

WIDE-COVERAGE FRENCH SYNTAX AND SEMANTICS USING GRAIL

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INTRODUCTION

- Grail is a general parser for type-logical grammars.
- In this demo, we show a prototype implementation of Grail, a wide-coverage parser for the French language which outputs DRT semantics in the style of Bos e.a. (2004)

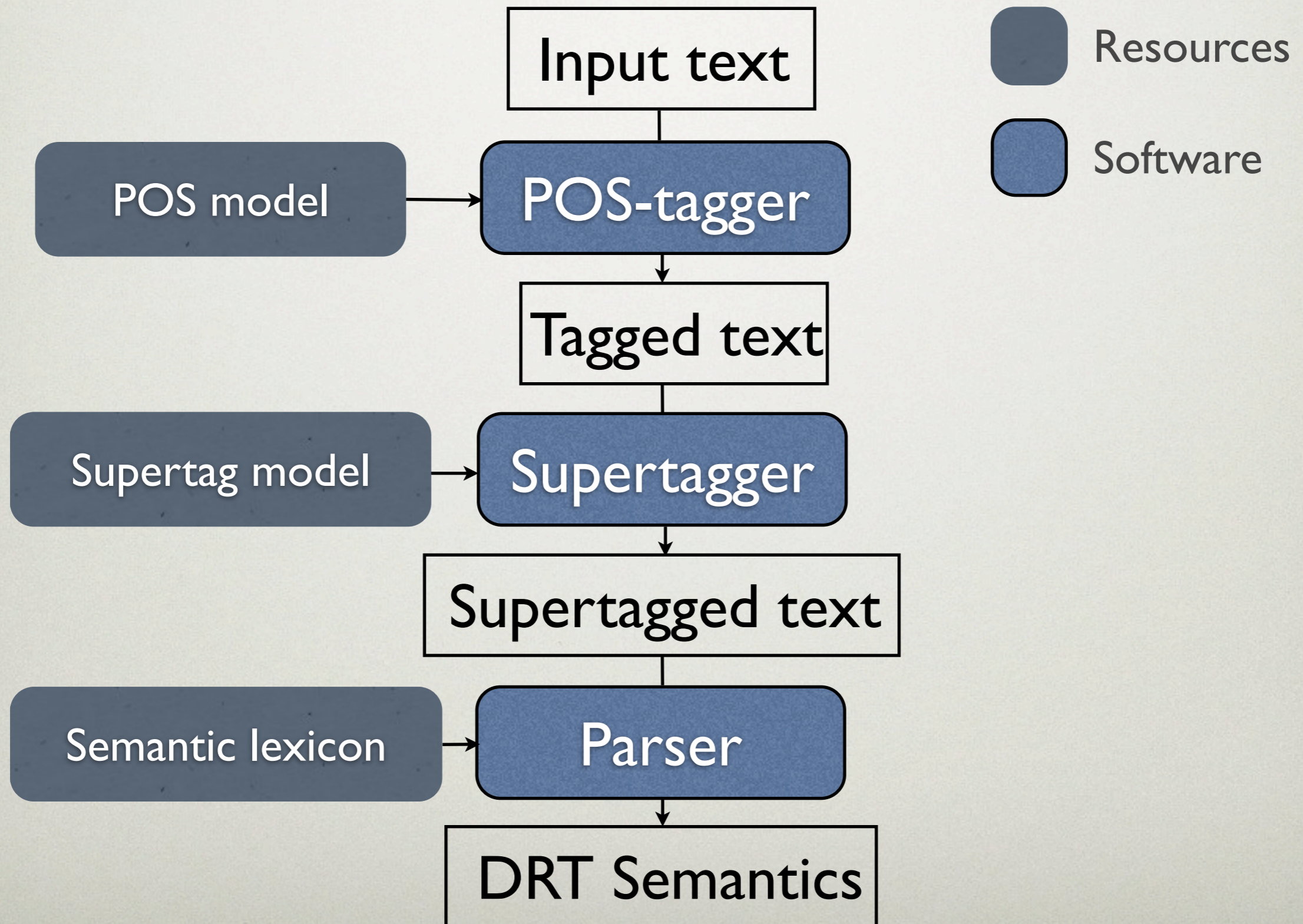
THE SYSTEM

COMPONENTS

- The part-of-speech tagger and supertagger of Clark and Curran (2004)
- Model files trained on the semi-automatically extracted type-logical treebank for French (Moot 2010)
- The Grail parser
- A semantic lexicon

THE SYSTEM

COMPONENTS



THE SYSTEM

INPUT SENTENCE

“Le gouvernement refuse tout commentaire sur cette proposition et préfère avancer les chiffres positifs récoltés par la mesure.”

