Discourse approaches to specialised and popular academic English: Comparing hedges and modality

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1. Academic Writing as Discourse

writers and readers interact in a discourse community on the basis of accepted institutionalised conventions of metadiscourse
- Swales (1990): genre approach to academic writing
- Hyland (2005, 2006): author stance and engagement are crucial variables in academic interaction
"writing is always a personal and socio-cultural act of identity whereby writers both signal their membership in a range of communities as well as express their own creative presence" (Hyland 2006: 35)

1.1. A Social-constructionist approach

A major focus of social constructionism is to uncover the ways in which individuals and groups participate in the creation of their perceived social reality. It involves looking at the ways social phenomena are created, institutionalized, and made into tradition by humans. Socially constructed reality is seen as an ongoing, dynamic process, reality is reproduced by people acting on their interpretations and their knowledge of it.

"Constructionism became prominent in the U.S. with Peter L. Berger and Thomas Luckmann's 1966 book, The Social Construction of Reality: Berger and Luckmann argue that all knowledge, including the most basic, taken-for-granted common sense knowledge of everyday reality, is derived from and maintained by social interactions. When people interact, they do so with the understanding that their respective perceptions of reality are related, and as they act upon this understanding, their common knowledge of reality becomes reinforced. Since this common sense knowledge is negotiated by people, human interpretations and institutions come to be presented as part of an objective reality. It is in this sense that it can be said that reality is socially constructed."
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1.2. Discourse community
(Swales 1990: 24-27)

- A discourse community utilizes and hence possesses one or more genres in the communicative furtherance of its aims.
- In addition to owning genres, a discourse community has acquired some specific lexis.
- A discourse community has a threshold level of members with a suitable degree of relevant content and discoursal expertise.
→ specialised and popular academic discourse

2. The Corpus of Specialised and Popular Academic English (SPACE)

Rationale: compare expert texts with the “same content” in expert-to-expert and expert-to-academic layperson communication
- science journals like New Scientist (subscription)
- academic online databases, pre-publication servers like arXiv (arxiv.org)
- publications in the Proceedings of the National Academy of Sciences (PNAS, pnas.org)
- plus: e.g. Public Library of Science - Medicine (plos.org)
Table 1: Domain set-up of the SPACE07 corpus

<table>
<thead>
<tr>
<th>Texts</th>
<th>Readership</th>
<th>Specialised</th>
<th>Popular</th>
<th>Popular: Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>physics</td>
<td>AX</td>
<td>115981</td>
<td>4134</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>NS</td>
<td>15327</td>
<td>4974</td>
<td>11%</td>
</tr>
<tr>
<td>quantum</td>
<td>particle</td>
<td>26384</td>
<td>16755</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>ads</td>
<td>16755</td>
<td>18119</td>
<td>11%</td>
</tr>
<tr>
<td>bioscience</td>
<td>biochemistry</td>
<td>53212</td>
<td>18331</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>genetics</td>
<td>18331</td>
<td>53139</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>micro</td>
<td>53139</td>
<td>5176</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>599581</td>
<td>69411</td>
<td>12%</td>
</tr>
</tbody>
</table>

Average 99930 11568

Table 2: Publication data of SPACE07 articles: 2000-05

<table>
<thead>
<tr>
<th>Comparing titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001AX Indeterminate-length quantum coding</td>
</tr>
<tr>
<td>0001NS The ultimate computer</td>
</tr>
<tr>
<td>0002AX Quantum phase transitions and the breakdown of classical General Relativity</td>
</tr>
<tr>
<td>0002NS What lies beneath</td>
</tr>
<tr>
<td>0046AX The disruption of stellar clusters containing massive Black Holes near the galactic center</td>
</tr>
<tr>
<td>0046NS Star shepherds</td>
</tr>
</tbody>
</table>
**Comparing texts**

**G. Schmied**

1. Introduction

**Hedging**

- **Formality**
- **Objectivity** (but: **evaluative stance**)
- **Explicitness**
- **Hedging**
  - e.g. **modality**, incl. **modal auxiliaries** or **modal adverbs**
- **Coherence**
  - e.g. **sentence adverbs**, incl. **modal adverbs**

All cover a wide list of forms, so they cannot be retrieved automatically!

