The social role of Terminology: challenges of building a termbase to non-specialists

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CLUNL – Universidade Nova de Lisboa
Technical Communication & food labels...

→ Understanding food labels
   → Building a termbase for the consumer & the social role of Terminology

→ The terminographical process

→ The role of communicative contexts
   → specialised corpora building and exploration

→ Concluding remarks & comparison with IATE

...back to Technical Communication
TECHNICAL COMMUNICATION...
“When I was president of the Society for Technical Communication, I gave the President’s Award to the US Food and Drug Administration for their food labels.

I thought then – and continue to believe now – it is one of the most incredible feats of technical communication ever pulled off. The FDA managed to develop a clear, consistent means of informing consumers what’s in their food.” *

Saul Carliner, 2010
Concordia University, Montreal

* our highlight
"I read all package labels for my health. Now my eyes are shot!"
Ingredients

Yogurt (skimmed milk, skimmed milk concentrate/powder, cream, yogurt cultures), skimmed milk, sugar/liquid sugar (sucrose 8.4%), strawberry (2.1%), dextrose, milk mineral concentrate, stabiliser (modified tapioca starch), natural flavouring, acidity regulator (sodium citrate), L. Casei Danone culture (Lactobacillus casei DN 114001), vitamins (B6, D).

Ingredients

made of: sorbitol, gum base, natural and artificial flavours, less than 2% of: mannitol, xylitol, soy lecithin, malic acid, citric acid, acesulfame K, aspartame, fumaric acid, sucralose, color (yellow 6 lake), BHT (to maintain freshness. Phenylketonurics: contains phenylalanine.

Ingredients

Demineralised whey, skimmed milk, vegetable oils, lactose, fish oil, potassium chloride, sodium citrate, calcium lactate, magnesium sulphate, calcium carbonate, vitamin C, potassium hydroxide, taurine, iron sulphate, potassium carbonate, zinc sulphate, niacin, vitamin E, pantothenic acid, vitamin A, copper sulphate, riboflavin, thiamin, citric Acid, vitamin B6, beta carotene, manganese sulphate, vitamin K, folic acid, potassium iodide, vitamin D, biotin, vitamin B12.
DO WE UNDERSTAND WHAT’S ON A FOOD LABEL?

plant sterols esters

potassium sorbate

β-carotene

bad cholesterol

emulsifiers

carotenoids

margarine

Source: [http://www.unileverfoodsolutions.pt/wu_cache/img/058/mis_50141612/Becel_Pro_Activ_250g_0000x0000_0.jpg](http://www.unileverfoodsolutions.pt/wu_cache/img/058/mis_50141612/Becel_Pro_Activ_250g_0000x0000_0.jpg)
How can **Terminology** contribute to the transmission of **scientifically valid** and **accurate information** on functional food to the **consumer**?
BUILDING A TERMBASE FOR THE CONSUMER

terminographer

AlFαBeTa
Pessoas que desejam reduzir os níveis de colesterol no sangue destinam-se a VIDACOL como parte de uma alimentação saudável que inclua fruta e produtos hortícolas.

É um leite fermentado que contém esteróis vegetais presentes em alimentos de origem vegetal que diminuem a absorção de colesterol no intestino, reduzindo os níveis de colesterol no sangue que reduzem os níveis de carotenoides que ajudam a manter os níveis de.
esterol vegetal

**Definição:**

Ingrediente, naturalmente presente em pequenas quantidades nas plantas e em alguns alimentos de origem vegetal, que, em quantidades significativas, diminui a absorção de colesterol no intestino, contribuindo para a redução dos seus níveis no sangue.

**Informação adicional:**

Os esteróis vegetais estão naturalmente presentes, por exemplo, nos óleos vegetais, cereais, legumes e frutos, embora em pequenas quantidades.

Esta substância contribui para a redução do colesterol total e do colesterol LDL. O colesterol HDL permanece inalterado.
THE SOCIAL ROLE OF TERMINOLOGY
Knowledge and Popularising Science

Knowledge production

- Interdisciplinarity
- Hyperspecialisation

Knowledge dissemination
Terminological resources

- **target public**: translators, technical writers, specialists, students, ...

