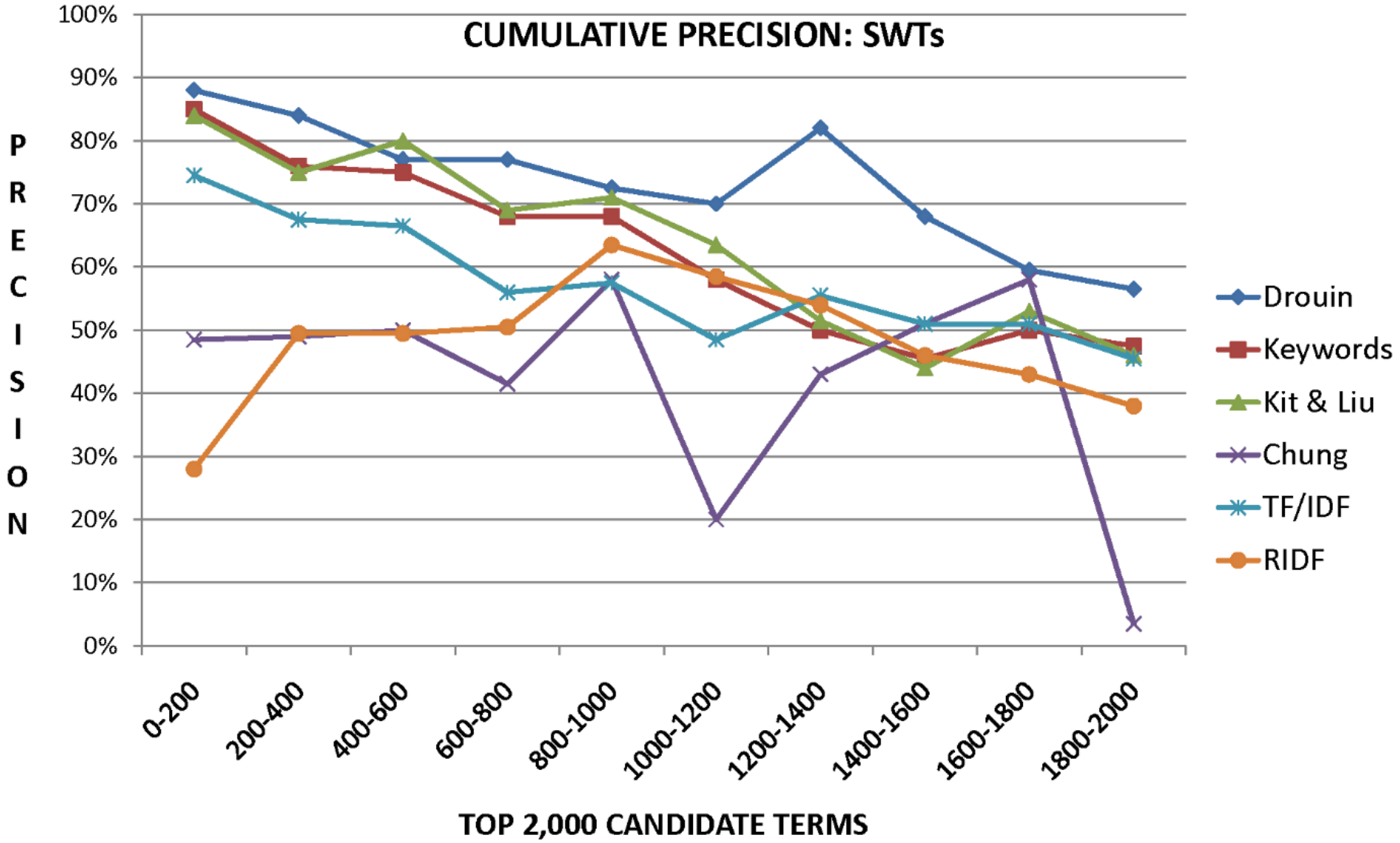
# ATR method validation

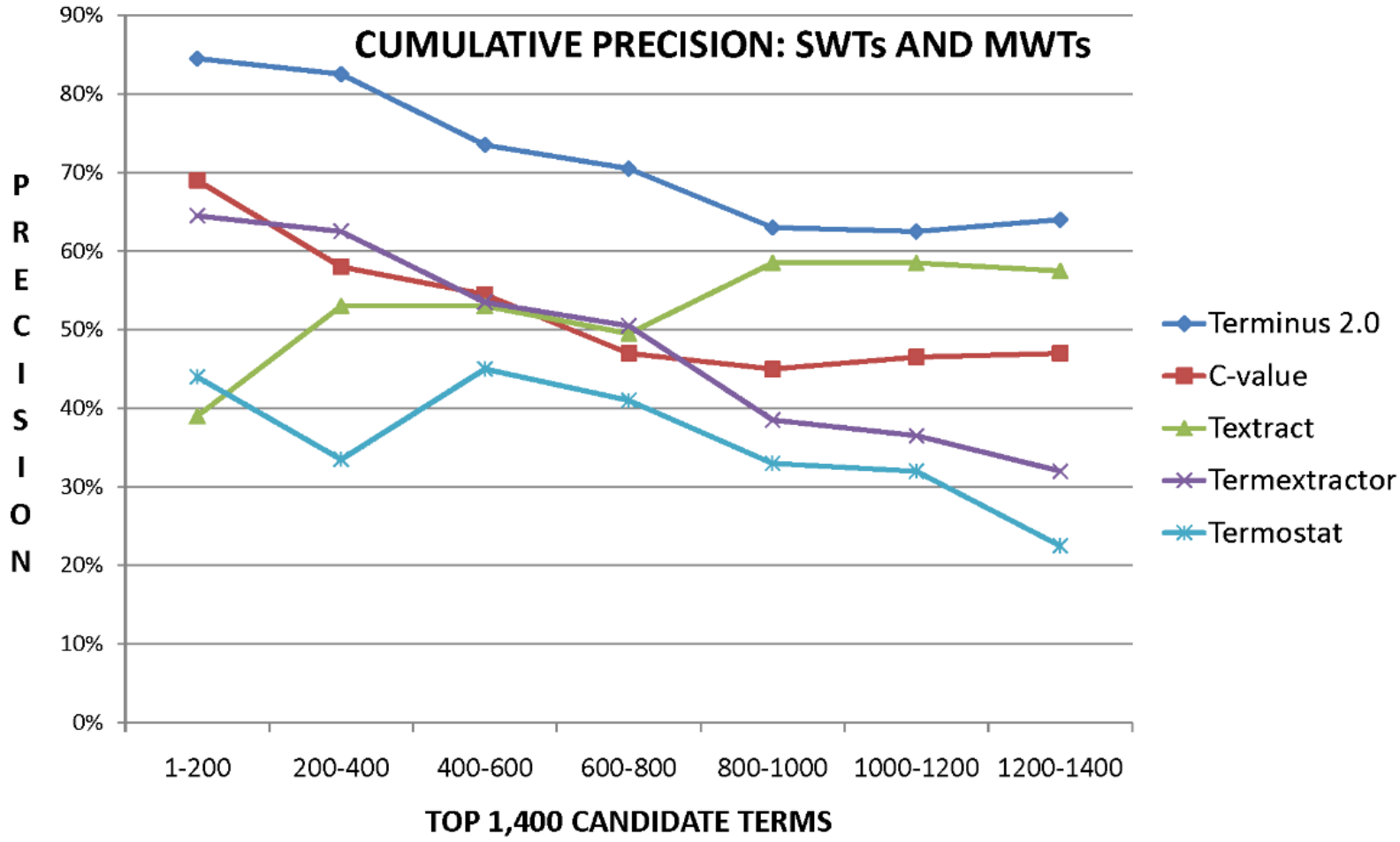
- Automatic validation
- Gold standard used for comparison: 10,088 entry legal glossary obtained form merging 4 different online glossaries + 2 paper dictionaries used as reference.

| | | |
|---|---|---|
| a coelo usque ad centrum | BAC | calendar call |
| a fortiori | Bachelor of laws | calendar year accounting period |
| a mensa et thoro | backdate | called to the Bar |
| a posteriori | back-to-back life sentences | calling-up notice |
| a prendre | BAD | calumny |
| a priori | bad debt | cancellation of removal |
| a priori assumption | bad faith | candidature |
| a verbis legis non est recedendum | badgering the witness | caning |
| a vinculo matrimonii | bail | canon law |
| a.k.a. | bail bond | cap and trade |
| ab initio | bail bondsman | capable |
| AB trust | bailable | capacity |
| ABA | bailee | capacity to contract |
| abandon | bailiff | capital |
| abandoned property | BAILII | capital account |
| abandonment | bailment | capital asset |
| abandonment of residence | bailor | capital case |

# Evaluation procedure

- Precision levels were determined by comparison of the CT lists with the gold standard.
- The comparison was carried out using an excel spreadsheet.


CUMULATIVE PRECISION: SWTs
PRECISION
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0-200
200-400
400-600
600-800
800-1000
1000-1200
1200-1400
1400-1600
1600-1800
1800-2000
TOP 2,000 CANDIDATE TERMS
Drouin
Keywords
Kit & Liu
Chung
TF/IDF
RIDF


CUMULATIVE PRECISION: SWTs AND MWTs
PRECISION
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1-200
200-400
400-600
600-800
800-1000
1000-1200
1200-1400
TOP 1,400 CANDIDATE TERMS
Terminus 2.0
C-value
Textract
Termextractor
Termostat

# Implementation of Termostat (Drouin, 2003) and Terminus (Nazar and Cabré, 2012) on BLaRC (8.85 m words)

- Production of term lists. After validation, 2,848 single and multi-word true terms were confirmed.
- Applications of specialised term inventories: didactic exploitation.

