Cross-Linguistic Register Analysis in Specialised Discourse. A corpus-based investigation of denominal adjectives in LSP: the examples of medicine and earth sciences

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Introduction

Conference Using Corpora in Contrastive and Translation Studies

Cross-Linguistic Register Analysis in Specialised Discourse. A corpus-based investigation of denominal adjectives in LSP: the examples of medicine and earth sciences

Language use

EN & FR

Noun phrase modification

2 LSPs

An exploratory analysis
Outline

1. State of the art
   - Registers, specialised discourse and context
   - Noun phrase modification in EN & FR
   → Question: Does noun phrase modification characterise specialised discourse?

2. Methodology
   - 8 subcorpora
   - Methodological steps

3. Results

4. Conclusive remarks
1. State of the Art & Questions

- Register, specialised discourse and context
- Noun phrase modification in EN & FR
From a translational point of view...

Regulation of cells
Cell regulation
Cellular regulation

→ régulation cellulaire
→ régulation des cellules

Chuquet & Paillard 1987

[complex noun phrases in translation → Kübler et al. 2018]
An example

Depending on the context:

*Cancer mammaire*  EXPERTS

> <

*Cancer du sein*  NON-EXPERTS

Maniez 2009
An example

Depending on the context:

*Cancer mammaire*  
EXPERTS

*<*

*Cancer du sein*  
NON-EXPERTS

In EN?  
In other specialised domains?  
In other registers?

Maniez 2009
Questions

Are specialised discourses characterised by a specific type of noun phrase modification sequences:

- In specialised EN as well?
- In other contexts / registers (EN-FR)?
- In other specialised domains (EN-FR)?

Based on Maniez 2009
Register, degrees of specialisation and context

The context and the message receivers

LSP (Language for Specific Purposes)

Bowker & Pearson 2002

< “contextual-functional varieties of the ordinary language”

Garzone 2006 in Pignataro 2006
Register, degrees of specialisation and context

Degrees of specialisation:

→ LSP is influenced by the context of communication

→ Within each LSP: “a wide scope for variation in terms of degree of specialization”

Garzone 2006 in Pignataro 2012
Register, degrees of specialisation and context

“Popularizations target (...) a wide reading public and deal with specialized topics in a language close to general discourse and to the layman’s everyday experience. The purpose here is chiefly informative and seeks to extend the reader’s knowledge rather than develop a secondary conceptual system.”

→ Recontextualization

Gotti 2014: 17
Register, degrees of specialisation and context

→ Degrees of specialisation are distinguished by their context of production and the purpose / main function of their texts

Gotti 2014

→ Register (< Functional Linguistics)

Lee 2001, Biber & Conrad 2009
Register variation

= “functional or diaphasic variation determined by the situational context”

Neumann 2014: 2

→ Language is used in a particular way to fulfil communicational functions

Biber & Conrad 2009
Register Variation

Register → Language use

→ Contextual approach to ESP, with a Register Pattern Analysis (configuration of lexico-grammatical and semantic patterns)

Gledhill & Kübler 2016

→ The norm of language use

Neumann 2016
Which types of noun phrase modification?

In French:

With an adjective or a prepositional phrase (*de/des*)

Ex.: régulation cellulaire
    régulation de la cellule / des cellules

In English:

With an adjective, a prepositional phrase (*of*) or a noun

Ex.: cellular regulation
    regulation of the cell / cells
    cell regulation

Biber et al. 2008
Denominal Adjectives

< Relational adjectives

- Morphology:
  The majority of Den-Adj are derived from nouns
  ($\textit{heart} \rightarrow \textit{cardiac}$)

- Syntax:
  Den-Adj cannot be used as predicates

- Semantics:
  Both Den-Adj and the noun have the same meaning ($\textit{blood} \rightarrow \textit{bloody}$)
Denominal Adjectives

Discursive property:

- Den-Adj can be expressed with a P-P
  Deléger & Cartoni 2009

- Do they characterise SPE, like they do in French?
  Maniez 2009
2. Methodology

- 8 suborpora
- Methodological steps
Methodology

*Corpus linguistics*

= a methodological approach to study *language use*

Bowker & Pearson 2002

→ To study language as a social phenomenon, based on actual data (R. de Beaugrande)

