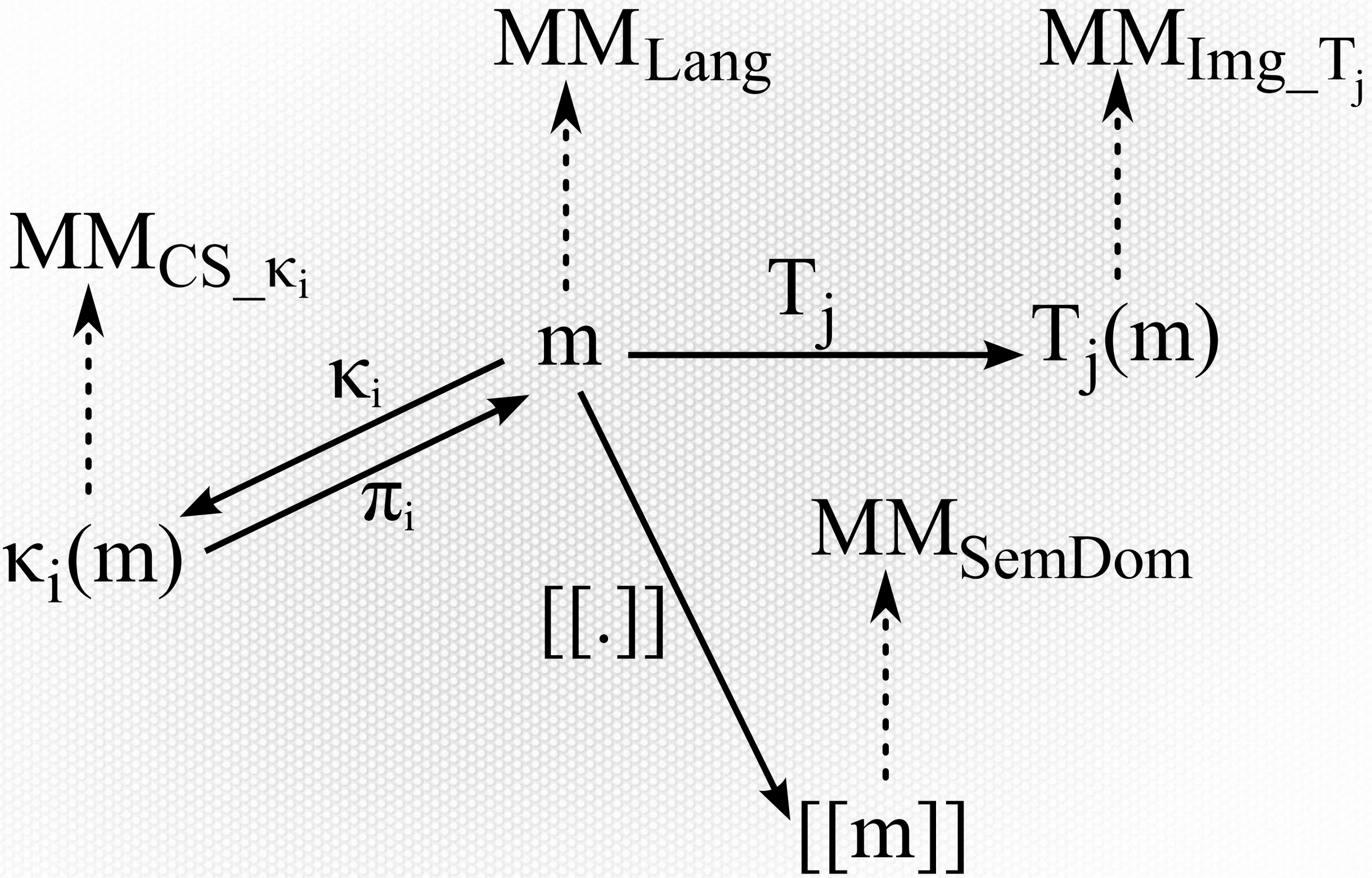
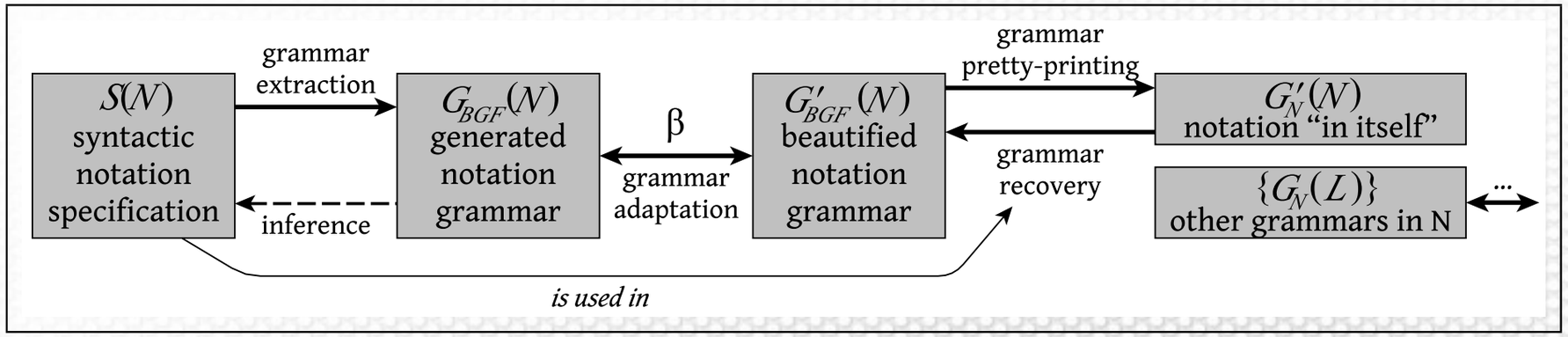
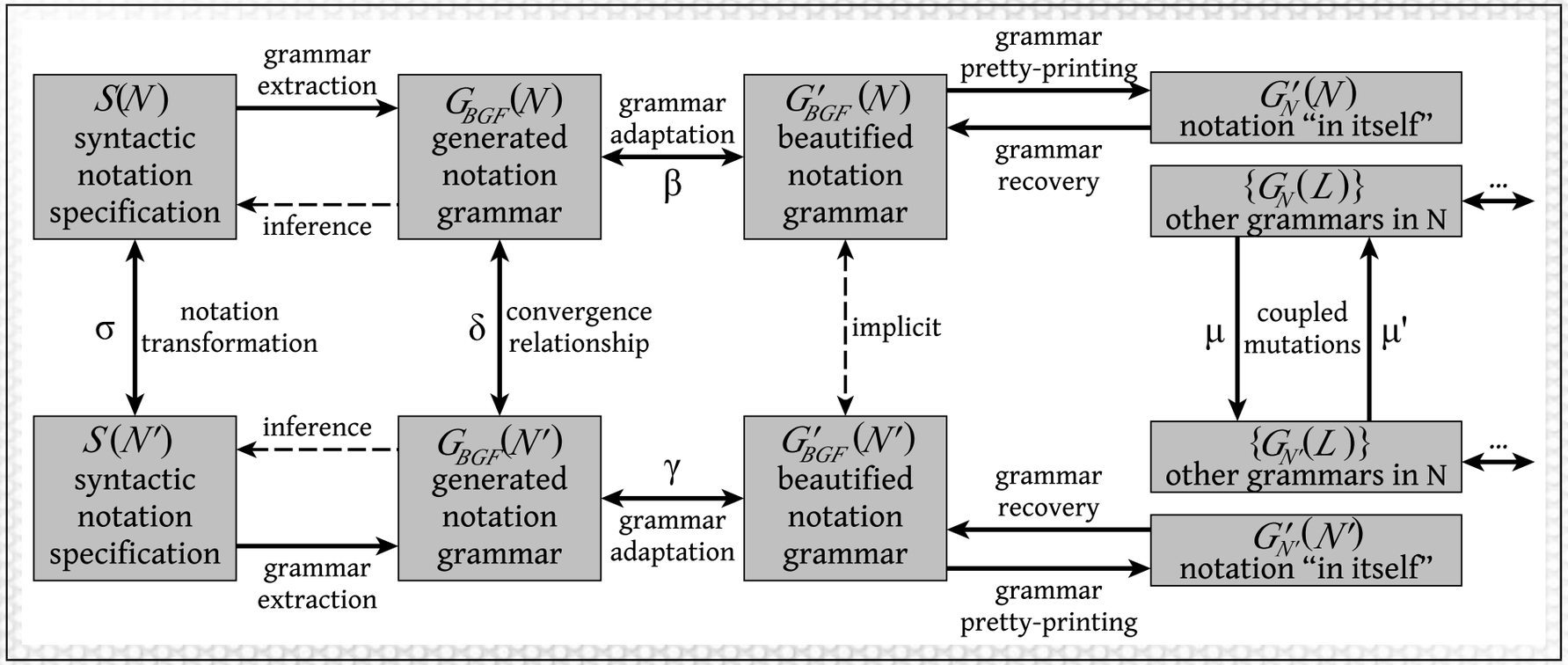
Understanding Metalanguage Integration by Renarration

