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Seminar 28 How Specialized is ESP? Characterizing Degrees of Specialization in Specialized Discourses and Domains

ESP Noun Phrases and Register Variation: The Case of Research and Press Articles in Medicine and Earth Sciences

Tiffany Jandrain

FRESH Grantee

tiffany.jandrain@umons.ac.be

Introduction

Modification

Language
use

ESP Noun Phrases and Register Variation: The Case of Research and Press Articles in Medicine and Earth Sciences

Degrees of
Specialization

2 LSPs

Introduction

Noun phrase modification (< context)
and
degrees of specialization ?

*Ex.: cell regulation, cellular regulation,
regulation of cells*

Maniez 2009



Outline

1. State of the art

- Types of noun phrase modification
- Context, register and degrees of specialization

2. Methodology

- Corpora
- Methodological steps

3. Results

4. Conclusive remarks

1. State of the art

- Noun phrase modification
- Context, register and degrees of specialization

Noun Phrase Modification

The different types of sequences which modify a noun phrase are chosen according to the context of communication and the target public

→ *Hyp.* : Noun phrase modification is shaped depending on the degree of specialization of discourse

Maniez 2009

Noun Phrase Modification

Different types of modification:

- ❖ Premodification: **adjective**, participial adjective, **noun**
- ❖ Postmodification: clausal (relative clauses, etc.) and phrasal (**prepositional phrases** and appositive noun phrases)

Biber et al. 2008

Noun Phrase Modification

Three types of sequences:

- Denominal adjectives

Ex.: cellular regulation

- Nouns as premodifiers « Noun-Noun »

Ex.: cell regulation

- Prepositional phrases (with *of*)

Ex.: regulation of cells

Denominal Adjectives

< Relational adjectives

➤ Morphology:

The majority of Den-Adj are derived from nouns

➤ Syntax:

Den-Adj cannot be used as predicates

➤ Semantics:

Both Den-Adj and the noun have the same meaning

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

Degrees of Specialization


"LSP [Language for Specific Purposes] is the language that is used to discuss specialized **fields of knowledge**. It is actually more accurate to talk about LSP in the **plural** (...) since different LSPs are used to describe different areas of specialized knowledge (...). Of course, there is some **overlap** between LGP [Language for General Purposes] and LSP. LSP typically contains a number of specialized **terms** (...). An LSP may also have special ways of **combining** terms or of **arranging** information that differ from LGP. »

Bowker & Pearson 2002: 25-26 (my emphases)

Degrees of Specialization

- 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)

 Specialised (SPE – research articles) and popularised (POP – press articles) discourses

Degrees of Specialization

“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.”

Gotti 2014: 17

Degrees of Specialization

→ Two major distinctive factors between SPE and POP : the **context** and the main **function / purpose** of the text

Gotti 2014

Functional
Linguistics



Biber & Conrad 2009

Context and register

Influence of the context, which is linguistically by expressed through registers

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

Register Variation

Hypothesis:

Influence of the context (= register) on the type of sequences used

→ Potential tendencies of a greater use of one of those three noun phrase sequences characterise degrees of specialization

2. Methodology

- Corpus compilation
- Steps of analysis

2. Methodology

Corpus linguistics

= a methodological approach to study **language use**

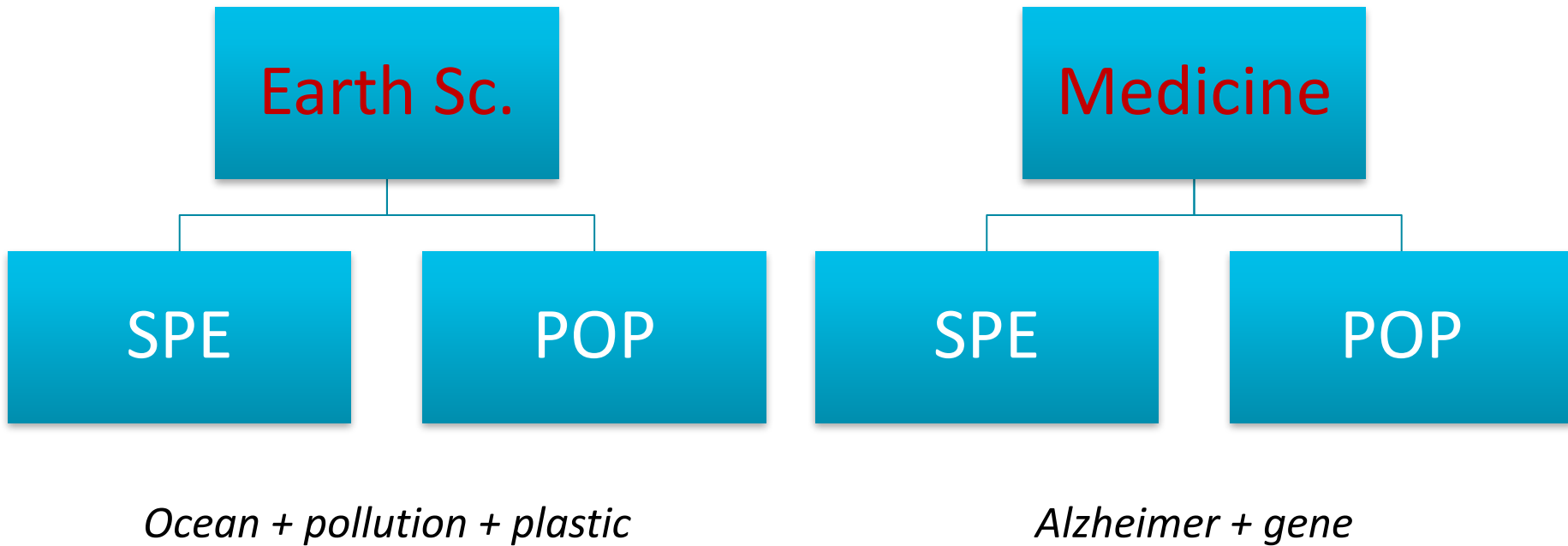
(Bowker & Pearson 2002)