# McEnery & Xiao (2011: 364-5) on CL and ESL

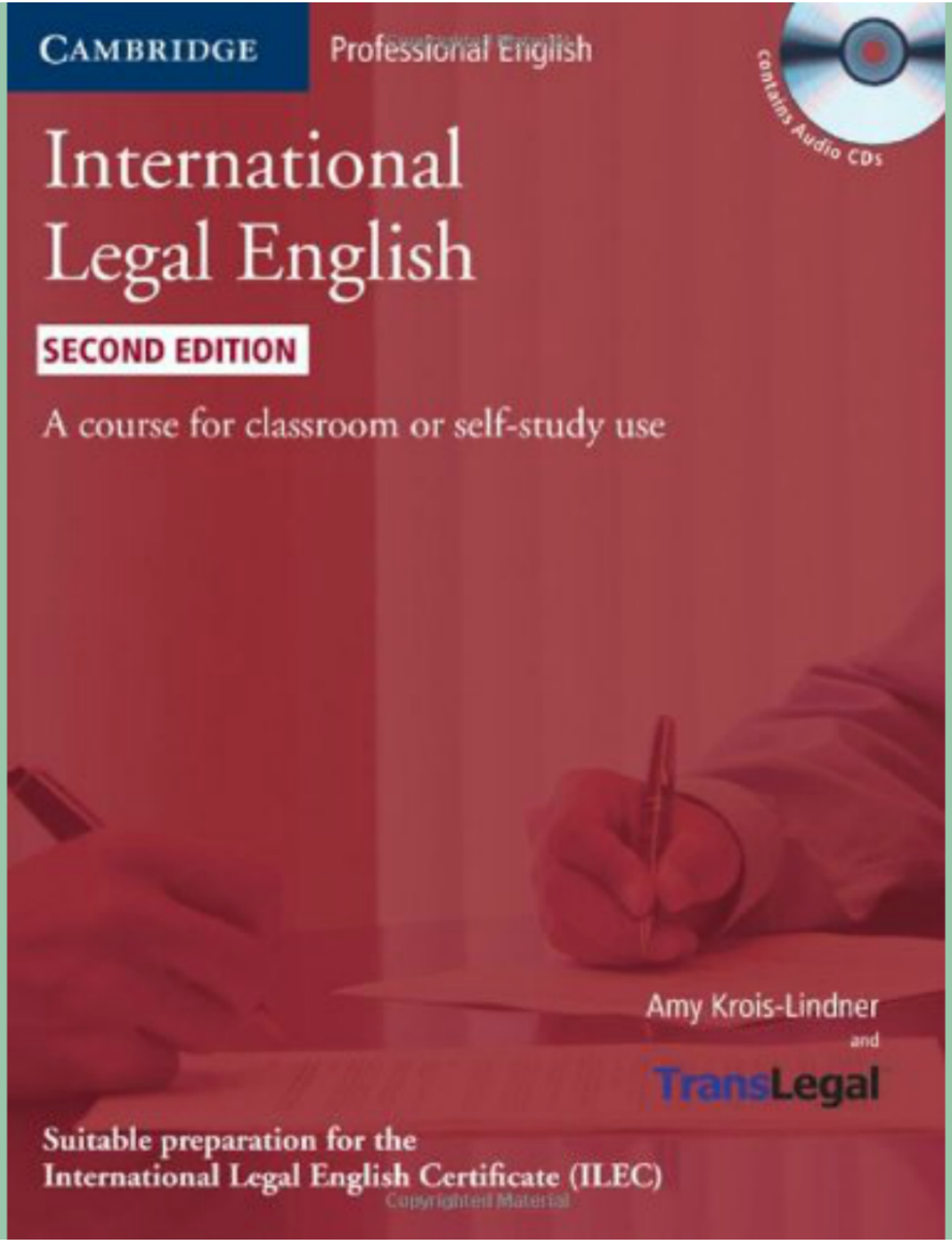
"That convergence has three focuses, as noted by Leech: the **indirect use** of corpora in teaching (reference publishing, materials development, and language testing), the **direct use** of corpora in teaching (teaching about, teaching to exploit, and exploiting to teach) and **further teaching-oriented corpus development**: languages for specific purposes (LSP) corpora, first language (L1) developmental corpora and second language (L2) learner corpora".