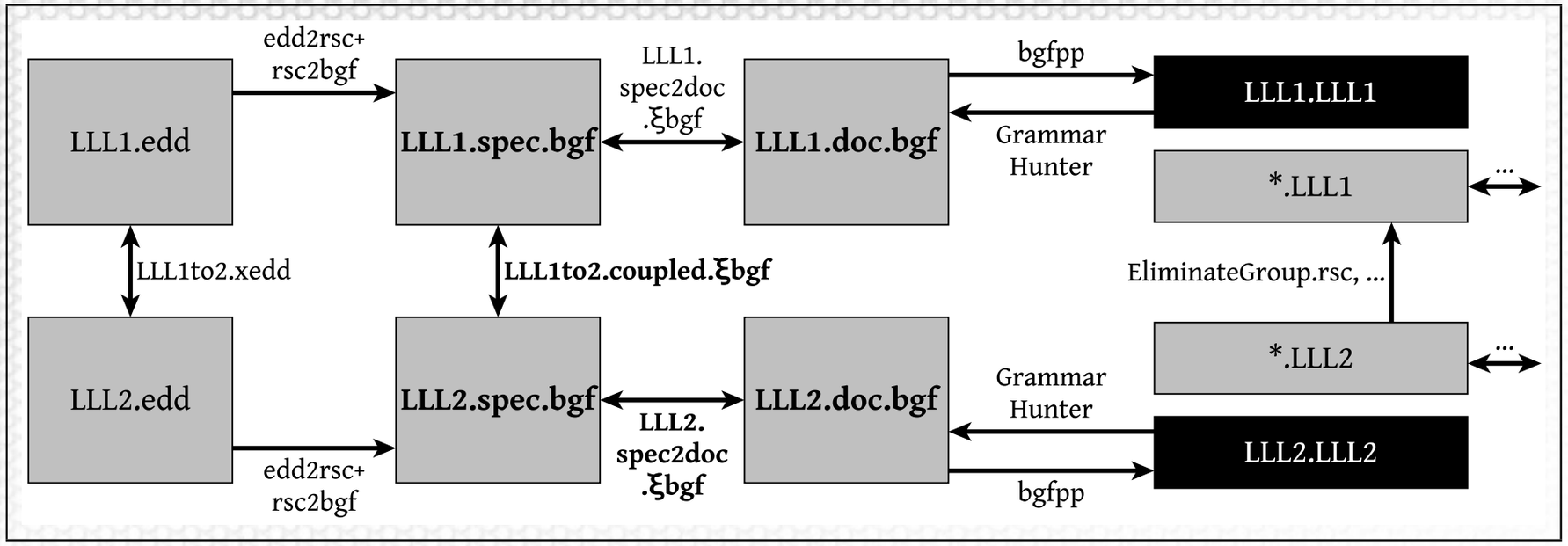
Dr. Vadim Zaytsev, Universiteit van Amsterdam @ GEMOC'14
@grammarware