→ **Functionalist** approach (J.R. Firth, M.A.K. Halliday, J. Sinclair)

Zanettin 2012
8 Subcorpora

ESC = Earth Sciences
MED = Medicine
SPE = specialised
POP = popular
## Criteria of corpus compilation

<table>
<thead>
<tr>
<th>SPE subcorpora</th>
<th>POP subcorpora</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction of research articles (EN) or PhD theses (FR)</td>
<td>Informative websites of specialised departments</td>
</tr>
<tr>
<td>Originals</td>
<td>Originals</td>
</tr>
<tr>
<td>Written by specialists</td>
<td>Written by specialists</td>
</tr>
<tr>
<td>30,000 words / subcorpus (120,000 words)</td>
<td>15,000 words / subcorpus (60,000 words)</td>
</tr>
</tbody>
</table>

Based on Bowker & Pearson 2002

ESC → *ocean + warming*
MED → *diabetes + gene*
Subcorpora

In order to be analysed, the corpora were:

→ tagged with the tagger TagAnt©
→ downloaded in the concordancer AntConc© (wild cards)

by Laurence Anthony
Steps of analysis

1. Listing the 10 most frequent nouns and the 10 most frequent adjectives
   
   Ex.: heart(s); coastal

2. Matching the corresponding adjective or noun (< dictionaries)
   
   Ex.: heart(s) → cardiac; coastal → coast(s)

3. Analysing their use in the 3 possible types of sequences (< frequencies)
   
   Ex.: x heart(s) and y cardiac in z type(s); x coastal and y coast(s) in z type(s)

4. Comparing their use
Steps of analysis

- Terms which are not “fixed”
  
  Ex.: Pacific Ocean

- Words in second position in the sequence
  
  Ex.: ocean circulation

- Terms without prefixes; no compounds
  
  Ex.: deep-sea-plastic

- Use of “of” – “de / des”
3. Results
Results

List of analysed nouns*:

- **ESC**: ocean, climate, sea, region, water, larva, heat, fish, atmosphere, environment, tropics, coast, physiology, season, east, oxygen, reef, coral, ice, industry, solar, chemistry, volcano, biology

- **MED**: diabetes, gene, allele, cell, chromosome, risk, region, mouse, protein, genome, pancreas, mitochondrion, kidney, vessel, centromere, heart, therapy, indigene, molecule, Europe, statistics, science

- **ESC**: mer, eau, océan, aérosol, glace, zone, atmosphère, région, climat, sédiment, sable, chaleur, continent, géologie, écosystème, gaz, planète, période, science, tropique, homme, monde, pôle, terre

- **MED**: diabète, insuline, vie, cellule, risque, souris, glycémie, gène, origine, pancréas, aliment, muscle, environnement, monde, hormone, sang, risque, poids, thérapie, vaisseau, biologie

* Corresponding adjectives are implied for each noun.
Results

- Den-Adj are used in SPE and POP in EN and FR
## Results

- **When both Den-Adj and Nouns are in a subcorpus (< preferences)**

<table>
<thead>
<tr>
<th>Register</th>
<th>EN</th>
<th>FR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC SPE</td>
<td>Adj. &gt; Noun</td>
<td>Adj. = Noun</td>
</tr>
<tr>
<td>ESC POP</td>
<td>Adj. &gt; Noun</td>
<td>Noun &gt; Adj.</td>
</tr>
</tbody>
</table>
Results

• When both Den-Adj and Nouns are in a subcorpus (< preferences)
4. Conclusive remarks
Conclusions

An exploratory analysis with those conclusive remarks:

- Den-Adj. are used in each subcorpus

- Analysis (< frequencies):
  - In EN: D-A > N-N, P-P (except in MED SPE)
  - In FR: P-P > D-A (except in ESC SPE)

- When both are in subcorpora (< preferences):
  - In EN: D-A > N-N + P-P (except in MED SPE)
  - In FR: P-P > D-A (except in ESC SPE)
References


Terminological and lexical sources:


Centre national de ressources textuelles et lexicales (CNRTL), http://www.cnrtl.fr/ (last retrieval on 09/09/2018).


Thank you for your attention