- 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)

Corpora

2 corpora including 2 subcorpora:



Corpus compilation: criteria

SPE subcorpora	POP subcorpora
20 research articles / subcorpus	25 press articles / subcorpus
Originals	Originals
Written by specialists	Written by journalists
ESC : 96,000 ; MED : 78,000	ESC : 14,000 ; MED : 12,000

Corpora

In order to be analysed, the corpora were:

→ tagged with the tagger TagAnt© 

→ downloaded in AntConc© 

by Laurence Anthony

Steps of Analysis

1. List of the most frequent nouns and den-adj
2. Matching the corresponding den-adj and noun
3. Analysis of their frequency

3. Results and Discussion

Lists of the analysed terms (ESC)

EARTH SCIENCES		
SPE	<i>Nouns</i>	Water, sea, environment, ocean, river, program(me), fish, polymer, coast, impact
	<i>Den. Adj.</i>	Coastal, environmental, planetary, anthropogenic, ecological, aquatic, facial, biological, national, economic
	<i>?</i>	Plastic, waste, model
POP	<i>Nouns</i>	Ocean, sea, planet, environment, problem, government, fish, earth
	<i>Den. Adj.</i>	Marine, environmental, national, coastal, scientific
	<i>?</i>	Plastic, waste, metric

Lists of the analysed terms (MED)

MEDICINE		
SPE	<i>Nouns</i>	Gene, cell, protein, mouse, disease, neuron, risk, allele, interaction, genome
	<i>Den. Adj.</i>	Genetic, hippocampal, neuronal, regional, cholinergic, mitochondrial, pyramidal, molecular, pathological, nuclear
	?	Model
POP		
	<i>Nouns</i>	Symptom, risk, gene, dementia, cell, protein, brain, disease, therapy, nerve
	<i>Den. Adj.</i>	Genetic, healthy, scientific

Results

First general observations can be made for both ESC and MED discourses:

- It is impossible to distinguish Noun-Noun from Den-Adj sequences for some pairs

Ex.: plastic bottle >< bottle of plastic

- Some pairs are never used in the sequence forms under investigation

Ex. : planet

Results : ESC SPE

Nouns/Adj.	N-N	D-A	P-P (of)
water	58,2	21,9	19,9
ocean	62	16,9	21,1
river	94,6	1,3	4,1
fish	81,3	/	18,7
polymer	65	8,7	26,3
impact	56,5	/	43,5

Nouns/Adj.	N-N	D-A	P-P (of)
program(me)	14,3	/	85,7

Nouns/Adj.	N-N	D-A	P-P (of)
sea	15,9	84,1	1
environment	4,7	84,8	10,5
coast	1,4	97,2	1,4
planet	0	97,3	2,7
anthropogene	/	100	/
ecology	0	100	0
face	/	100	/
biology	2,7	97,3	0
nation	/	90,5	9,5
economy	16	84	0

Frequencies in %

« / » = the term does not appear in the corpus

Results : ESC POP

Nouns/Adj.	N-N	D-A	P-P (of)
ocean	64,3	/	35,7
government	100	/	/
earth	97,7	/	2,3

Nouns/Adj.	N-N	D-A	P-P (of)
environment	13,6	77,3	9
nation	/	100	/
coast	0	100	0
science	20	50	30
sea	29,6	63	7,4

Nouns/Adj.	N-N	D-A	P-P (of)
problem	/	14,3	85,7
fish	0	/	100

Frequencies in %

« / » = the term does not appear in the corpus

Results : MED SPE

Nouns/Adj.	N-N	D-A	P-P (of)
cell	79,8	15,4	4,8
protein	55,6	/	44,4
disease	59,7	/	40,3
risk	100	/	0
allele	51,5	19,7	29,8
interaction	52,2	/	47,8

Nouns/Adj.	N-N	D-A	P-P (of)
gene	32	28,8	39,2
mouse	37,3	3,4	59,3

Nouns/Adj.	N-N	D-A	P-P (of)
neuron	19,5	55,2	25,3
genome	17,4	60,9	21,7
hippocampus	0	100	0
region	15	55	30
cholinergy	/	100	/
mitochondrion	2,1	87,2	10,4
pyramid	/	100	/
molecule	0	100	0
pathology	4,6	63,6	31,8
nucleus	9,5	76,2	14,3

Frequencies in %

« / » = the term does not appear in the corpus

Results : MED POP

Nouns/Adj.	N-N	D-A	P-P (of)
risk	71,4	/	28,6
cell	83,3	16,7	0
protein	83,3	0	16,7
nerve	72,2	22,2	5,6

Nouns/Adj.	N-N	D-A	P-P (of)
gene	27	66,7	6,3
health	14,3	76,2	9,5
science	20	60	20

Nouns/Adj.	N-N	D-A	P-P (of)
symptom	0	/	100
dementia	42,1	/	57,8
brain	0	/	100
disease	7,4	/	92,6

Frequencies in %

« / » = the term does not appear in the corpus

Results

Comparison of LSPs :

➤ = in SPE of ESC (17) and MED (18) :

$$D-A > N-N + P-P$$

➤ ≠ in POP of ESC (10) and MED (11) :

- $D-A > N-N + P-P$

- $N-N + P-P > D-A$

Conclusive Remarks

Conclusive remarks

- An exploratory comparison of noun phrase modification sequences, in two LSPs
- Predominance of D-A (except in MED POP), but no major difference
- Hypothesis rejected at first glance

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Thank you for your attention!