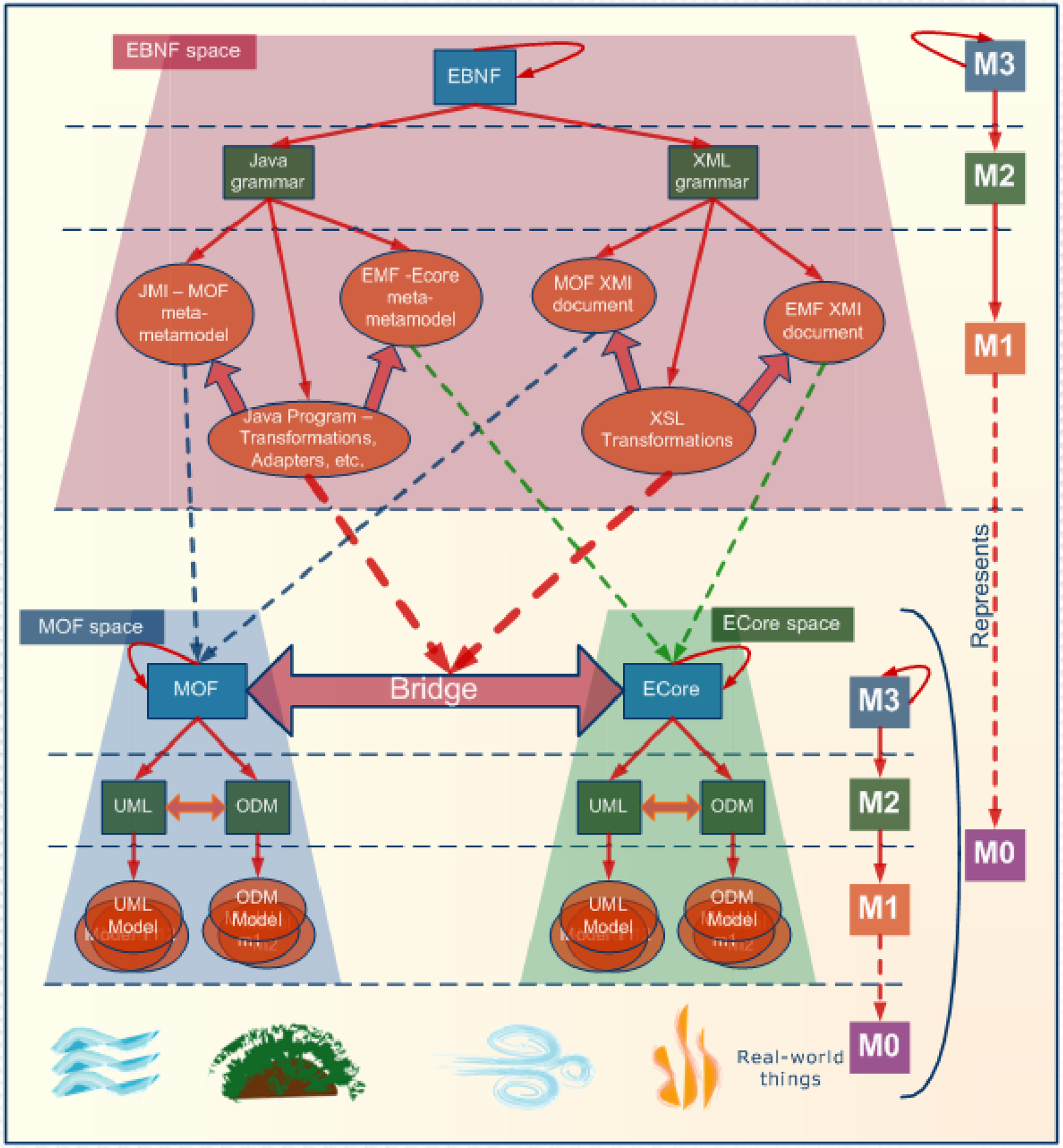
Meyers, Vangheluwe. A Framework for Evolution of Modelling Languages, SCP 76(12), 2011.



