

# Netgraph – A Tool for Searching in Prague Dependency Treebank 2.0

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PDT 2.0 Tutorial

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- Client-server architecture
- Authentication of users
- Subcorpus definition
- Graphic creation of a query
- Searching in the treebank according to the query
- Viewing the result trees
- Basic statistics

# A Query Creation

Netgraph 1.77 (14.4.2006)

File View Options Help

global head:

attributes:

- atree.rf
- compl.rf
- coref\_gram.rf
- coref\_special
- coref\_text.rf
- deepord
- functor**
- gram/aspect
- gram/degcmp
- gram/deontmod
- gram/dispmod
- gram/gender
- gram/indeftype

possible values:

ACMP  
ACT  
**ADDR**

reference:

atree.rf

value:

ADDR

query tree:

functor=PRED

functor=ACT functor=EFF functor=ADDR

factory:

new tree [] subtree []

brother [,] alternate node [[]] remove node

name node: N1

undo show the query tree

query:

[functor=PRED]([functor=ACT],[functor=EFF],[functor=ADDR])

history:

load save clear

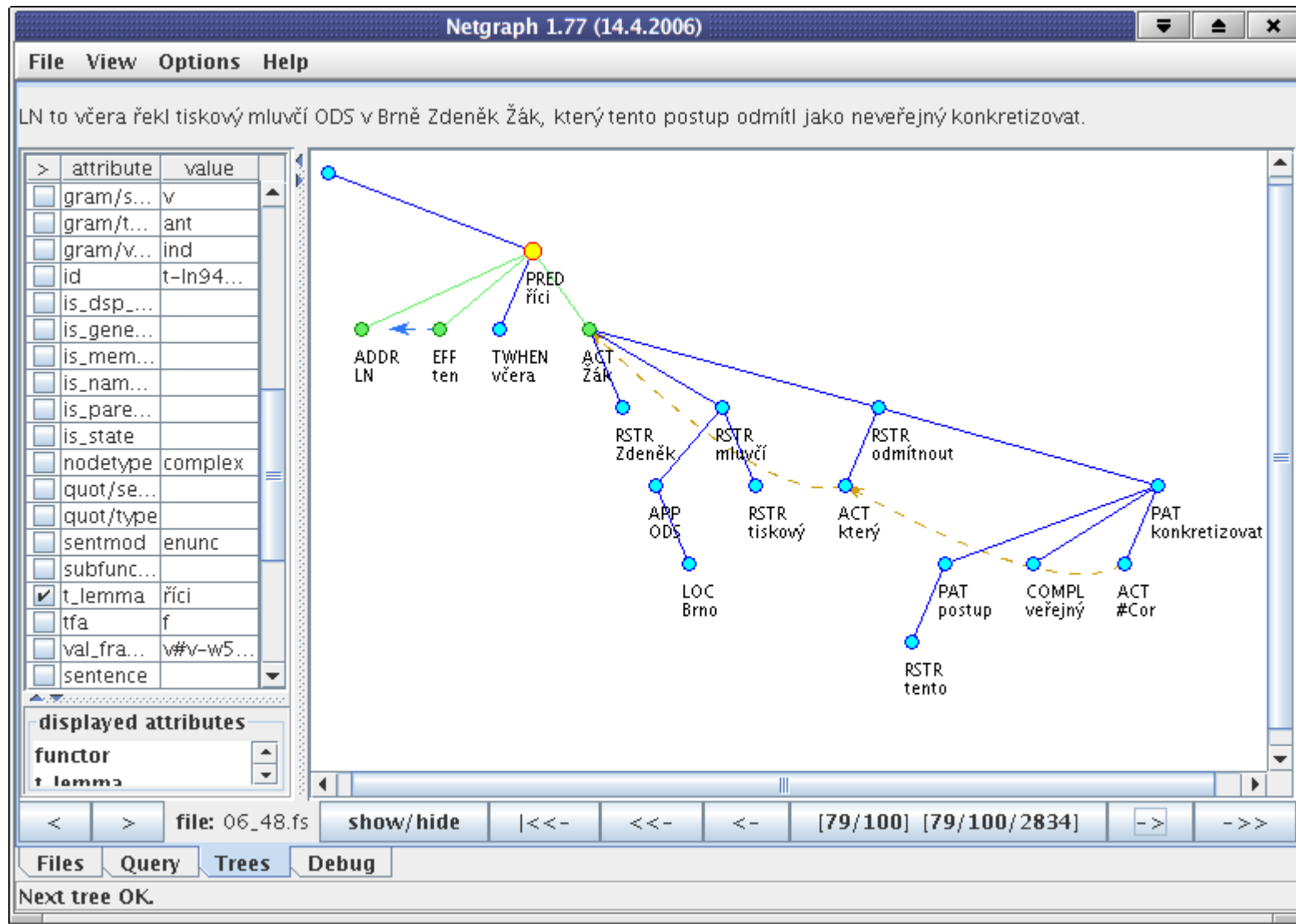
e query  invert match select trees by the query above result select trees by the query select all trees