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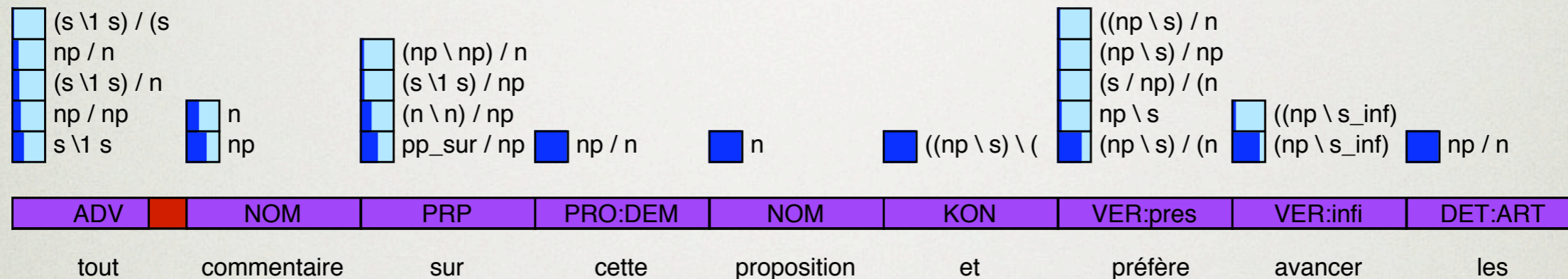
POS-TAGGER OUTPUT

ADV		NOM	PRP	PRO:DEM	NOM	KON	VER:pres	VER:infi	DET:ART
tout		commentaire	sur	cette	proposition	et	préfère	avancer	les

- The output of the part-of-speech tagger is indicated above the words.
- The POS tagger has a precision of 98.4% on unseen data.

THE SYSTEM

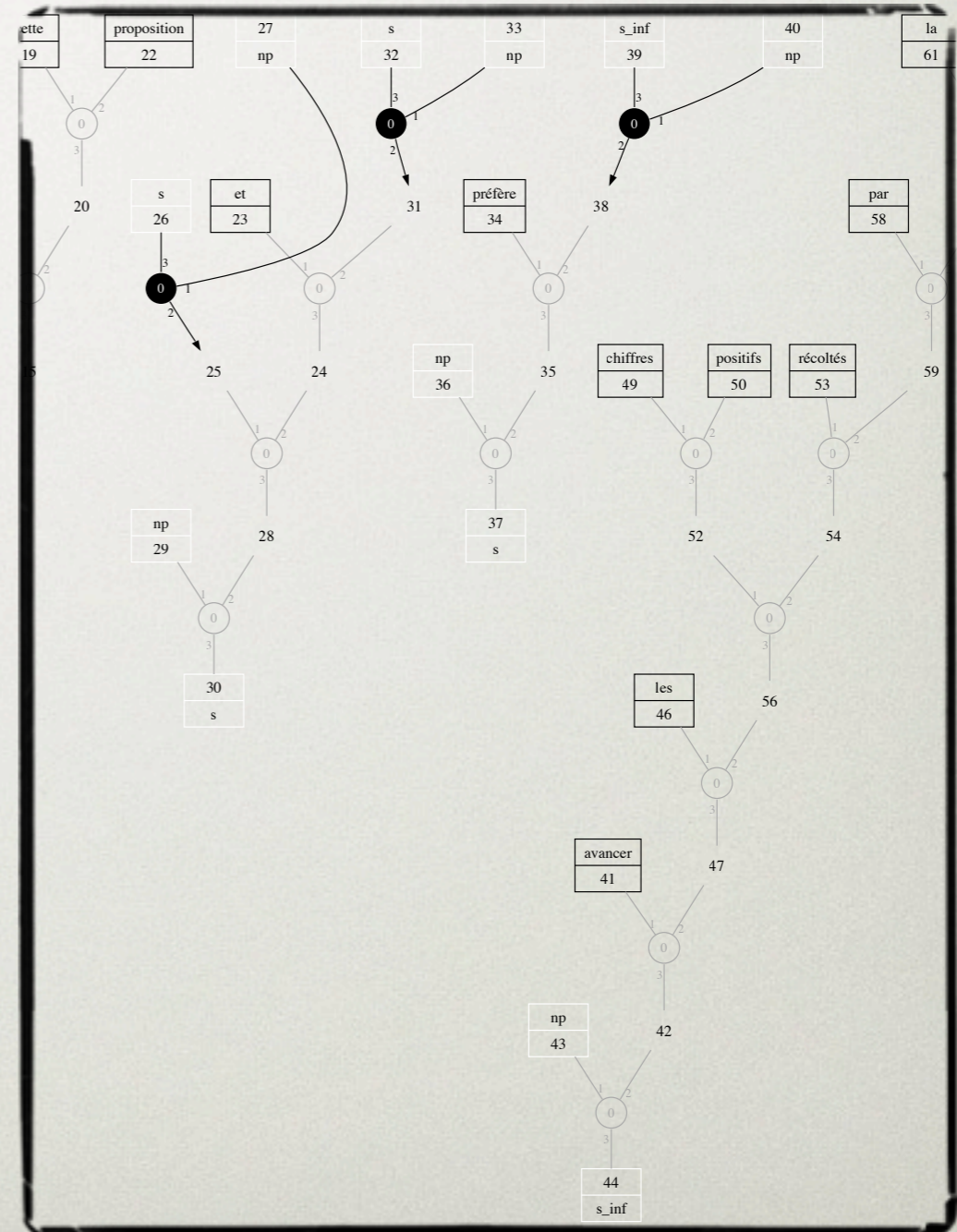
SUPERTAGGER OUTPUT



- The supertagger assigns multiple formulas or supertags to each word (4.7 on average) which includes the correct supertag in 98.4% of the cases.