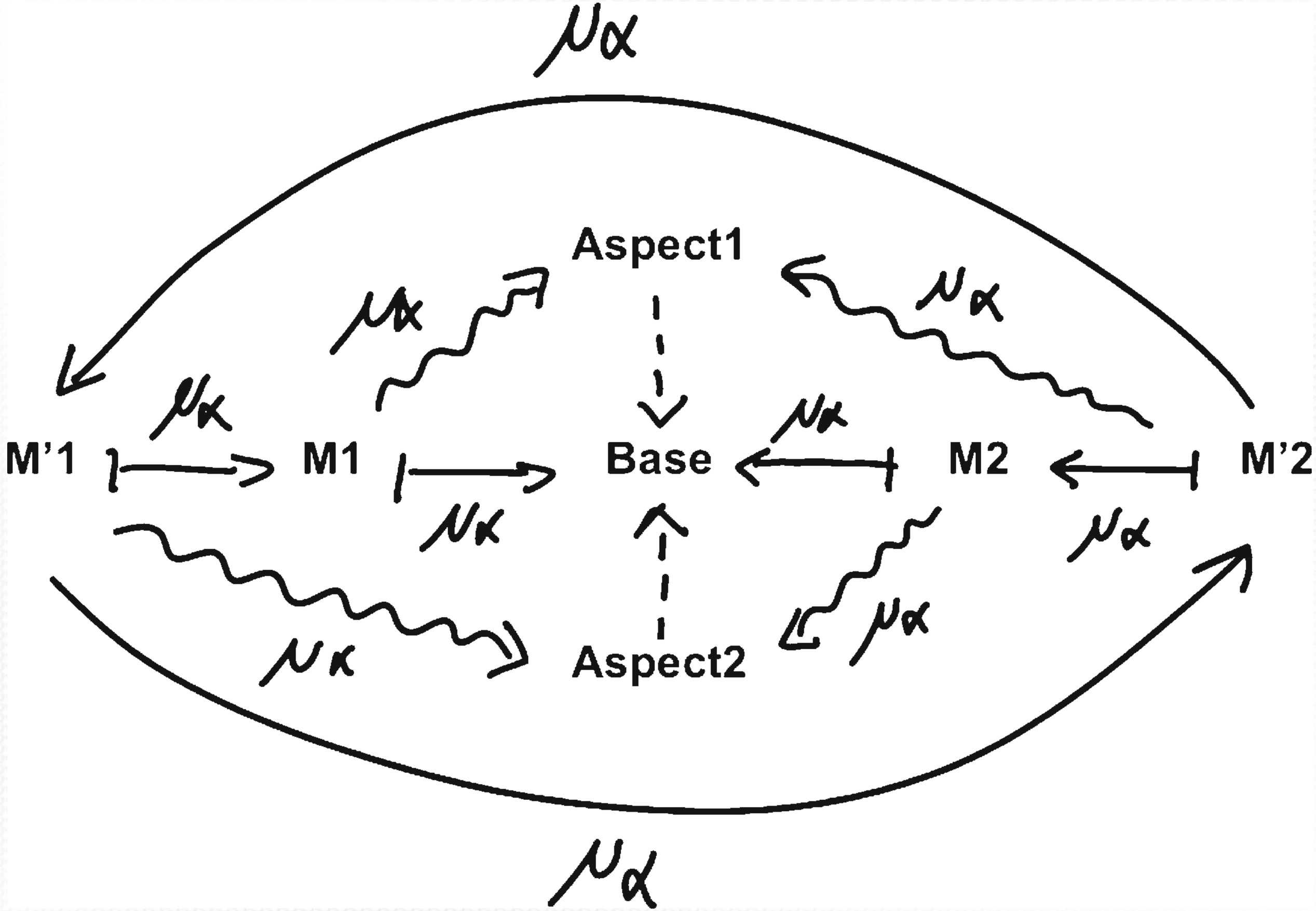




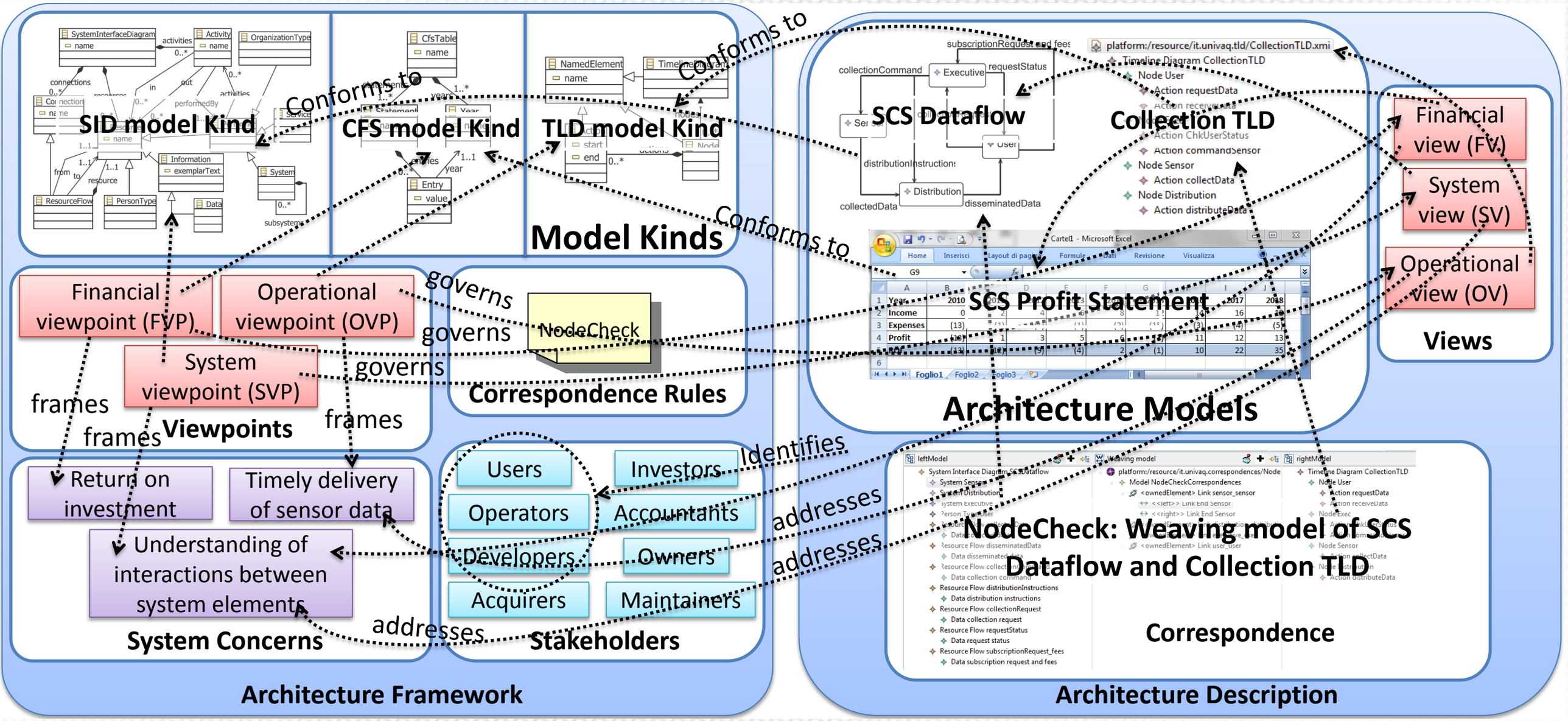
Zaytsev. Language Evolution, Metasyntactically. EC-EASST 49 (BX). 2012.



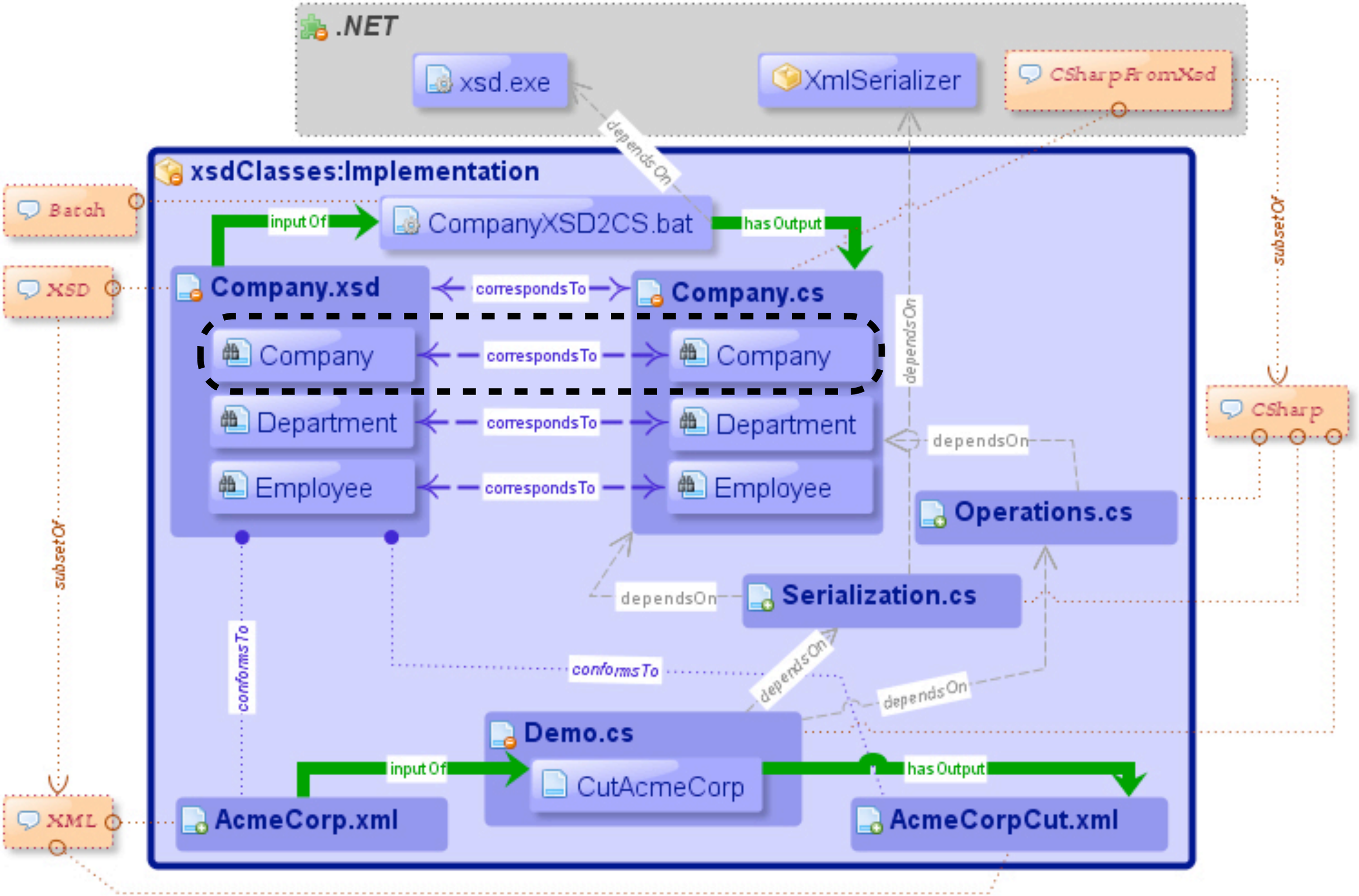
Djurić, Gašević, Devedžić. The Tao of Modeling Spaces. JOT 5(8). 2006.



