Objetives

• To be able to identify genres of EN/ES for Science & Technology
• To analyse genres and text types of EN/ES for Science & Technology
• To be able to produce genres of EN/ES for Science & Technology
• To be able to evaluate and assess text types of EN/ES for Science & Technology
Background

• Bottom-up process. Sentence linguistics
  – Vocabulary, syntax and pronunciation
  – Technical vocabulary
  – Semi-technical vocabulary:
    • Polysemsies
    • Homonyms
    • Semantic fields
    • Collocations
    • Paronymic temptation: adequate, certain, certain, particular; apparent1 (visible), apparent2 (presumed), observable1 (visible), observable2 (considerable, important), etc.
Background

Set of designations that acquire a specific meaning by virtue of their usage in specific communicative settings.
Background

“Congelador” (Paepcke)
- Scientific level: chambre de congélation
- Workshop level: compartiment réfrigérateur
- Everyday level: congélateur
- Consumption level: freezer
Background

• Polysemy (by analogy)

*filler*[^1] n: _Elab_ carga [del molde]. [Exp: *filler*[^2] (utillaje pernito, ahormado; tipo de horno que se introduce en el zapato para evitar que se deforme; V. *tree*). *filler*[^3] (mtrls relleno; material empleado para rellenar cualquier vacío entre la plantilla y suela ♦ *A board filler is often inserted into sandals, house slippers, etc. to give them a better shape*; V. *cushion; bottom filler*). *filler*[^4] (mtrls/piel rellenante; producto que tiende a depositarse en la capa más cercana al cuero, no produciendo por tanto efectos de luz, sino un mejor relleno y una superficie más lisa, corrigiendo algunos defectos de la flor ♦ *Unless fillers, dyes or pigments are present, the coating solution is essentially water clear*), *filler rod* (V. *welding rod*), *filling*[^1] (mtrls relleno; V. *heel filling piece*), *filling*[^2] (mtrls/piel tapaporos; V. *stopping*).
discharge\(^1\) n/v: GRAL descarga; descargar; V. unload; empty. [Exp: discharge\(^2\) ADMINISTRACIÓN liberar ◊ A spray discharges a fine jet liquid from a pressurized container: V. release, deliver). discharge\(^3\) ADMINISTRACIÓN descarga [de un aerosol]; en esta acepción es sinónimo de deliver y de spray). discharge\(^4\) GRAL/FISIO flujo, secreción; segregar, secretar ◊ His stomach discharged digestive juices normally; V. secretion; flow; secrete); discharge\(^5\) FISIO supuración; supurar ◊ The purulent discharge from a wound: V. suppuration). discharge\(^6\) FISIO derrame ◊ A haemorrhage is an abundant discharge of bloods form the menstrual flow), discharge\(^7\) FISIO flujo vaginal, también llamado vaginal discharge, V. menstrual flow), discharge [from hospital] GRAL [dar el] alta hospitalaria ◊ The patient will be discharged tomorrow].

discharge\(^1\) n/v: GRAL descarga; descargar; ◊ The cargo was discharged within 48 hours of the ship’s arrival at the port; V. unload, discharge port. [Exp: discharge\(^2\) REL LAB extinguir, extinción de un contrato; despedir, dar de baja; V. dismiss; discharge from employment, termination, sack; fire). discharge\(^3\) SEG finiquito; pagar, dar finiquito; V. final discharge). discharge\(^4\) GEST cumplimiento de un deber, trabajo u obligación ◊ In the discharge of his duties); discharge\(^5\) GRAL rehabilitación, descargo; fallido o quebrado rehabilitado; rehabilitar; V. bankruptcy discharge, discharged bankrupt). discharge\(^6\) GRAL exoneración, eximir, liberar; V. discharge from a liability)].
Background

• Semantic fields (“pain”)

  – Partial synonyms: discomfort, pain, ache, pang, smart, stitch, throes, twinge, etc.
  – Adjectives qualifying “pain”: stabbing, dull, sharp, abiding, continuous, sustained, bearable, unbearable, etc.
  – Verbs stating “pain”: suffer, bear, abide, endure, experience, undergo, sustain, etc.
  – Nouns expressing the effects of pain: irritability, nervousness, annoyance, excitement, agitation, confusion, disturbance, etc.
  – Nouns expressing absence of pain, that is, antonyms: comfort, calm, well-being, analgesia, etc.
  – Nouns of drugs producing analgesia: analgesic, sedative, tranquillizer, etc.
Background

• CONSEQUENCES
  – Without terminology
    • NO professional communication;
  – Without professional communication
    • NO knowledge transfer
  – Without knowledge transfer
    • NEITHER
      – intellectual nor material development
      – teaching and training
    • NOR
      – professional research

• Which –in the long run- leads to
  NON-DEVELOPMENT and ISOLATION
Introduction

• Top-down process. Suprasentential linguistics: **Genres**
  – Audience
  – Purpose of the author
  – Internal organization of information
  – Style & Terminology
  – Presentation of information
Genre. Key concepts

- A fairly recent term associated with professional languages.
- A term borrowed from literature: the novel or drama, for example, are literary genres because they share generic traits or features.
- A court judgment is a legal genre, a drug leaflet is a medical genre, a paper is an academic genre, etc.
- It is also possible to distinguish sub-genres (divorce judgment, research report, technical report...
Genre: Definition

• By “genre” or “text type” we mean each of the specific classes of texts characteristic of a given scientific community or professional group and distinguished from each other by certain features of vocabulary, form and style, which are wholly function-specific and conventional in nature.

