

# Parsing and finite-state technologies, introduction to the special issue

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This issue is dedicated to extended versions of papers published in the proceedings of two conferences. The 11th International Conference on Finite-State Methods and Natural Language Processing was held in July 2013 in St Andrews, Scotland (UK). The 13th International Conference on Parsing Technologies was held in November 2013 in Nara, Japan.

The paper “ZeuScansion: A tool for scansion of English poetry” by Manex Agirrezabal, Mans Hulden, Bertol Arrieta and Aitzol Astigarraga is about scansion, which is the act of marking stressed and unstressed elements in a line of verse and dividing the line into metrical feet. Novel finite-state technology is presented to perform metrical scansion on English poetry.

The paper “On regular languages over power sets” by Tim Fernando is about alphabets that are power sets of finite sets, motivated by, among other things, temporal semantics. Studied are extensions of regular expressions and sentences of monadic second-order logic, offering succinct descriptions of regular languages.

The paper “Data-oriented parsing with discontinuous constituents and function tags” by Andreas van Cranenburgh, Remko Scha and Rens Bod presents an extension of the data-oriented parsing approach for dealing with discontinuous constituents. Two versions are presented, one based on Discontinuous Tree-Substitution Grammars and another based on encoding the discontinuities in the labels of the tree-bank trees before extracting a Context-Free Grammar.

The paper “On different approaches to syntactic analysis into bi-lexical dependencies: An empirical comparison of direct, PCFG-

based, and HPSG-based parsers” by Angelina Ivanova, Stephan Oepen, Rebecca Dridan, Dan Flickinger, Lilja Øvrelid and Emanuele Lapponi presents a comparison of three different approaches to parsing into syntactic, bi-lexical dependencies for English. The approaches consist of a ‘direct’ data-driven dependency parser, a statistical phrase structure parser, and a hybrid, ‘deep’ grammar-driven parser. The paper provides extensive analysis of the parsing results of the three approaches being compared.

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