Files Query Trees Debug

Files set OK.

`[functor=PRED]([functor=ACT],[functor=EFF],[functor=ADDR])`

# Viewing the Result



- Different order of nodes; additional sons of the **PRED**icate

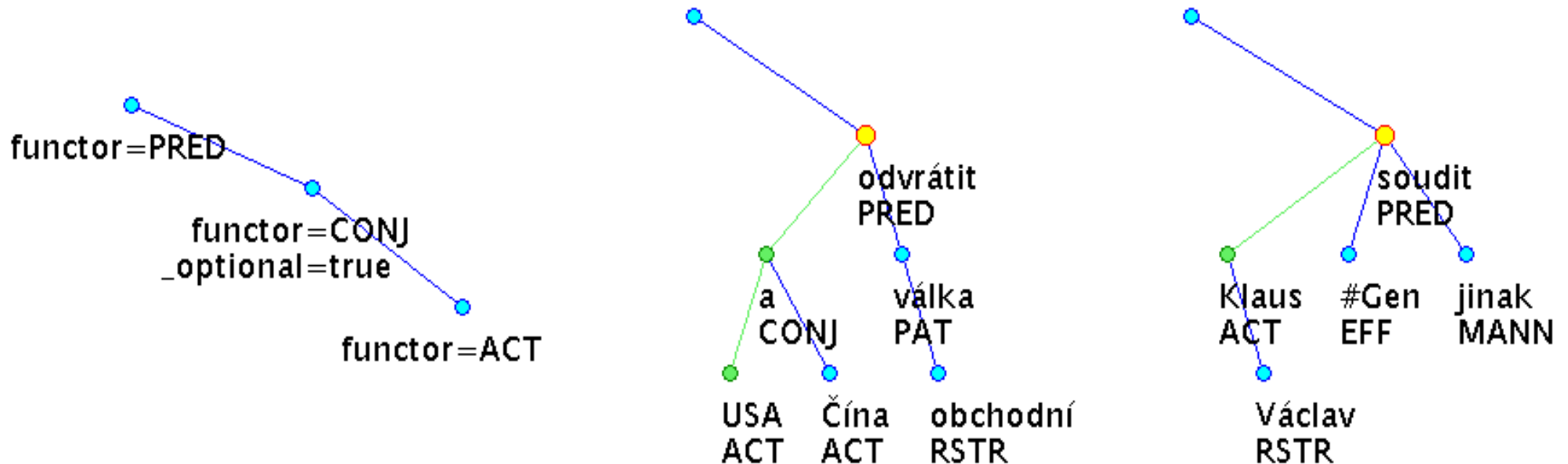
# Meta-attributes

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- Additional power to the query language
- Attributes not present in the corpus
- Treated like normal attributes
  - **\_transitive** (*transitive edge*)
  - **\_optional** (*optional node*)
  - **\_#sons** (*exact number of sons*)
  - **\_depth** (*distance from the root*)
  - ...

