

Unknown Word Handling Also Summit

Francis **Bond**
and many, many more

Computational Linguistics Lab (凡士研)
Linguistics and Multilingual Studies,
Nanyang Technological University

[<bond@ieee.org>](mailto:bond@ieee.org)

DELPH-IN 2017-08-07

Overview

- Unknown words are handled differently in different tools
- Some of the ingredients are
 - ▶ grammar external POS (and probs)
 - ▶ some reg-exp in chart-mapping
 - ▶ lemmatization (with inflectional-rules)
 - ▶ creation of nonce- lex-entries for generation
 - ▶ generic lexical entries
- Sometimes projects handle this off-line
 - ▶ Batch parse, find all unknowns, create default lexicons
 - ★ allows parsing and generation
 - ★ fixes names for post-processing
 - ★ easy to then shift/correct into main lexicon
 - ✗ requires at least two parsing runs

Desiderata for unknown word handling

- uniform across tools
- can generate from the parse output
- predicate names follow MRS convention
 - `_lemma_x_sense`
 - `_tokenizations/NNS_u_unknown_rel` →
`_tokenization_n_unk-NN:+PL`
 - `_sapped/VBD_u_unknown_rel` →
`_sa[p|pp|ppe]_v_unk-VBD-sapped`
- exploits existing inflectional machinery
- fits in stochastic model
- documented for end-users
- documented for grammarians
with some coordination when tools change
- documented for developers

Standard Process

- ① one tool does something new with the ERG and sometime announces it
- ② this filters across to other grammars slowly (after some breakage)
- ③ other tools implement it slightly differently call it something else and we fight about the name
- ④ we emerge with a better system with new capabilities
- ⑤ return to 1