• “text” = written/oral genres
The Genre in Linguistics

- **LINGUISTIC PARADIGMS**
  - **Structuralism:** language consisted of small units that form structures. In other words, structuralism had an atomistic vision of language. Consequently, structuralism paid a great deal of attention to the study of words and sounds, that is, vocabulary and phonetics.
  - **Generativism:** The central component of language was not vocabulary, but morphosyntax. In this paradigm morphosyntax looms up as the backbone of language, as the organizing axis of language.
  - **Pragmatics:** examined language from the point of view of communication. This paradigm has offered us scores of theories about face-to-face interaction, communicative genres, conversation analysis, speech acts, linguistic politeness, etc. Three key words of this paradigm are discourse, text and context.
  - **Cognitivism:** language is one component of cognition. Metaphors and metonymy are two mainstream devices of the cognitive process.
Formal Features of Genres

• A shared communicative function.
• A similar *macrostructure*, i.e. format or organizational outline.
• A similar discursive model of developing the macrostructure (narrative, descriptive, imperative, optative) and similar discourse techniques aimed at satisfying the discourse expectations of the recipient.
• A common lexical and syntactic arrangement of the material and a common set of functional units and formal features.
• Common socio-pragmatic conventions.
Formal Features of Genres

• Macrostructure, i.e. format or organizational outline.
  – Primary structure: sections (e.g. in a research paper: *introduction, method, results, discussion*)
  – Secondary structure: moves or sections’ parts
<table>
<thead>
<tr>
<th>TENOR</th>
<th>FUNCIÓN</th>
<th>CATEGORÍA SUPRAGENÉRICA</th>
<th>GÉNEROS</th>
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<tbody>
<tr>
<td>EXPERTO-PÚBLICO GENERAL</td>
<td>Instructiva</td>
<td>Textos instructivos</td>
<td>• Anuncio publicitario en medio general</td>
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<td>Expositiva</td>
<td>Textos recopilatorios</td>
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<td>Textos descriptivos</td>
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<td>• Artículo comercial</td>
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<td>EXPERTO-</td>
<td>Argumentativa</td>
<td>Textos orientados al avance de la ciencia o de la técnica</td>
<td>• Artículo técnico / científico de revista especializada</td>
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<tr>
<td>SEMI-EXPERTO</td>
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<td>• Artículo de revista profesional del sector</td>
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<td>Instructiva</td>
<td>Textos didáctico-instructivos</td>
<td>• Manual técnico</td>
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<td>• Libro de texto</td>
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<td>• Instrucciones de uso (máquinas, materiales, etc.)</td>
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<td>• Instrucciones de trabajo</td>
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<td>Expositiva</td>
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<td>• Artículo enciclopédico</td>
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<td>• Glosario</td>
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<td>Textos descriptivos</td>
<td>• Cuaderno de tendencias</td>
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<td>• Anuario</td>
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<td>TENOR</td>
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<td>Argumentativa</td>
<td>Textos orientados al avance de la ciencia o de la técnica</td>
<td>• Artículo técnico / científico de revista especializada</td>
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<tr>
<td>Directiva</td>
<td>Textos jurídico-normativos</td>
<td>• Patente</td>
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<tr>
<td>Instructiva</td>
<td>Textos didáctico-instructivos</td>
<td>• Protocolo de ensayo</td>
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<td>Expositiva</td>
<td>Textos recopilatorios</td>
<td>• Vocabulario</td>
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<td>Textos descriptivos</td>
<td>• Acta de reunión técnica</td>
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<tr>
<td>EXPERTO-EXPERTO</td>
<td></td>
<td>• Descripción técnica</td>
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<td>• Listado de piezas</td>
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</table>
Scientific and Technical Genres

• Written genres
  – **Abstract**: a special kind of summary. It is used in scientific writing to summarize the major content of a report or study.
  – **Scientific / research paper**: a written and published report describing original results.
  – **Scientific / research report**: a document used to communicate the results of research, field work, and other activities (technical reports, lab reports, formal reports)
  – **Posters**: a special type of presentation to present work to an audience who is walking through a hallway or exhibit.
  – **Theses, textbooks, instructions, leaflets, standards, etc.**
Scientific and Technical Genres

• Oral genres
  – **Presentations**: well-planned, rehearsed speech with a presentation of ideas and information for a specific audience and purpose. Its aim can be to entertain, to persuade or to inform.
  – **Conferences / videoconferences**: well-planned, rehearsed speech with a presentation of ideas and information for an expert audience.
  – **Lectures**: oral speech aimed at training learners of a subject matter, often accompanied by printed or visual materials.
  – **Dissertations**: lengthy, formal discourse by a candidate for the doctoral degree at a university; a thesis.
Scientific and Technical Style