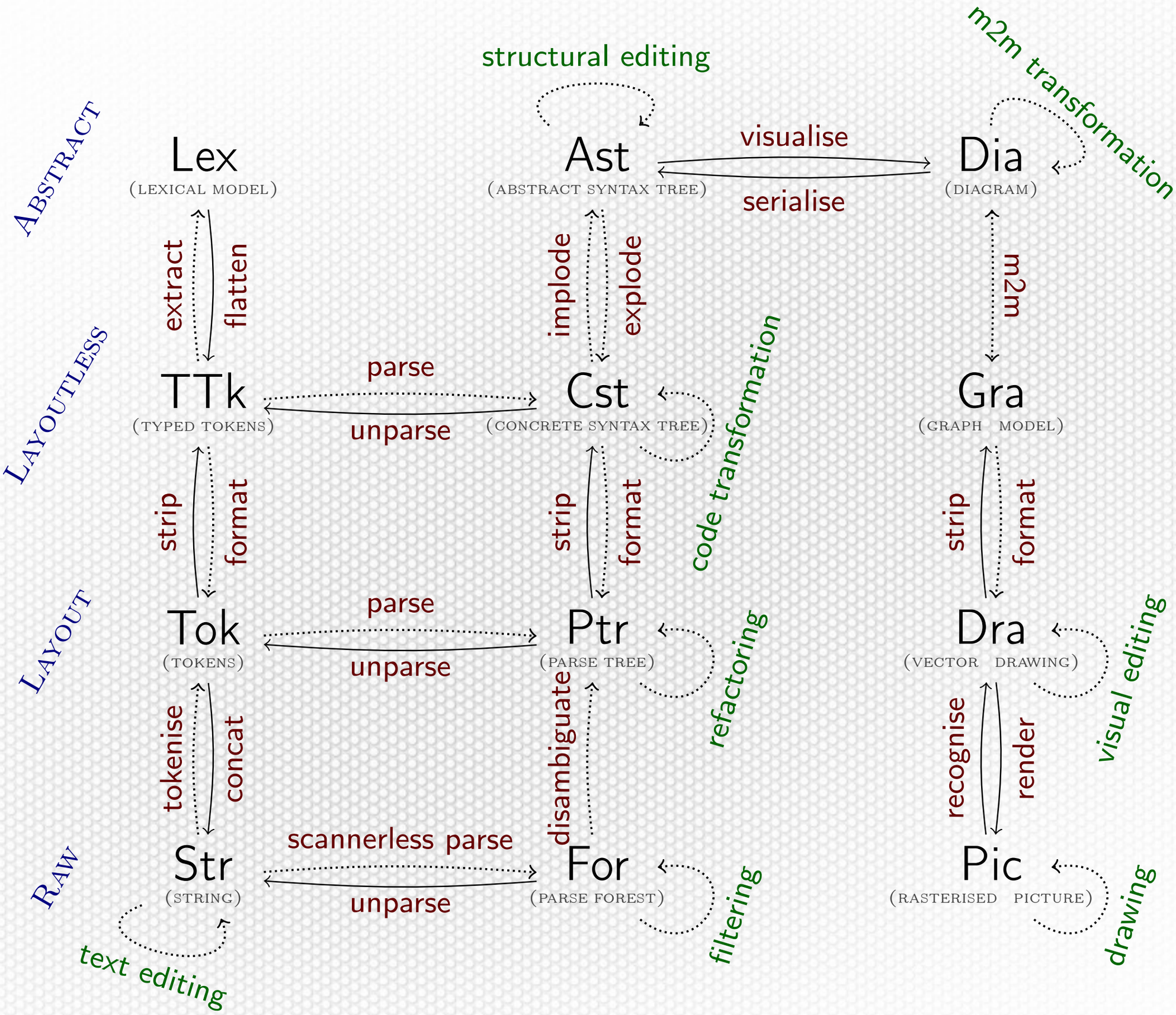
Muller, Fondement, Baudry, Combemale. Modeling Modeling Modeling. SoSyM 11(3). 2012.