THE SYSTEM PARSER

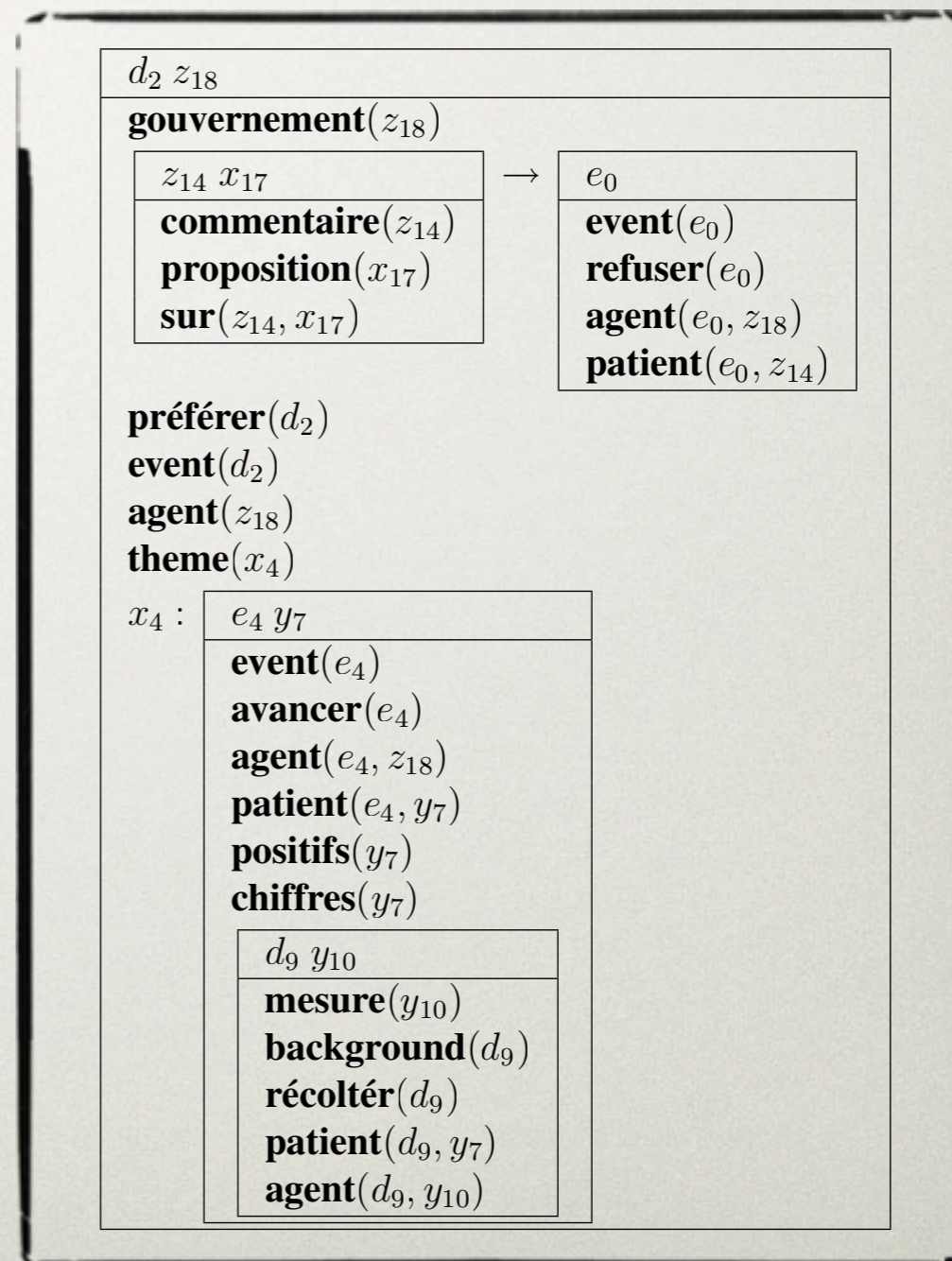
- The Grail parser uses a graph-based representation of proofs (*proof nets*)
- As with all type-logical grammars, a parse (or proof) corresponds directly to a lambda term.



THE SYSTEM

SEMANTICS

- These lambda terms are reduced to discourse representation structures using the semantic lexicon.



CONCLUSIONS

- The current system is still experimental and under active development.
- The different components and models are available under LGPL.



<http://www.labri.fr/perso/moot>