# Comparison between BLaRC and LeGTeXT

CAMBRIDGE

# Professional English in Use


Gillian D Brown
Sally Rice


CAMBRIDGE
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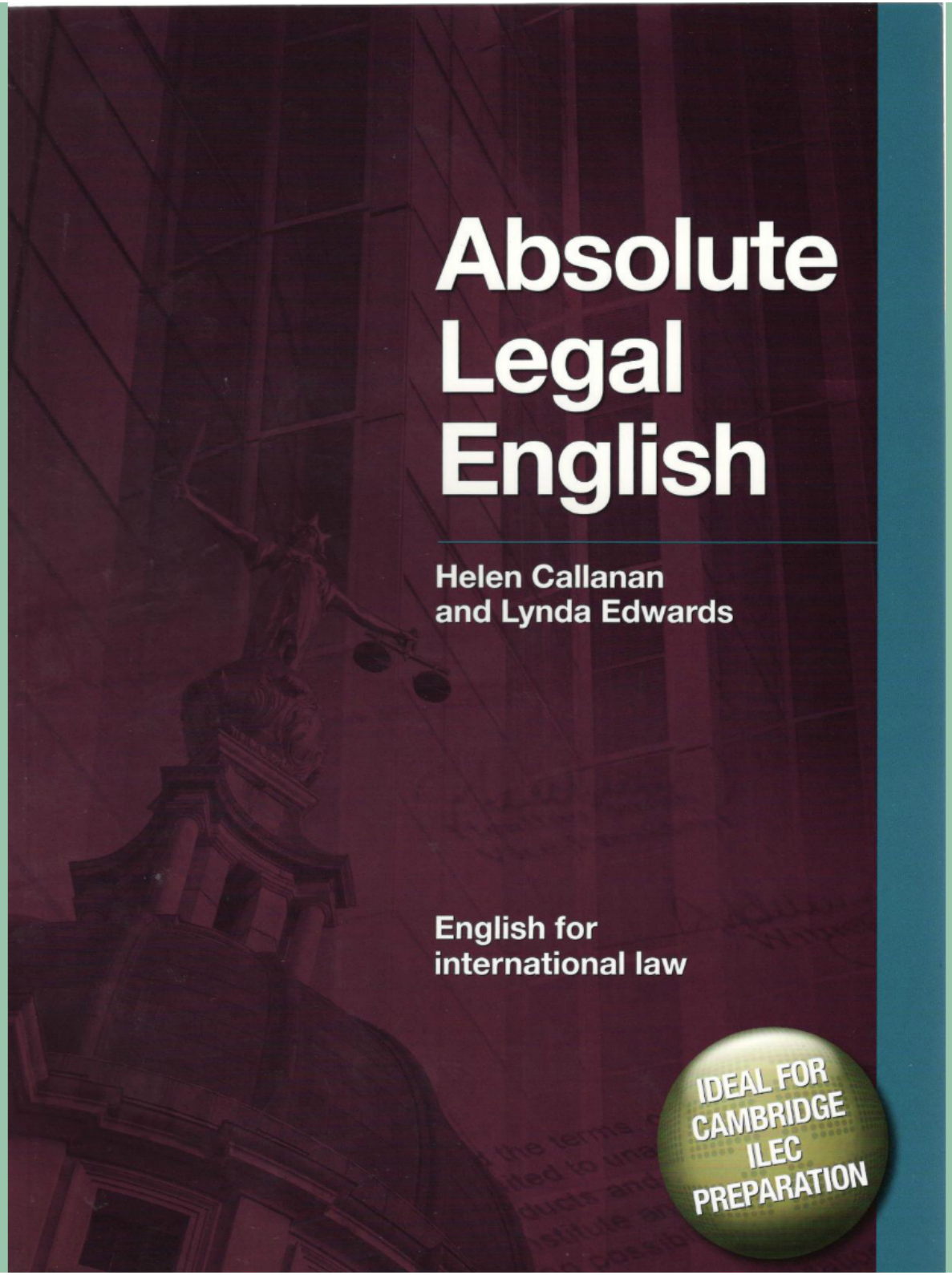
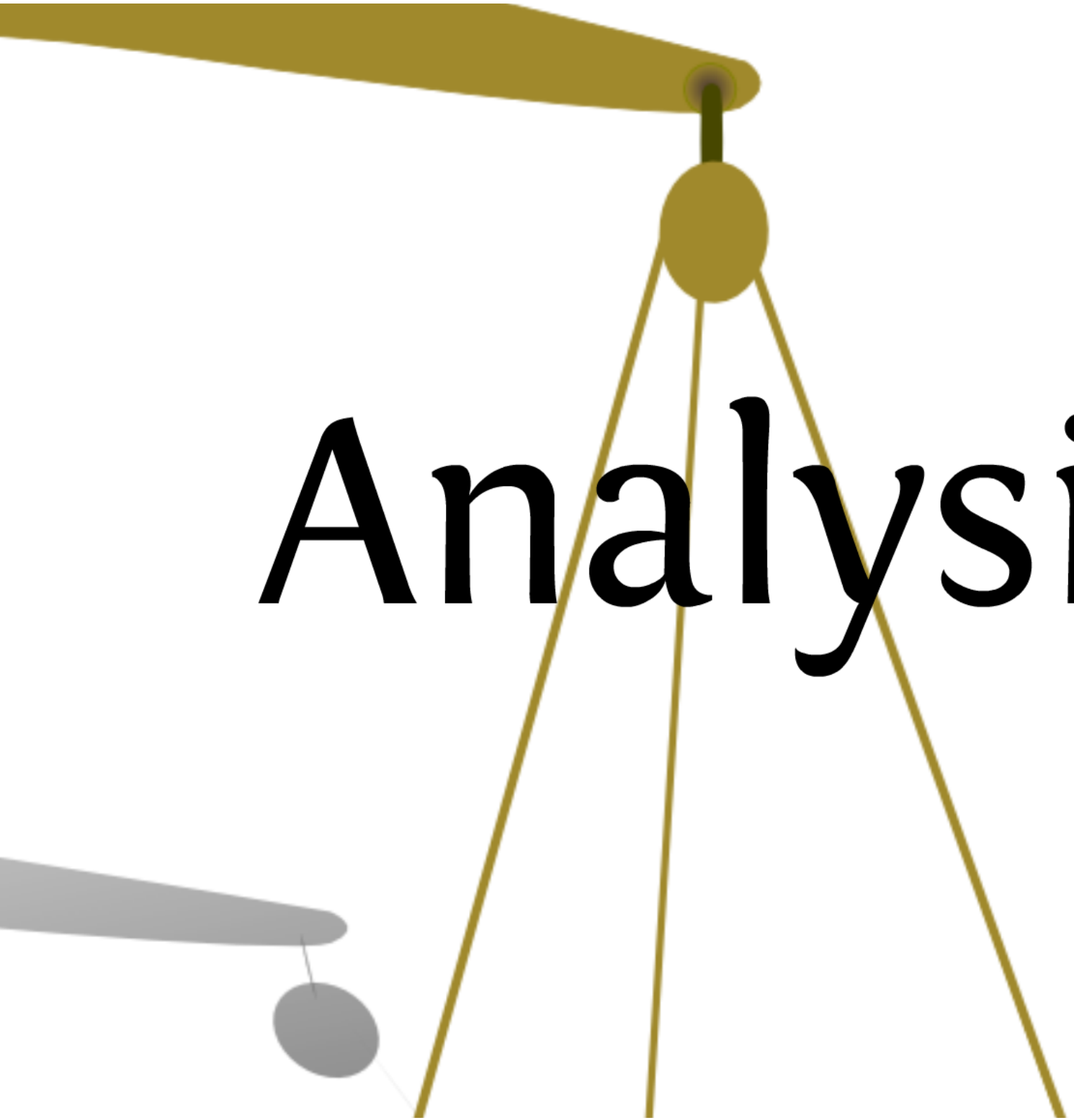