# An Example Query

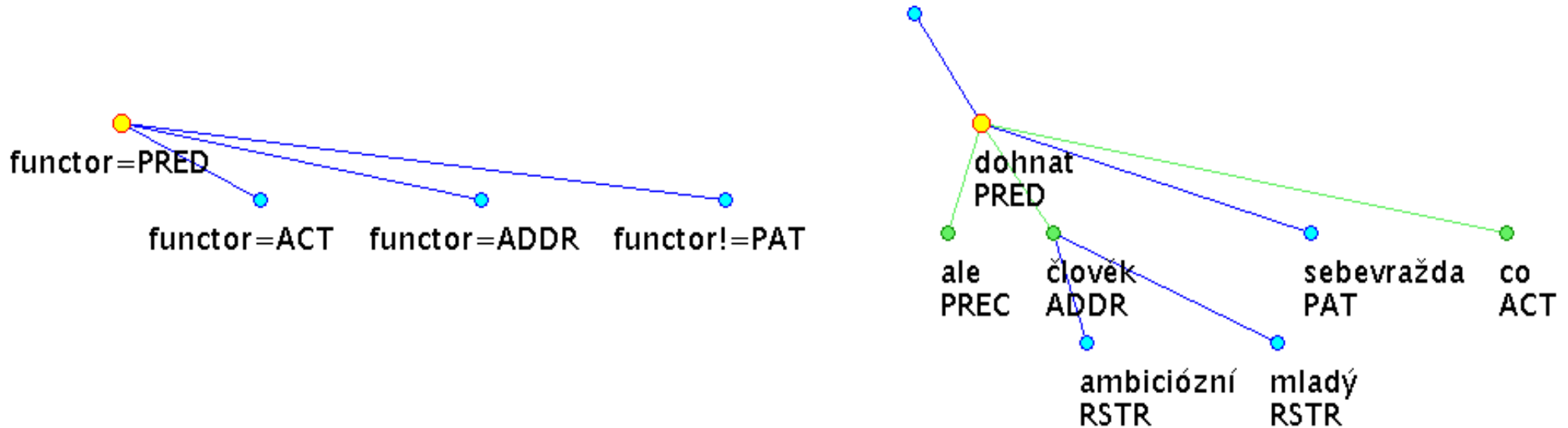
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- A query with optional **CONJ**unction node
- Two possible types of result – with and without the optional node

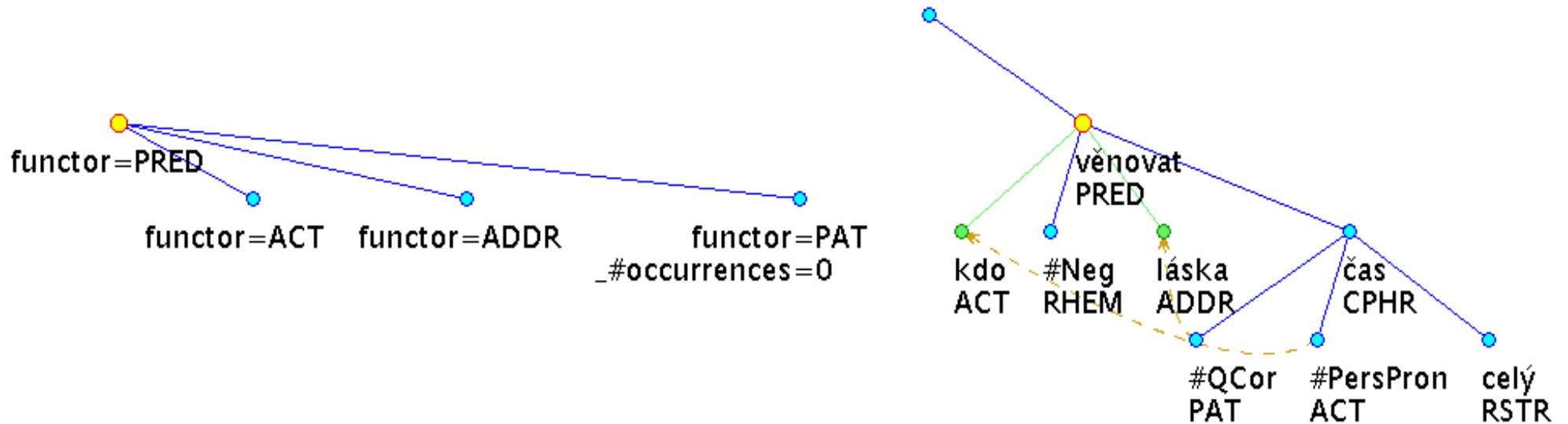
# An Example of a Wrong Query

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- A wrong attempt to set negation in the query
- We do not want the **PAT**ient there at all
- But the query node matches with **PREC**

