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The status and representation of contact-induced semantic shifts in Quebec English: from Twitter users to sociolinguistic informants

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Method

- Contact-induced semantic shifts in Quebec English, e.g. deception/disappointment (cf. Fr. déception).
- Big deception... you were not present in the Pride Parade in Montreal today. [...] We keep waiting for a breakthrough but Conservatives keep disappointing.
- There are dozens of described examples (Boberg, 2012; Fee, 1991, 2008; Rouaud, 2019), but most are anecdotal.
- How widespread is this phenomenon? Which factors condition its use? What representations are associated with it?

Object of study

- Basic sociolinguistic information: stated location; degree of bilingualism based on languages in tweets.
- The data are used for analyses based on different word embedding models (Miletic et al., 2021).
- Pattern-level analysis:
  - Identifies the words within the whole vocabulary with the most different meanings in Montreal.
  - Uses word2vec (Mikolov et al., 2013) to compare meanings across regions ⇒ 20 new cases.
- Token-level analysis:
  - Identifies the contact-induced senses of a word.
  - Uses BERT (Devlin et al., 2019) to analyze 40 target items, producing clusters of semantically similar occurrences ⇒ annotation for the presence of contact influence.

Computational models of lexical semantic variation

<table>
<thead>
<tr>
<th>Subcorpus</th>
<th>Users</th>
<th>Tweets</th>
<th>Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montreal</td>
<td>59 k</td>
<td>11 m</td>
<td>193 m</td>
</tr>
<tr>
<td>Toronto</td>
<td>51 k</td>
<td>13 m</td>
<td>223 m</td>
</tr>
<tr>
<td>Vancouver</td>
<td>46 k</td>
<td>11 m</td>
<td>223 m</td>
</tr>
<tr>
<td>Total</td>
<td>154 k</td>
<td>35 m</td>
<td>629 m</td>
</tr>
</tbody>
</table>

- Basic sociolinguistic information: stated location; degree of bilingualism based on languages in tweets.

Patterns of variation

- For most lexical items, contact-related senses are used by speakers who tweet in French more often than those who use the same item with a conventional sense. Semantic shifts likely represent variations in usage associated with bilingualism rather than established regional variants.
- But both regional specificity and association with bilingualism vary across different items, suggesting differences in diffusion.

Variationist sociolinguistic survey

- We operationalize contact-induced semantic shifts as regional semasiological variation, and study them comprehensively using an interdisciplinary approach.
- We use computational semantic models to systematically identify target linguistic patterns in a large Twitter corpus.
- We then implement a variationist survey to see how these patterns are reflected by real-life sociolinguistic behaviors.

Protocol

- PAC-LVTI protocol (Przewozny et al., 2020):
  - A standard variationist sociolinguistic interview and a detailed thematic questionnaire.
  - A new protocol extension for semantic variation (Bailey & Durham, 2020; Dollinger, 2017; Robinson, 2010) using 40 tweets, each with an item in a contact sense:
    - Read the tweet out loud ⇒ phonological information;
    - Rate acceptability from 1 to 6 ⇒ semantic information;
    - Give a synonym in this context ⇒ interpretation check;
    - Feel free to comment ⇒ representations.

Participants

- 942 Montreal users from the corpus having used at least one target item with a contact-related sense ⇒ 40 target users chosen based on idiomaticity.
- Recruitment through Twitter, including an explanation of the participants’ presence in the initial corpus.
- Data collection is ongoing.

A case study

- 32 y.o. monolingual English speaker, >10 years in Montreal.
- All lexical items are phonologically integrated into English. Acceptability ratings vary, with rich qualitative comments.
- The ratings are not correlated with computational variation scores, but general patterns (bilingualism, interaction) mirror Twitter.

Conclusion

Summary

- Our computational method for semantic shift analysis entailed the creation of a Twitter corpus and of multiple semantic models.
- This approach identified previously undescribed examples and provided insight into their status and diffusion.
- Our sociolinguistic survey uses a custom interview task building on the computational analyses to further investigate lexical semantic variation.
- Initial results show that this is crucial in establishing sociolinguistic profiles and eliciting representations.
- The link between Twitter and interview data is complex, which points to different dimensions of variation.

Ongoing work

- Further sociolinguistics interviews will provide additional information, contributing to clearer conclusions.
- A direct comparison of sociolinguistic and Twitter data will provide descriptive insight as well as allow for systematic evaluation of computational methods.

References


Acknowledgments

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