Absolute
Legal
English
Helen Callanan
and Lynda Edwards
English for
international law
IDEAL FOR
CAMBRIDGE
ILEC
PREPARATION

| Corpus | Term list obtained with TermoStat | Overlap with BLaRC term list | Text coverage provided by BLaRC |
|---|---|---|---|
| **LeGTeXT** | 1570 | 1072/ 67% | 12.37% |

| | LANGUAGE LEVEL | OBJECTIVES | TASK | CORPUS USE |
|---|---|---|---|---|
| **ACTIVITY 1** | **Morphological** | Developing students' **awareness** on **word formation** processes | Forming **word families** of terms like *claim, appeal* or *trial* through **derivational processes** (+ affixes) | Showing **concordances** illustrating the real **contexts** of usage of those terms which can serve to **test** the results of their guesses |
| **ACTIVITY 2** | **Syntactic** | Learning **grammar patterns** (prepositions) | Studying the **collocates** of some legal terms (*claim*, *appeal*, *breach*) to select the **most frequent prepositions** they occur with | The **corpus** should be **processed** to obtain the **main collocates** of the terms selected (pre-training required) |



# Analysis

# Sub-technical vocabulary

# Relevance of sub-technical vocabulary

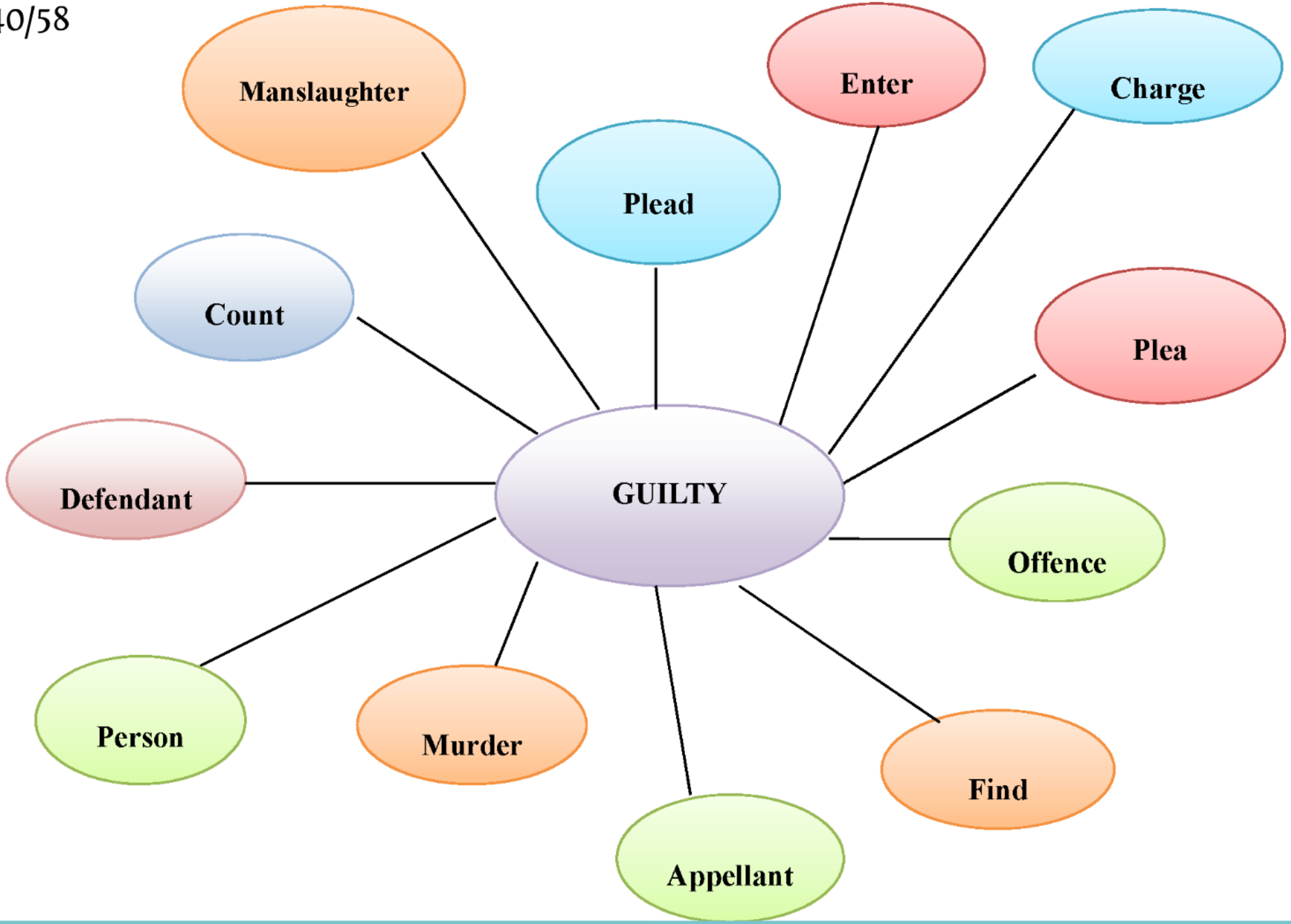
| General Vocabulary Lists | Overlapping Terms *BLaRC/GSL; AWL; BNC* | % Overlap |
|---|---|---|
| West's (1953) *GSL* & | 1,040/2,570 | 40.47% |
| Coxhead's (2000) *AWL* | | |
| *BNC* (2007) | 1,362/3,000 | 45.41% |