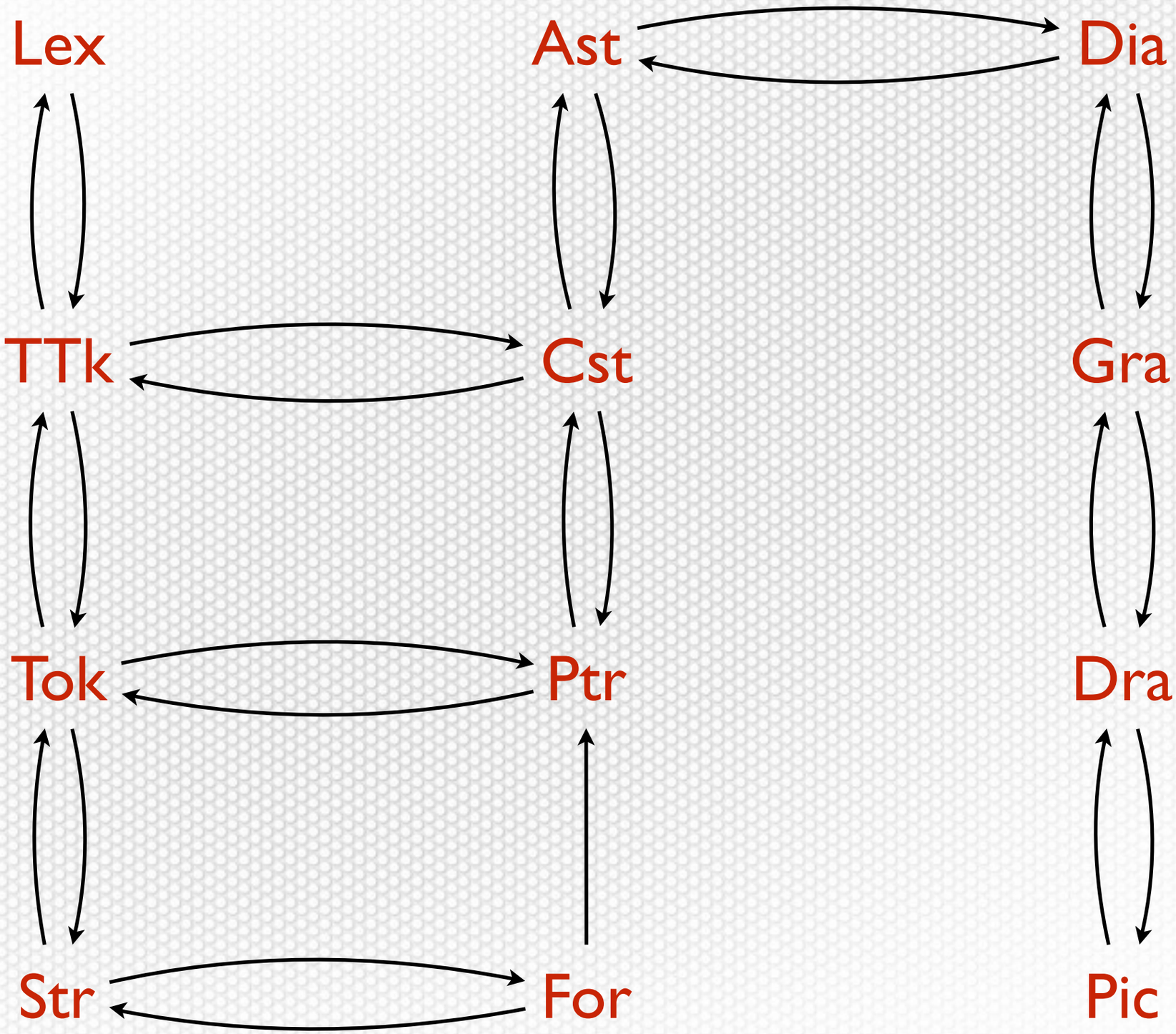
Hilliard, Malavolta, Muccini, Pelliccione. Realizing Architecture Frameworks through Megamodelling Techniques. ASE. 2010.



Favre, Lämmel, Varanovich. Modeling the Linguistic Architecture of Software Products. MoDELS. 2012.


structural editing
m2m transformation
Abstract
Lex
(lexical model)
Ast
(abstract syntax tree)
visualise
serialise
Dia
(diagram)
extract
flatten
implode
explode
m2m
Layoutless
parse
unparse
TTk
(typed tokens)
Cst
(concrete syntax tree)
code transformation
Gra
(graph model)
strip
format
strip
format
strip
format
Layout
Tok
(tokens)
parse
unparse
Ptr
(parse tree)
refactoring
Dra
(vector drawing)
tokenise
concat
disambiguate
recognise
render
visual editing
Raw
scannerless parse
Str
(string)
unparse
For
(parse forest)
filtering
Pic
(rasterised picture)
text editing
drawing
Textual
Structured
Graphical