• Register: lexical & grammatical features
  – -ing forms replacing a relative
  – Infinitive as substitute for longer phrases
  – Words similar in form but with different meanings for the same function
  – Most prefixes and suffixes
  – Most structural and qualifying words & phrases
  – Compound nouns
  – Passives
  – Conditionals
  – Cause-and-result constructions
  – Words similar in form but with different functions
  – Past participle usage
  – The prepositional (two-part) verbs common in scientific English
Scientific and Technical Style

- Hedging/vague language
  - Hedging: modal verbs (may, might...); some adverbs (possibly, perhaps...); some adjectives (likely, probable...); impersonal verb forms (suggest, seem, etc.)
  - Compound hedges: *it may suggest that...; it seems reasonable to assume...*
  - Attribution (*X expects Y; According to X...*)
  - Shields
    - Modal verbs (*would, could, may*)
    - Lexical verbs (*seem, appear, suggest*)
    - Modal adverbs (*probably, possibly, apparently*)
    - Modal adjectives (*certain, probable, undoubted*)
    - Modal nouns (*assumption, possibility, estimate*)
  - Approximators of quantity, degree, frequency (*about, around, approximately, lots of, a bit of, several.*
  - Emotionally-charged intensifiers (*extremely interesting*)
### Scientific and Technical Style

- **Hedging/vague language**

<table>
<thead>
<tr>
<th>Verbs</th>
<th>Degree of certainty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Complete</strong></td>
<td></td>
</tr>
<tr>
<td>is (not)</td>
<td>certainly</td>
</tr>
<tr>
<td>will (not)</td>
<td>definitely</td>
</tr>
<tr>
<td>must (not)</td>
<td>clearly</td>
</tr>
<tr>
<td></td>
<td>undoubtedly</td>
</tr>
<tr>
<td><strong>Strong</strong></td>
<td></td>
</tr>
<tr>
<td>can/cannot</td>
<td>probably (is)</td>
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<tr>
<td>should (not)</td>
<td>presumably</td>
</tr>
<tr>
<td><strong>Partial</strong></td>
<td></td>
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<tr>
<td>could (not)</td>
<td>likely/unlikely</td>
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<tr>
<td><strong>Less strong</strong></td>
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<tr>
<td>may (not)</td>
<td>possibly (not)</td>
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<tr>
<td>might (not)</td>
<td>perhaps (not)</td>
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<tr>
<td><strong>Impersonal (i.e. no commitment)</strong></td>
<td>It is said that ...</td>
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<td>It appears that ...</td>
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<td>A reports that ...</td>
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<td>There is evidence to suggest that... (etc.)</td>
</tr>
</tbody>
</table>
Scientific and Technical Style

• Appropriacy: formal or informal style / what is acceptable in spoken language and what appropriate in writing
  – The scientific writer’s approach to his/her material is
    analytical
    objective
    intellectual
    rational
    impressionistic
    subjective
    emotional
    polemic
  – The scientific writer’s tone is
    serious
    impersonal
    formal
    conversational
    personal
    colloquial
  – The scientific writer makes frequent use of passive forms, impersonal pronouns and phrases, qualifying words and phrases, complex sentences, specialised vocabulary.
Scientific and Technical Style

• Avoid using:
  – Contractions (e.g. it’s)
  – Many phrasal verbs (e.g. look into)
  – Colloquialsims/slangs (e.g. you know)
  – Personal pronouns. Do use it, there
  – Vagueness in word choice (e.g. thing)

• Do use:
  – Appropriate punctuation (commas, colons, semi-colons)
Scientific and Technical Genres

• Macrostructure of the Abstract
  – OBJECTIVE: The question(s) investigated or purpose (from Introduction)
    • MATERIALS & METHODS: The experimental design and methods used (from Methods)
  – RESULTS & CONCLUSIONS: The major findings including key quantitative results, or trends (from Results)
  – IMPLICATIONS AND RECOMMENDATIONS: Brief summary of your interpretations and conclusion (from Discussion)
Scientific and Technical Genres

• Macrostructure of the Scientific Paper

<table>
<thead>
<tr>
<th>Experimental process</th>
<th>Section of Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did I do in a nutshell?</td>
<td>Abstract</td>
</tr>
<tr>
<td>What is the problem?</td>
<td>Introduction</td>
</tr>
<tr>
<td>How did I solve the problem?</td>
<td>Materials and Methods</td>
</tr>
<tr>
<td>What did I find out?</td>
<td>Results</td>
</tr>
<tr>
<td>What does it mean?</td>
<td>Discussion</td>
</tr>
<tr>
<td>Who helped me out?</td>
<td>Acknowledgments (optional)</td>
</tr>
<tr>
<td>Whose work did I refer to?</td>
<td>Literature Cited</td>
</tr>
<tr>
<td>Extra Information</td>
<td>Appendices (optional)</td>
</tr>
</tbody>
</table>

• Macrostructure of the Research Report
  – Title page
  – Abstract
  – Table of contents
  – Introduction
  – Body
  – Recommendations
  – References
  – Appendices