| **Category 1**: | **Category 2**: | **Category 3**: |
|---|---|---|
| Words denoting a legal concept which are frequently used both in the general and specialised fields not changing their meaning in the legal context. | Words often employed both in the general and specialised fields which change their meaning in the legal context sharing some semantic features with their original meaning | Words occurring more frequently in the specialised field than in the general one which change their meaning in the legal environment acquiring a new meaning. Their new meaning is quite distant or completely unrelated to their general sense. |
| *judge, court, tribunal, law, prosecution, jury, legislation, robbery, theft, guilty,solicitor* | *charge, offence, sentence, claim, decision, grounds, complaint, dismiss, evidence, relief, record, trial, battery* | *appeal, conviction, party, warrant, terms, act* |

In spite of its relevance, no method has been designed to try and measure this phenomenon

# Williams' lexical networks (2001)

- Extension of word associations by considering several collocational levels (limited to 2 in this case).
- More contextual information associated to the network nucleus.
- Collocational span: 5R, 5L
- Frequency threshold: >30


Manslaughter
Enter
Charge
Plead
Count
Plea
Defendant
GUILTY
Offence
Person
Murder
Find
Appellant


Make
Section
Rule
Paragraph
Order
Article
Decision
Notice
OFFENCE
Regulation
Act
Appeal
Court
Claim
Agreement
Clause

| Word | Specialised collocates/ co-collocates (normalised) | General usage collocates/co-collocates (normalised) | Normalised Frequency BLaRC | Normalised Frequency LACELL |
|---|---|---|---|---|
| PURSUANT | 404.40 | 0 | 10.34 | 0 |
| ESTOPPEL | 114.57 | 0 | 8.65 | 0 |
| LIABILITY | 421.69 | 0 | 8.20 | 0 |
| BATTERY | 27.57 | 0.73 | 7.89 | 2.27 |
| CONVICTION | 281.35 | 1.33 | 10.41 | 3.23 |
| SENTENCE | 491.25 | 1.53 | 9.50 | 2.98 |
| DISMISS | 338.64 | 3.20 | 10.06 | 3.81 |
| SOLICITOR | 159.77 | 0.33 | 8.23 | 2.39 |
| RELIEF | 184.18 | 6.08 | 9.88 | 4.45 |
| TRIAL | 666.66 | 2.33 | 9.22 | 3.84 |
| LEGISLATION | 246.44 | 39.7 | 9.23 | 4.2 |
| WARRANT | 30.39 | 1.60 | 7.91 | 3.01 |
| PARTY | 708.36 | 274.13 | 9.22 | 4.73 |
| CHARGE | 167.68 | 64.77 | 9.08 | 4.89 |
| COMPLAINT | 180.22 | 18.18 | 8.79 | 4.70 |
| OFFENCE | 522.93 | 28 | 8.91 | 5.03 |
| GUILTY | 66.55 | 11.96 | 6.87 | 4.25 |
| EAT | 0 | 2.20 | 0 | 3.27 |
| BLUE | 0 | 13.43 | 0 | 3.52 |
| MORNING | 0 | 268.36 | 0 | 4.94 |

