Categorial grammars and semantics
(Grammaires catégorielles et sémantique)

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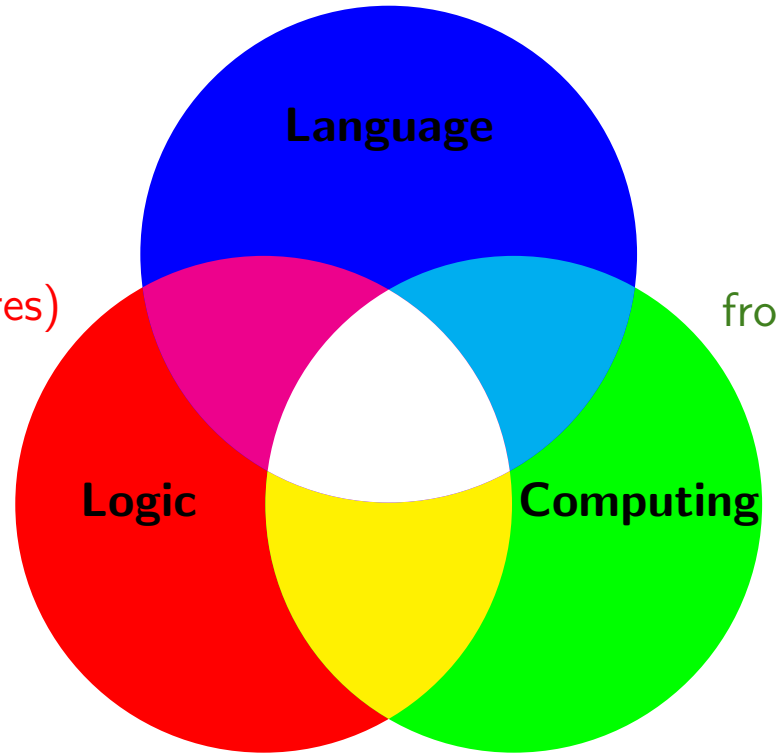
Main proposal : for comments in "Documented softwares"
(some other domains are possible : Legal data, Breton)

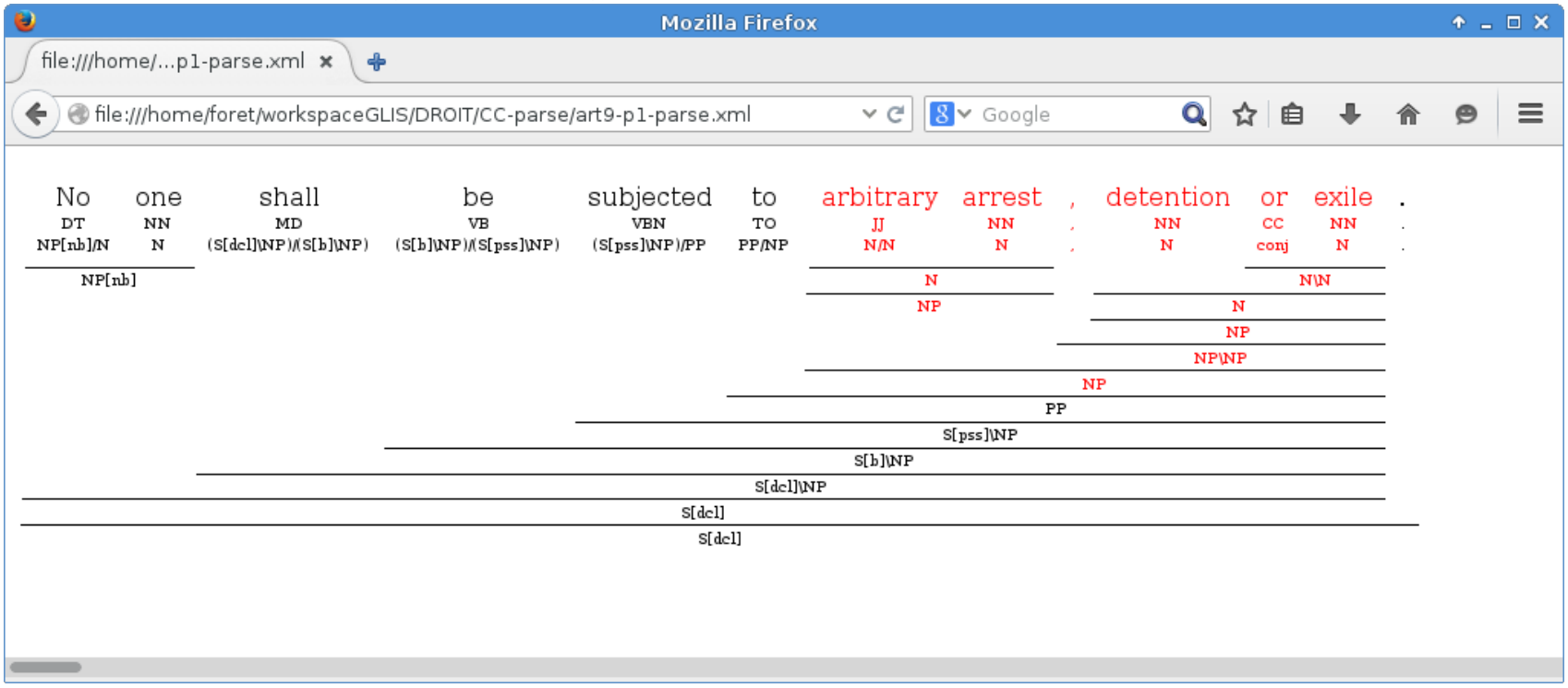
modelling (natural languages, sentences *structures*),
via formal grammars (finite description, idealizations),
several frameworks and traditions, no winning one



parsing (structures)
⋮ as
proof (trees)

from theoretical
⋮ to
practical issues

An example using a Categorial Combinatory Grammar



A categorial grammar formalism has fixed combination rules.

Words are associated with types (properties) that combine.

Outputs the structure and some semantics.

Objectives. To handle "comments" in documented softwares : unknown words, mixed parts and user conventions, specific styles ?

Note : possible variants

Next subject

Requirements specification in natural language, with automata and logic

(Spécification d'exigences en langage naturel, avec automates et logique)

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Requirements specification in natural language, with automata and logic

Objectives. For **specifications** (cahier des charges)
how to link **texts**, using a **compositional** approach,
to representations as **modal automata** (must/may transitions),
with a focus on **"required", "optional", or "forbidden"** ?

The work will rely on :

- categorial grammars and logical systems (for text analysis)
CC/Boxer ("computational semantics tool")
(`http://svn.ask.it.usyd.edu.au/trac/candc/wiki/boxer`)
- logic and modal automata (for formal verification)
Mica ("Modal Interface algebra tool")
(`http://www.irisa.fr/s4/tools/mica/`)