Baseline TS megamodel

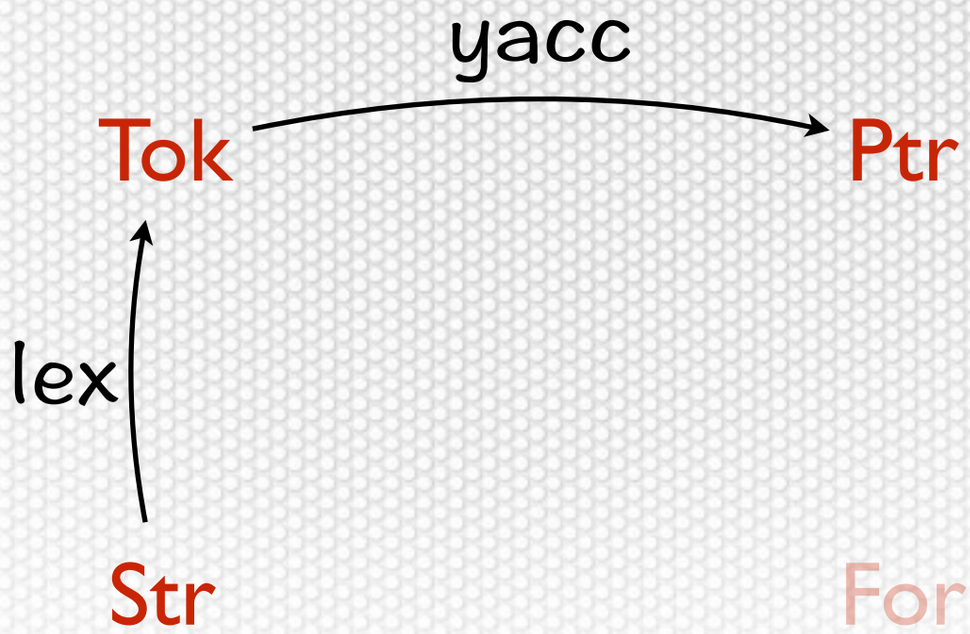


Zaytsev, Bagge, *Parsing in a Broad Sense*, MoDELS 2014. p.50

lex + yacc

Lex Ast Dia

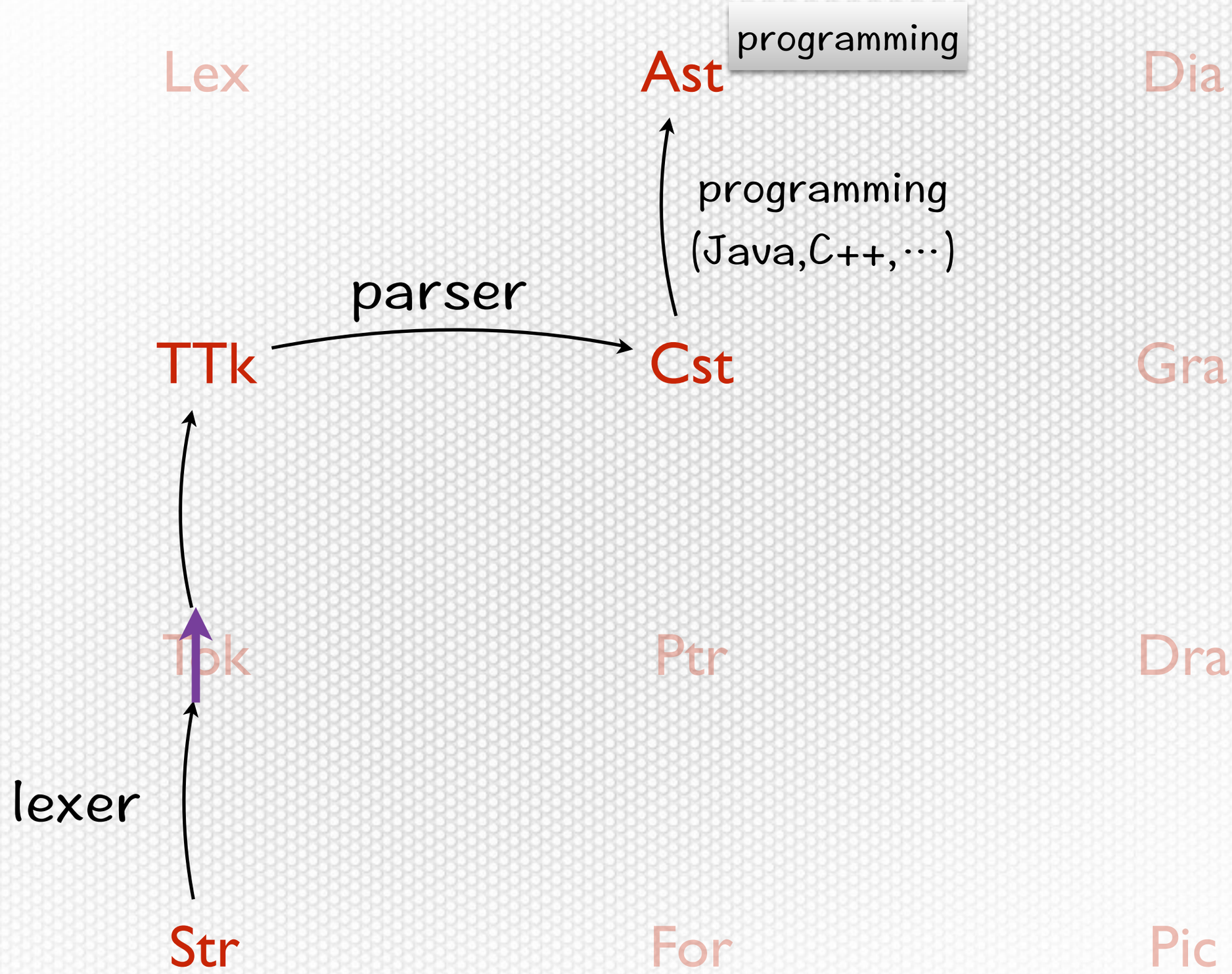
TTk Cst Gra



Dra For Pic

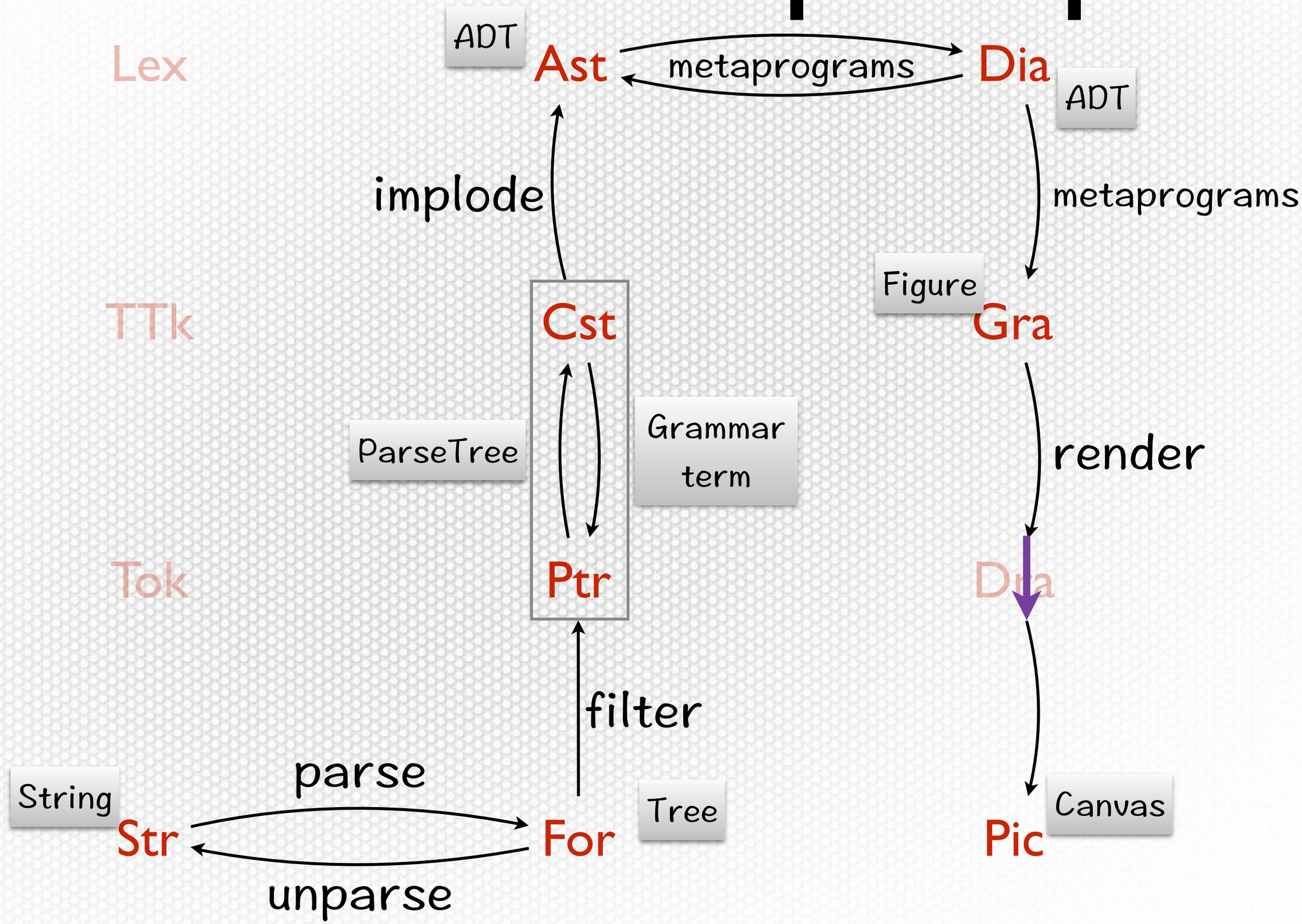
cf. M. E. Lesk, *LEX*, 1975. // S. C. Johnson, *YACC*, 1975.