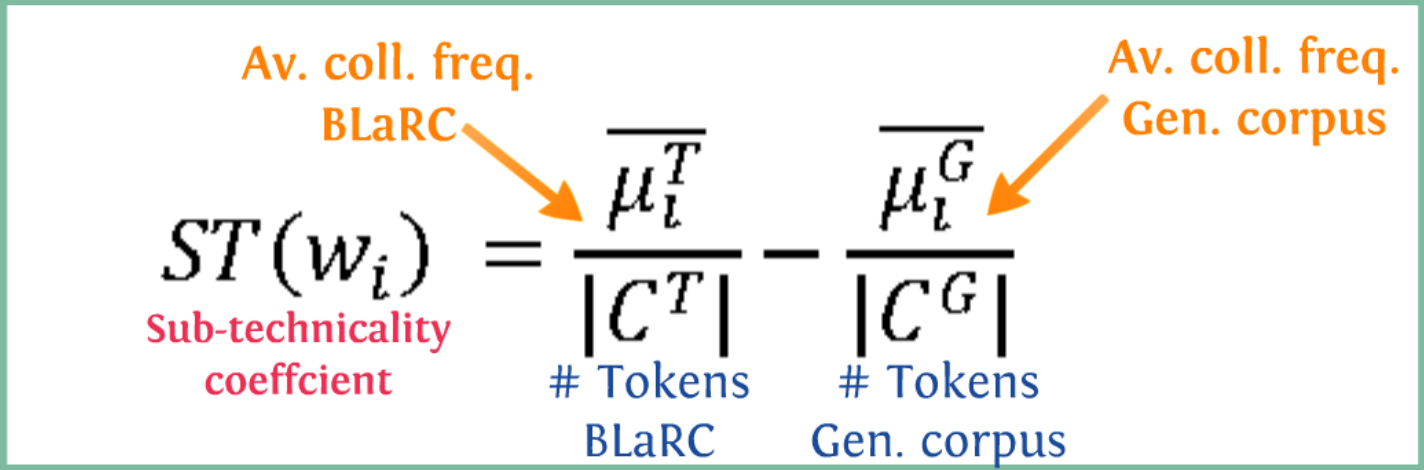
# Proposal of algorithm SUB-TECH

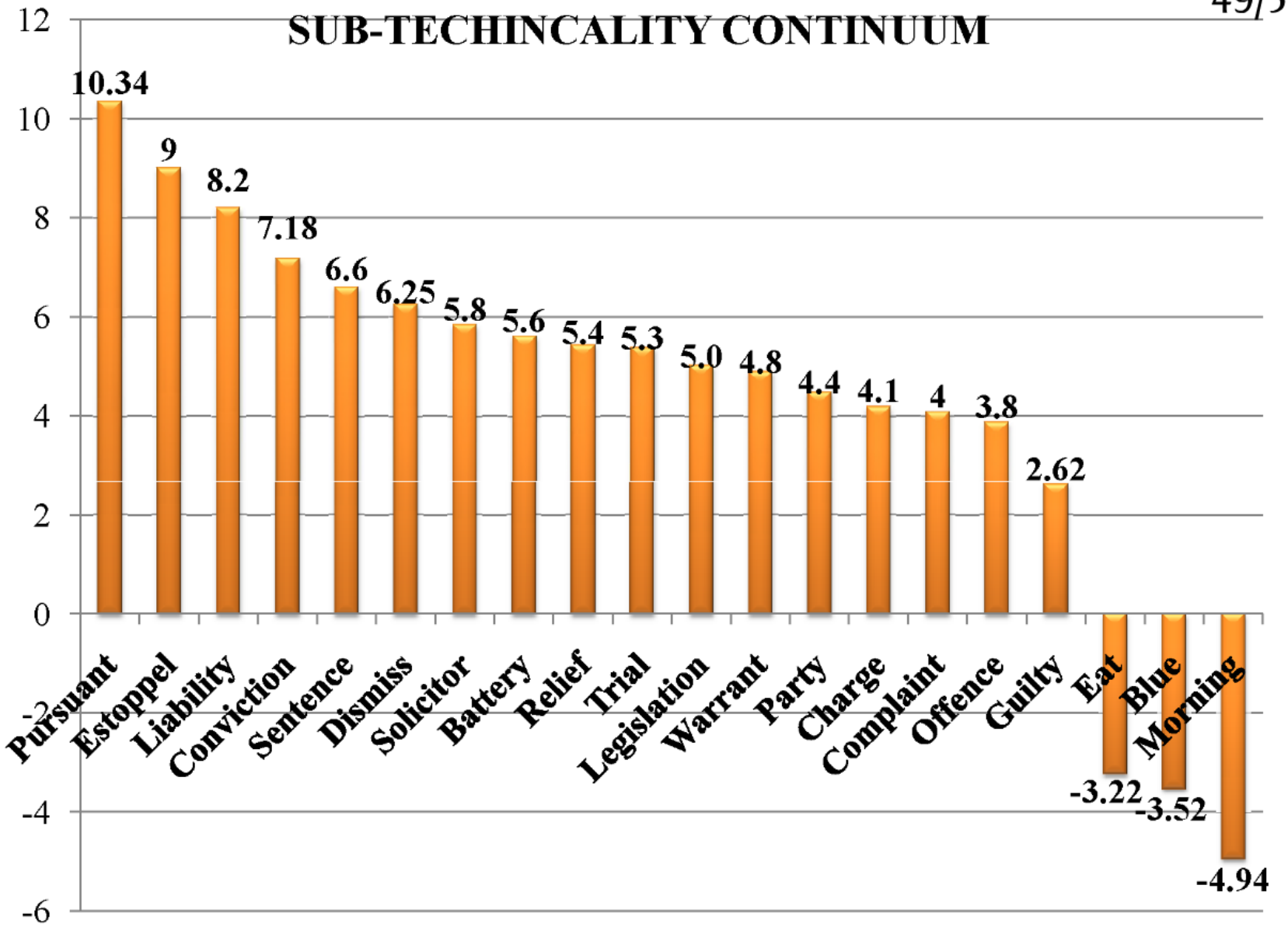
Step 1:
Identification and extraction of the specialised vocabulary from BLaRC applying both Drouin's (2003) TermoStat and Nazar and Cabre's (2012) Terminus 2.0.

Step 2:
Manual extraction of terms shared both by the general and specialised fields.

Step 3:
Application of Williams' (2001) lexical network model to the list of words selected both in the specialised and general corpora with the aim of comparing results.

