



# Cambridge Site Update

Guy Emerson

# Cambridge Delph-in

- Ann Copestake – head of department
- Guy Emerson – postdoc
- Ewa Muszyńska – completed PhD!
- Alexander Kuhnle – completed PhD!
- Paula Czarnowska – current PhD
- Huiyuan Xie – current PhD

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# Guy Emerson

- Functional Distributional Semantics
  - ACL 2020: *Autoencoding Pixies*
  - PaM 2020: *Linguists Who Use Probabilistic Models Love Them*
- Append lists for multiple constituent questions,  
with Olga Zamaraeva, HSPG 2020
- DMRS algebra (work in progress)

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- Functional Distributional Semantics
  - ACL 2020: *Autoencoding Pixies*
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- Append lists for multiple constituent questions, with Olga Zamaraeva, HSPG 2020
- DMRS algebra (work in progress)
- Survey on HPSG and computational linguistics, with Emily M. Bender, HPSG Handbook
- Survey on distributional semantics, ACL 2020
- Cross-linguistic adjective ordering, with Jun Yen Leung and Ryan Cotterell, submitted to EMNLP 2020

# Ewa Muszyńska – Semantic chunking

Task: find fragments of a sentence that can be processed independently and then recombined to produce a full analysis.

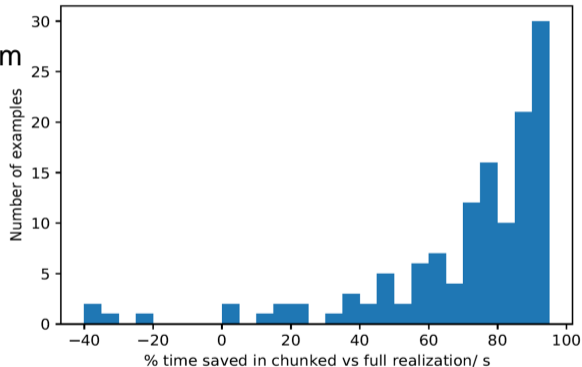
- tailored to representation and downstream task, e.g. realization from DMRS

Aim: reduce processing cost (time/RAM).

Can be done on strings with a sequence labelling model.

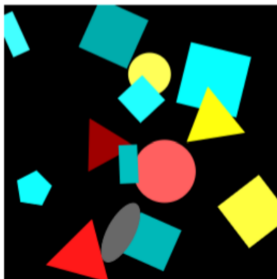
- uses the DMRS-string alignment information for training

*[[Gollum was hungry]] because [[Sam cooked the fish.]]*



# Alexander Kuhnle

- PhD Thesis: *Evaluating visually grounded language capabilities using microworlds*



At least half the triangles are red.

More than a third of the shapes are cyan squares.

More than one of the seven cyan shapes is a square.

# Huiyuan Xie

- *Going Beneath the Surface: Evaluating Image Captioning for Grammaticality, Truthfulness and Diversity*

Huiyuan Xie, Tom Sherborne, Alexander Kuhnle, & Ann Copestake, AAI 2020



# Paula Czarnowska

- Lexical v. morphosyntactic cues to dependencies
  - Data perturbations as a methodology for analysing neural dependency parsers, with experiments on Polish

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- Lexical v. morphosyntactic cues to dependencies
  - Data perturbations as a methodology for analysing neural dependency parsers, with experiments on Polish
- *Words are Vectors, Dependencies are Matrices: Learning Word Embeddings from Dependency Graphs*  
Paula Czarowska, Guy Emerson, & Ann Copestake, IWCS 2019
- *Don't Forget the Long Tail! A Comprehensive Analysis of Morphological Generalization in Bilingual Lexicon Induction*  
Paula Czarowska, Sebastian Ruder, Edouard Grave, Ryan Cotterell, & Ann Copestake, EMNLP 2019