# A Correct Negation

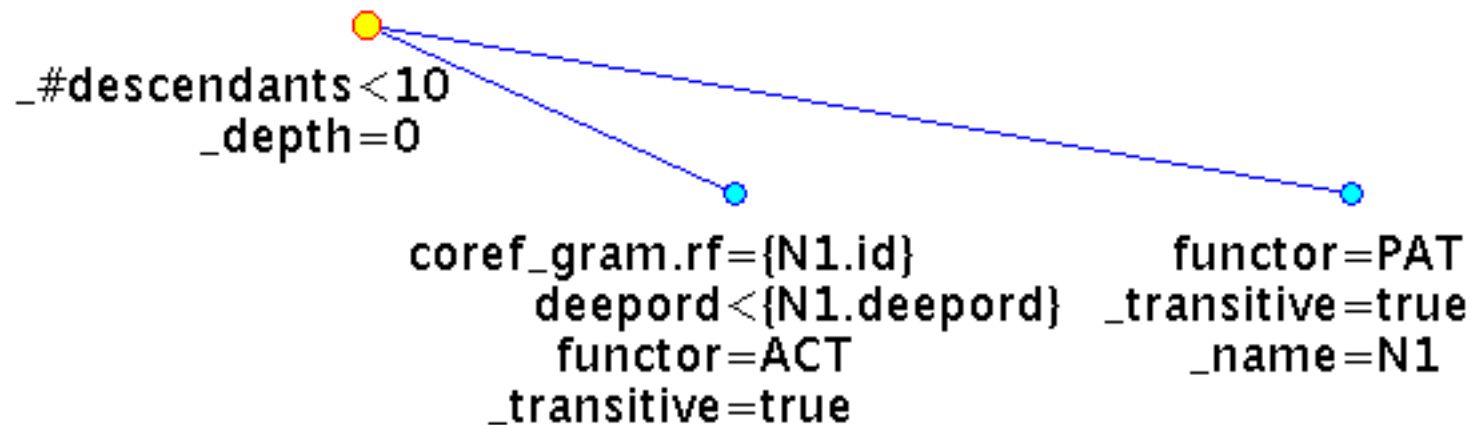


- A correct way how to set negation in the query
- We define that there are exactly zero **PAT**ients as sons of the **PRED**icate



# Yet Another Example Query

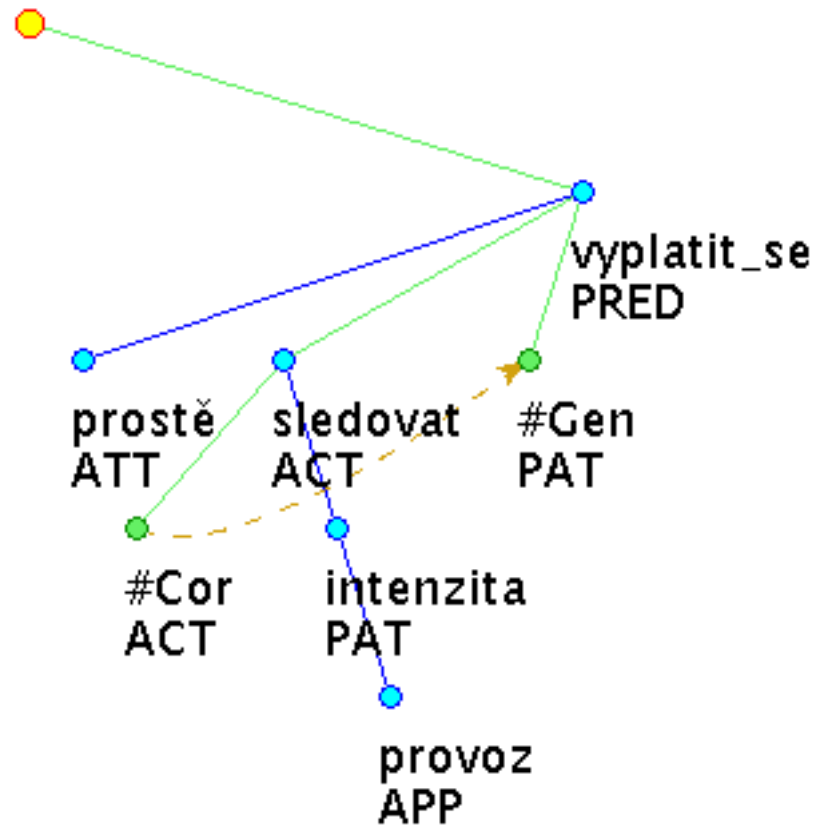
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- Looking for a small tree (root of the query)
- **PAT**ient is a coreferencial node of **ACT**or and is on the right side from the **ACT**or