- **a means to an end**: “the practical terminologist (...) should never lose sight of the fact that the text is both the source and the destination of the term” (Shreve, 2001:775)

Our proposal

- termbase targeted at **non-specialists**

- termbase as **popularising science** resource (establishing bridges)

- disseminating **Terminology** as a special subject field, its goals and applications
→ Sager

→ “terminologies oriented towards a mass market”

→ “the need for a terminological information service for the general reader”
(Pointer, 1996)
BUILDING A TERMBASE FOR THE CONSUMER
Systematisation of terminographical processes

Comparison

Not adequate to our needs

Absence / inexistence of:

→ communicative dimension of analysis;
→ data validation stage;
→ final stage for data update;
→ clear delimitation of the preparatory stages of the terminographical process.

Rondeau (1984)
Cabré (1993; 1999)
Rey (1995)
Meyer and Mackintosh (1996)
Dubuc (2002)
L’Homme (2004)
The PAVEL (2004)
Terminographical process

3 phases
- pre-terminography
- terminography
- post-terminography

3 dimensions
- conceptual
- communicative
- textual

pre-translation
- translation
- post-translation*

conceptual
- communicative
- linguistic**

* Gouadec, 2002; 2005; 2007
** Sager 1990; Cabré, 1993; L’Homme, Heid, et al. 2003
<table>
<thead>
<tr>
<th>Phases</th>
<th>Stages</th>
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<tbody>
<tr>
<td>Pre-terminography</td>
<td>- goals setting</td>
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<td>- special subject field conceptual representation</td>
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<td>- communicative contexts identification</td>
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<td>- specialised corpora building</td>
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<td>Terminography</td>
<td>- termbase architecture</td>
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<td>- terminology constitution</td>
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<td>- conceptual systems building</td>
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<td>- definition writing</td>
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<td>- term records filling</td>
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<td>- data validation</td>
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<tr>
<td>Post-terminography</td>
<td>- termbase industrial and commercial application</td>
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<td></td>
<td>- data update</td>
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## Terminographical Process

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- goals setting
- special subject field conceptual representation
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- termbase architecture
- terminology constitution
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- term records filling
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- termbase industrial and commercial application
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popularising science monographs

articles in popularising science magazines

food labels

FAQs

project abstracts

marketing material

ads

product presentation

leaflets

glossaries
TEXT PRODUCERS

- Faculty
- Researchers
- Science communicators
- Food industry actors
- Journalists
- Consumer
Text selection and corpus organisation
Identification and extraction
term candidates and potential definitions
meet the needs of the consumer?
COMMUNICATIVE CONTEXTS

faculty
researchers
science communicators

food industry
actors

consumer

journalists

CC1

CC2

CC3
**CORPUS DESIGN**

ALFα Corpus  
Tokens: 77,662

Reference corpus  
Tokens: 13,447

faculty  
researchers  
science communicators

food industry actors

consumer

journalists

CC1  
25,163

CC2  
29,031

CC3  
23,468
Corpus-based terminographical process

- **Textual dimension**
  - Corpus / text

- **Conceptual dimension**
  - Linguistic vs. extra-linguistic

- **Communicative dimension**
  - Text producers, communicative intentions, target public

**Corpora building**
- Design & text selection

**Corpora exploration**
- Computational tools

- Term candidates identification & extraction
- Definitions identification & extraction

**Data validation**
- Beyond the corpus
**STUDY CORPORAS**

**ALFα Corpus**

**ALFα<sub>sterol</sub> subcorpus**

popularising discourse on food items with plant sterols

**ALFα<sub>sterol</sub> reference corpus**

scientific discourse on food items with plant sterols
CC1: faculty, researchers, science communicators
CC2: food industry actors
CC3: journalists
EXPLORING SPECIALISED CORPORA

→ Oxford WordSmith Tools

WordList / Concord

→ terminology constitution

→ definition writing
TERMINOLOGY CONSTITUTION
Criteria

special subject field frequency
facultyt
researchers
science communicators

food industry
actors

journalists
COMPARISON OF THE NUMBER OF TERM CANDIDATES

**Term / token ratio**

- CC1: faculty, researchers, science communicators
- CC2: food industry actors
- CC3: journalists
- Ref. corpus

**‘Unique’ term / token ratio**
NEED TO REDESIGN THE CORPUS?
TERMINOLOGY CONSTITUTION

faculty
researchers
science communicators

food industry
actors

journalists
DEFINITION WRITING
Os fitosteróis actam substituindo o colesterol (em virtude da sua semelhança estrutural com este) no momento da absorção (ao nível do intestino).