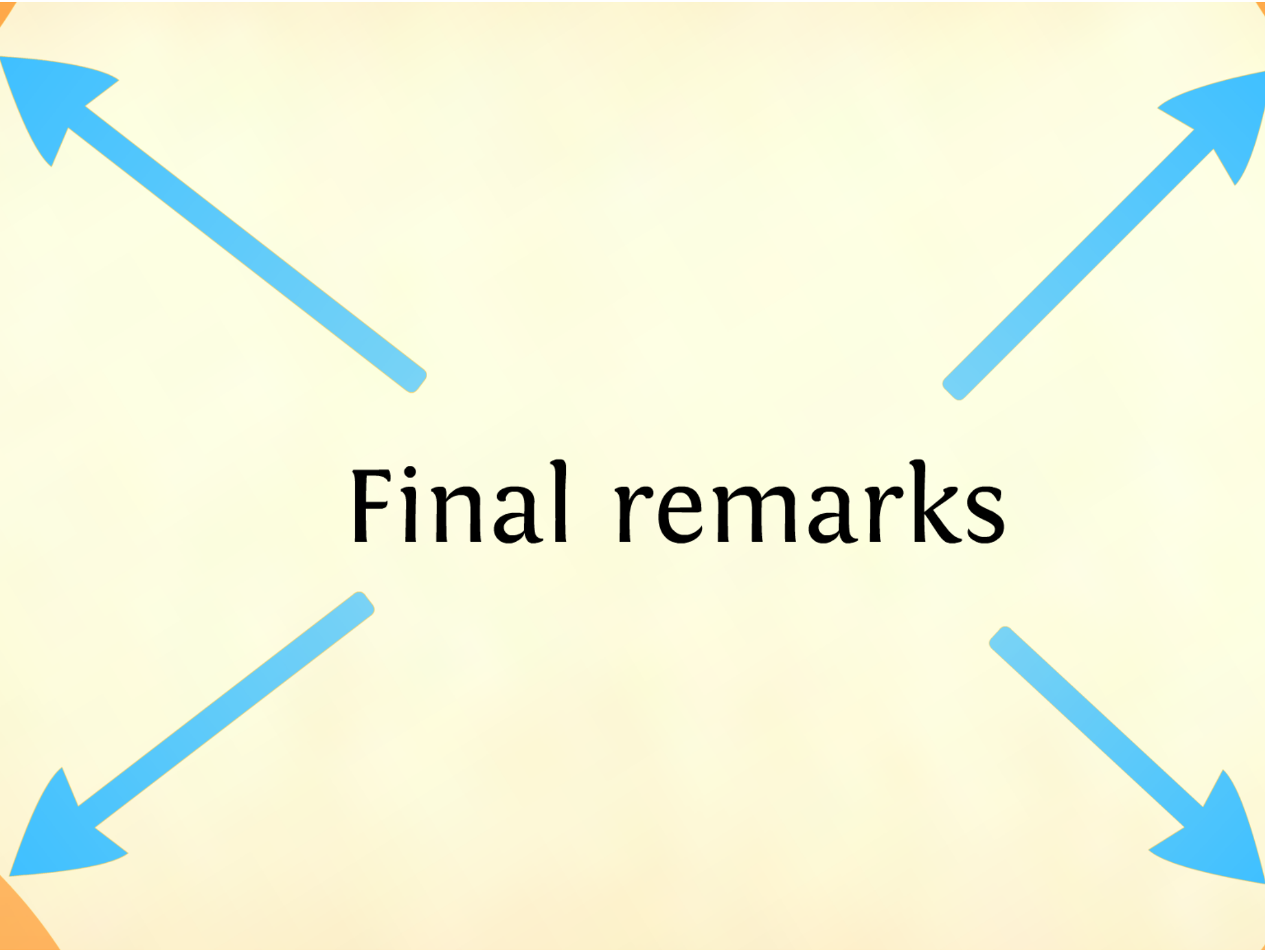
Step 4: Implementation of the formula presented below for the ranking of sub-technical terms along a continuum of specialisation.


Av. coll. freq.
BLaRC
Av. coll. freq.
Gen. corpus
$ST(w_i) = \frac{\overline{\mu_i^T}}{|C^T|} - \frac{\overline{\mu_i^G}}{|C^G|}$
Sub-technicality coeffcient
# Tokens BLaRC
# Tokens Gen. corpus

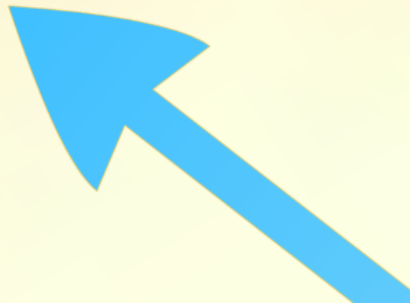

SUB-TECHINCALITY CONTINUUM
12
10
8
6
4
2
0
-2
-4
-6
10.34
9
8.2
7.18
6.6
6.25
5.8
5.6
5.4
5.3
5.0
4.8
4.4
4.1
4
3.8
2.62
-3.22
-3.52
-4.94
Pursuant
Estoppel
Liability
Conviction
Sentence
Dismiss
Solicitor
Battery
Relief
Trial
Legislation
Warrant
Party
Charge
Complaint
Offence
Guilty
Eat
Blue
Morning

Nonetheless, quantitative methods fail to provide a full picture of linguistic phenomena

Further research needs to be conducted to complement the data obtained by applying Sub-Tech for a fuller and also qualitative characterisation of sub-technical legal terms


Final remarks

Providing a reliable source of information for the study of legal English: BLaRC



Selecting the two most efficient ATR methods in legal term extraction

Obtaining a list of specialised single and multi-word legal terms that could be employed as support for the teaching of legal vocabulary

# Proposing a method of analysis of sub-technical vocabulary applying quantitative criteria

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