ANTLR



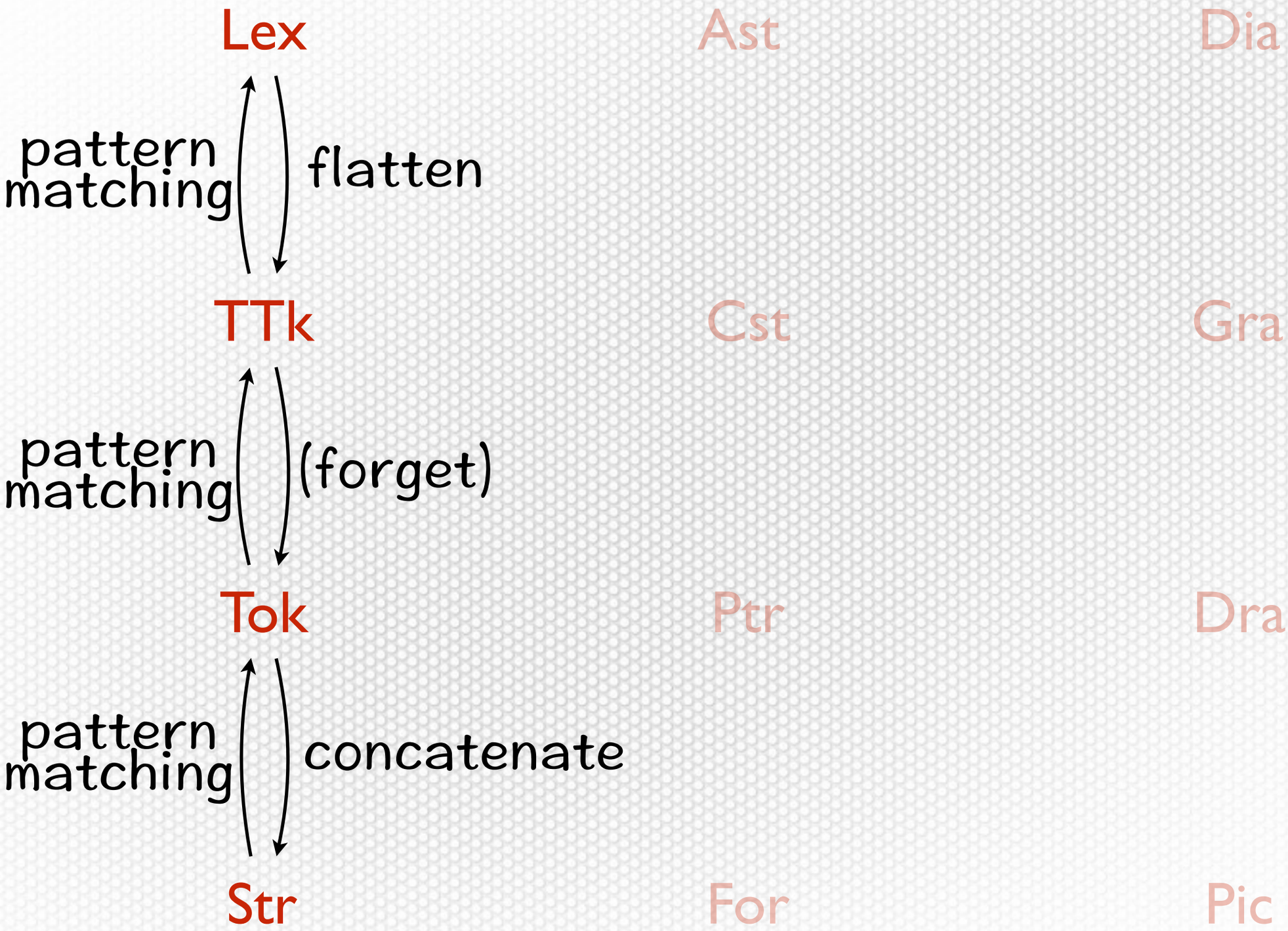
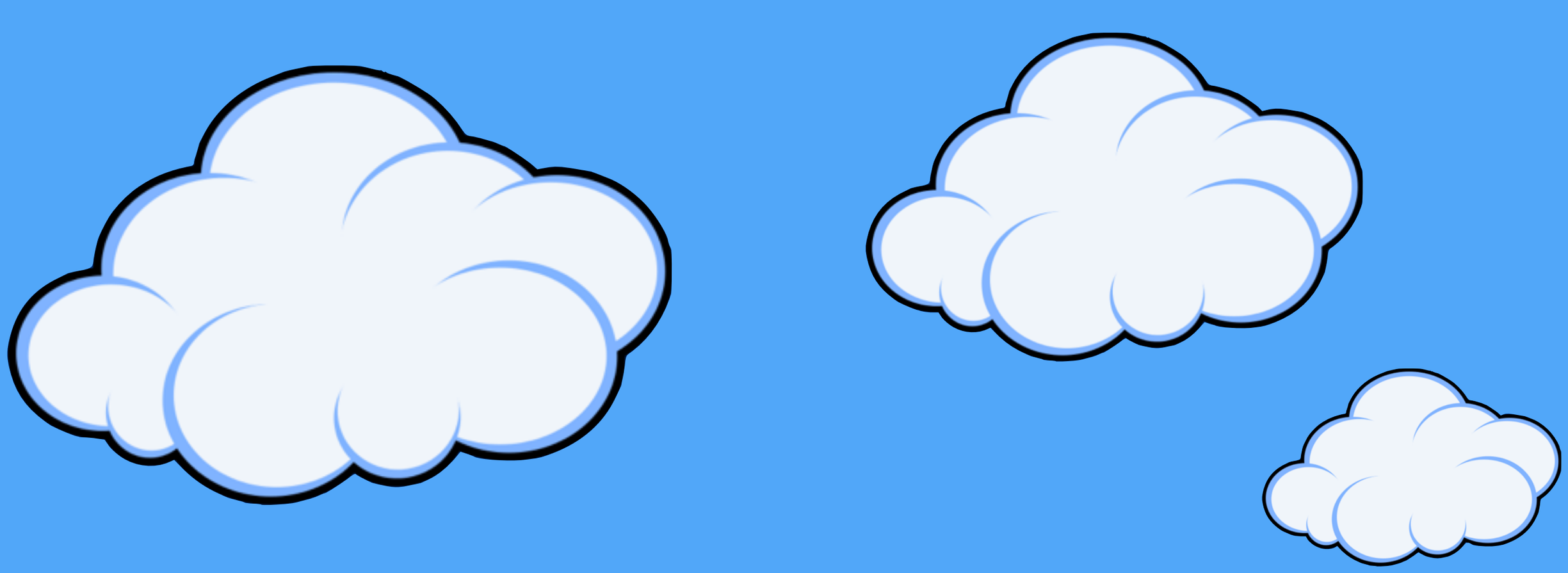
cf. Parr, *Definitive ANTLR Reference*, 2007.

Rascal one-stop-shop



cf. Klint, van der Storm, Vinju, *EASY Meta-programming with Rascal*, GTTSE'09.

Iterative lexical analysis



cf. Cox, Clarke, *Syntactic Approximation Using Iterative Lexical Analysis*, IWPC'03.