**Section: Language features**

3. Language features (conventions of academic writing)

**Table:**

<table>
<thead>
<tr>
<th>Complexity</th>
<th>Formality</th>
<th>Objectivity</th>
<th>Explicitness</th>
<th>Hedging</th>
<th>Coherence</th>
<th>Outlook</th>
</tr>
</thead>
</table>

**End: Table**

**Section: 3.2. Hedges**

**Complex**, **gradient**, **culture-specific**

1. Lakeoff (1972): "Hedges: A Study in Meaning Criteria and the Logic of Fuzzy Concepts": more than 60 'hedges and related phenomena', including sort of, kind of, rather, basically, very, often, almost, as it were, in one sense, a regular, so to say, in name only, really, pseudo, etc.

Brown/Levinson (1987: 145): "a particle, or phrase that modifies the degree of membership of a predicate or a noun phrase in a set; it says of that membership that it is partial or true only in certain respects, or that it is more true and complete than perhaps might be expected".

Ventola/Mauranen (1990): Finns writing in English showed the tendency to stick to a few 'safe' expressions of epistemic modality, had less variation in the expressions than did native speakers of English, i.e. they did not behave in a native-like manner

→ def.: hedging = down-(up)-scaling author commitment (stance)

**Section: 3.1. Stance**

key terms: stance > hedging > modality

- "personal feelings, attitudes, value judgments, or assessments" (Biber et al. 1999: 966)
- "subjective" evaluation on the basis of own knowledge, experience, etc.
- context-dependency academic culture in the discourse community determines how stance is expressed!

**Section: 3.3. Modality**

"Modality is centrally concerned with the speaker's attitude towards the factuality or actualisation of the situation expressed by the rest of the clause. A declarative main clause like He wrote it himself we regard as unmodulated: in normal use the speaker is committed, without qualification or special emphasis, to the factuality of the proposition expressed. He must have written it himself, by contrast, is modalised: although I still commit myself to the factuality of the having written it himself, my commitment is qualified in the sense that the truth of the proposition is not presented as something that is directly known but as something that is inferred." (Huddleston/Pullum 2002:173)

**Standard example:** modal auxiliaries

in epistemic use (Greek: "knowledge")

in decreasing strength/properinity:

- must, will, would, should, can, could, may, might, ...

but also **modal adj./verbs**
### Table 3: A sample of modal adjuncts from Huddleston/Pullum 2002:768

<table>
<thead>
<tr>
<th>Strong</th>
<th>Weak</th>
</tr>
</thead>
<tbody>
<tr>
<td>assuredly</td>
<td>conceivably</td>
</tr>
<tr>
<td>obviously</td>
<td>arguably</td>
</tr>
<tr>
<td>clearly</td>
<td>likely</td>
</tr>
<tr>
<td>definitely</td>
<td>probably</td>
</tr>
</tbody>
</table>

### 4. Qualitative and quantitative comparisons

**SPACE corpus processing**

Automatic:
- POS tagging using Penn Treebank
- ComplexAna: Complexity Analyser

Human:
- morphological, syntactic and semantic using WordNet

Statistics:
- classifying hedge features with intuitive degree of propensity

### 4.1. Modal and evaluative adverbs

**Methodology:**
- Adverb tag (RB) query obviously leads to undercollection
- *lyly, search clearly leads to overcollection

**Table 2: occurrences of unfortunately in SPACE07**

| 0018AX | Unfortunately, one has no a priori way of predicting |
| 0033AX11 | Unfortunately, an instantaneous comparison was not possible |
| 0033AX11 | Unfortunately, exact information on gas usage is unavailable |
| 0043AX0043AX | Unfortunately, the complexity of each subprocess also grows |
| 0044AX20044AX | Unfortunately, our experience is confined to an equilibrium |
| 0056AX0056NS | Unfortunately, in many places such information is getting harder |
| 00690069NS | unfortunatelyunfortunately, it's a good protective barrier, says Hildebrand, unfortunatelyunfortunately. |
| 0100PN | Unfortunately, because of the rarity of plant data from this |

**List 1: AntConc concordance for *lyly, in the first few SPACE Corpus files**

Unfortunately, the examples in the Cambridge Grammar are not used frequently in SPACE07!
modal and evaluative adverbs are not only used in popular academic English!
frequency of modal auxiliaries greatly increased relatively in popular academic English but propensity only slightly!