Por terem uma estrutura muito semelhante ao colesterol, os esteróis vegetais competem pelo espaço disponível nestas micelas. Quando presentes em quantidades significativas, estes ingredientes tendem a ocupar espaço das micelas antes reservado ao colesterol.

os esteróis vegetais diminuem a absorção do colesterol, diminuindo assim o valor do colesterol no sangue.

esteróis vegetais, o ingrediente activo responsável pela redução do colesterol no organismo.

1. ingrediente;
2. substância naturalmente presente nas plantas e em alguns alimentos de origem vegetal;
3. presente nas plantas e em alguns alimentos de origem vegetal em pequenas quantidades;
4. tem uma estrutura química semelhante ao colesterol;
5. compete com o colesterol, no momento da absorção deste no intestino;
6. em quantidades significativas, diminui a absorção de colesterol no intestino;
7. reduz o colesterol no sangue.

identification of concepts rich in conceptual information

identification and highlight of conceptual characteristics

systematisation of conceptual characteristics

ingredient, naturalmente presente em pequenas quantidades nas plantas e em alguns alimentos de origem vegetal, que, em quantidades significativas, diminui a absorção de colesterol no intestino, contribuindo para a redução dos seus níveis no sangue.

definition writing
DEFINITION WRITING

faculty
researchers
science communicators

food industry
actors

journalists
Comparing the number of conceptual characteristics

**Term:** plant sterol

**Graphs:**
- **Contexts rich in conceptual info / token ratio**
  - CC1, CC2, CC3, and Ref. corpus categories.
  - CC1: faculty, researchers, science communicators.
  - CC2: food industry actors.
  - CC3: journalists.
  - Ref. corpus.

- **Conceptual characteristics / token ratio**
  - Characteristic 1, Characteristic 2, Characteristic 3, Characteristic 4, Characteristic 5.
NEED TO REDESIGN THE CORPUS?
DEFINITION WRITING

food industry actors → faculty researchers science communicators → journalists
CONCLUDING REMARKS

→ **Communicative contexts** and corpora building and exploration:
  
  → terminology constitution
  
  → definition writing
  
→ Need to **redesign** the specialised corpus?

→ Relevance of **reference corpus**?

→ Future work:
  
  → data **validation**
  
  → readjustment of **definition writing methodology**
  
  → beyond the corpus
technical communicator

terminographer

food labels

AlFαBeTa
“She read the ingredients listed on the food label”
## COMPARISON WITH IATE

<table>
<thead>
<tr>
<th>Term</th>
<th>Reliability</th>
<th>Context</th>
<th>Context Ref.</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td><strong>phytosterol</strong></td>
<td>3 (Reliable)</td>
<td>For labelling purposes, phytosterol, phytosterol ester, phytostanol and phytostanol ester shall be designated respectively by the terms &quot;plant sterol&quot;, &quot;plant sterol ester&quot;, &quot;plant stanol&quot; or &quot;plant stanol ester&quot; or their plural form, as appropriate.</td>
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<td>14/04/2009</td>
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Source: EP            IATE ID: 154145
<table>
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<tr>
<th>Domain</th>
<th>Chemical compound</th>
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<tr>
<td><strong>Definition</strong></td>
<td><strong>triterpenes that are important structural components of plant membranes</strong></td>
</tr>
<tr>
<td>Note</td>
<td>Free phytosterols serve to stabilize phospholipid bilayers in plant cell membranes just as cholesterol does in animal cell membranes. Most phytosterols contain 28 or 29 carbons and one or two carbon-carbon double bonds, typically one in the sterol nucleus and sometimes a second in the alkyl side chain.</td>
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## COMPARISON WITH IATE

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<th>Definition</th>
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<td>Note</td>
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Thank you!

Ana Rita Remígio

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