

Symposium | Learning lexical specificity in phonology

Discussion: Items and Classes

- C. Moore-Cantwell:
Concurrent learning of the lexicon and phonology
- S. Shih:
Learning lexical classes for class-sensitive phonology

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What is lexical specificity (in the context of each talk)?

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- Moore-Cantwell:
 - There are literally lexically specific constraints — constraints are indexed to each lexical item
- Shih:
 - Different classes of lexical items are subject to different phonological patterns, so, patterns are specific to classes
 - Focus of talk is then on how items can be grouped into classes on the basis of observable phonological information

Questions raised: Lexical specificity vs. variation

- How does the learner manage lexical specificity and natural language variation?

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- Moore-Cantwell:
 - The overall grammar (general constraints) can model variation
 - Lexically specific constraints account for the systematic behavior of individual lexical items
- > Variation itself can be lexically specific — or even specific to particular lexical categories (Cedergren 1973)

Questions raised: Lexical specificity vs. variation

- How does the learner manage lexical specificity and natural language variation?
- Shih:
 - Generalizations over large numbers of surface tokens factor out variability...
 - > ...as long as between-category differences are larger than within-category variation

Questions raised: Relevant items and categories

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- What are the relevant lexical items and categories for phonology?
- Moore-Cantwell:
 - Every lexical item can have its own indexed constraints
 - Discussion focuses on the difference between lexical items with regular/majority and exceptional/minority patterns:
==> “categories”?

Questions raised: Relevant items and categories

- What are the relevant lexical items and categories for phonology?
- Shih:
 - Comparing options for categories is a main theme of the project: Which cluster hypothesis makes the best predictions for novel data?

Questions raised: Interactions between grammar and lexicon

- How do the developing grammar and lexicon interact in learning?

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- How do the developing grammar and lexicon interact in learning?
- Moore-Cantwell:
 - They are learned at the same time, so they influence each other
 - Encountering the facts on the ground for each item influences the overall grammar
 - But, the nature of the overall grammar also affects what lexically specific information needs to enter into the computation

Questions raised: Interactions between grammar and lexicon

- How do the developing grammar and lexicon interact in learning?
- Shih:
 - Classes are learned by clustering items in lexicon...does lexicon necessarily come first?
 - . (No?) Iterative simulations: Clustering process still works when lexical items are learned incrementally
 - . (Yes?) Learner must already know UR of items encountered in order to calculate degree of reduction

What's next?

- What are some of the new questions that today's talks open up?

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- Recurring theme today (Smith, Moore-Cantwell): Use of weighted constraints to represent URs or features of URs

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- Recurring theme today (Smith, Moore-Cantwell): Use of weighted constraints to represent URs or features of URs
- > If we use weighted constraints to represent gradiently coded features in lexical entries, does this replace (featural) faithfulness?
- > If so, what can we say about Richness of the Base?
 - If only (say) penult or antepenult stress is possible, what guarantees that lexical items only have those two possible “feature” values specified?
 - Does RotB go the way of cross-form generalizations?

What's next?

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- Shih's proposal: It is possible for a learner to find lexical classes on the basis of surface phonological information
- > Empirical domain of investigation: Degree of reduction, measured segmentally and durationally
 - There might be some additional complications raised by the use of this particular phenomenon
 - . How do learners know unreduced URs?
 - . Reduction is related to prosody, which is affected by factors other than lexical category (syntax, discourse, etc.)

What's next?

- Shih's proposal: It is possible for a learner to find lexical classes on the basis of surface phonological information
- > Can a similar result be found on the basis of a surface pattern that is more phonology- (or phonetics-) specific?
 - Unlike degree of reducibility, though, a more traditional segmental property wouldn't necessarily occur in all members of the class

What's next?

- Shih's proposal: It is possible for a learner to find lexical classes on the basis of surface phonological information
- > If degree of reduction is the most useful surface property to use for bootstrapping lexical classes...
 - Is this specific to English, or to stress-timed languages, or...?
 - How do learners know it's reduction that's the most useful to look at?

What's next?

- Recurring theme of symposium:
top-down vs bottom-up learning

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top-down vs bottom-up learning
- Moore-Cantwell: Bottom-up learning (also Becker)
 - What happens to cross-form generalizations? Harder to capture
 - . But is this a *useful* result? Are cross-form generalizations real?
 - . (B. Smith argues: yes)
- > Evidence for effects of top-down generalization in artificial-language experiments (e.g., Linzen & Gallagher 2014)

What's next?

- Recurring theme of symposium:
top-down vs bottom-up learning
- Shih: Bottom-up learning — but does it make top-down generalizations possible?
 - > If a learner uses, e.g., reduction patterns to learn large classes of items, can these classes be used for later generalizations about other patterns?

What's next?

- Recurring theme of symposium:
top-down vs bottom-up learning
- > Empirically, to what extent do we see crucial effects of lexical strata (or lexical category) across languages?
 - Does having one exceptional property tend to predict having another?
 - If so, does grammar-learning need top-down access to classes?