# A Result Tree

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- Grammatical coreference – the brown arrow

# Prague Dependency Treebank 2.0

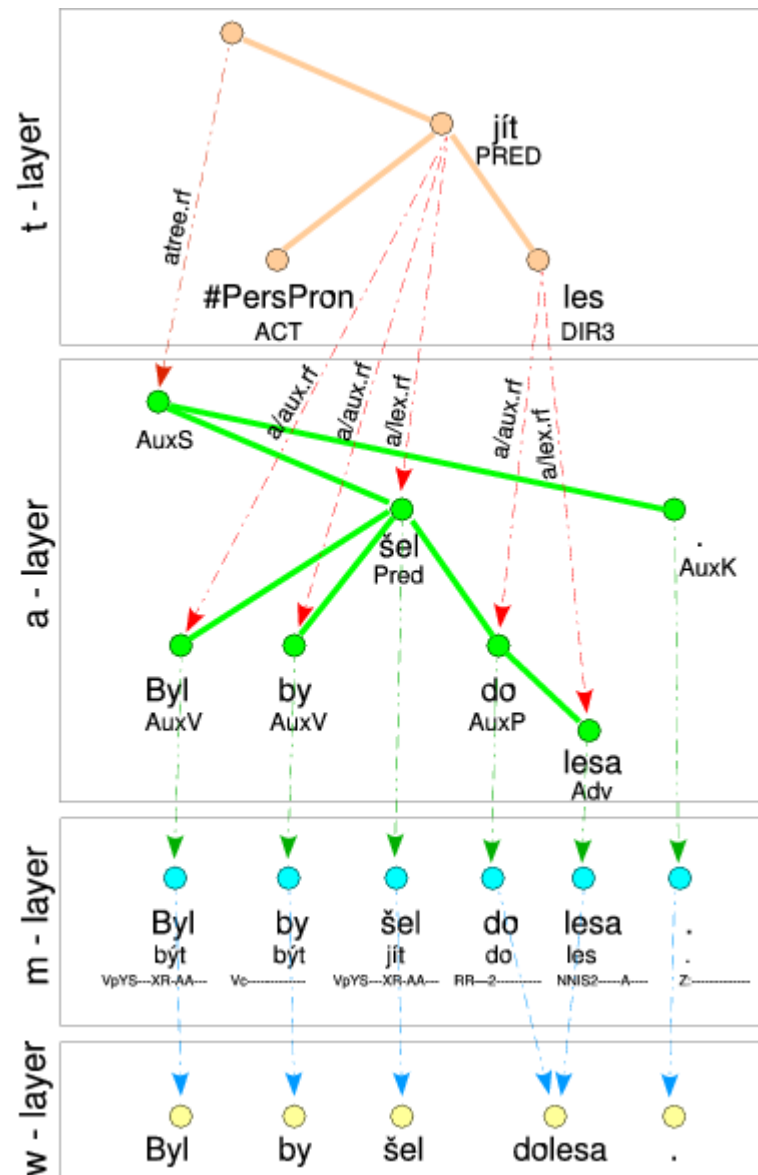
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Czech: Byl by šel do lesa.

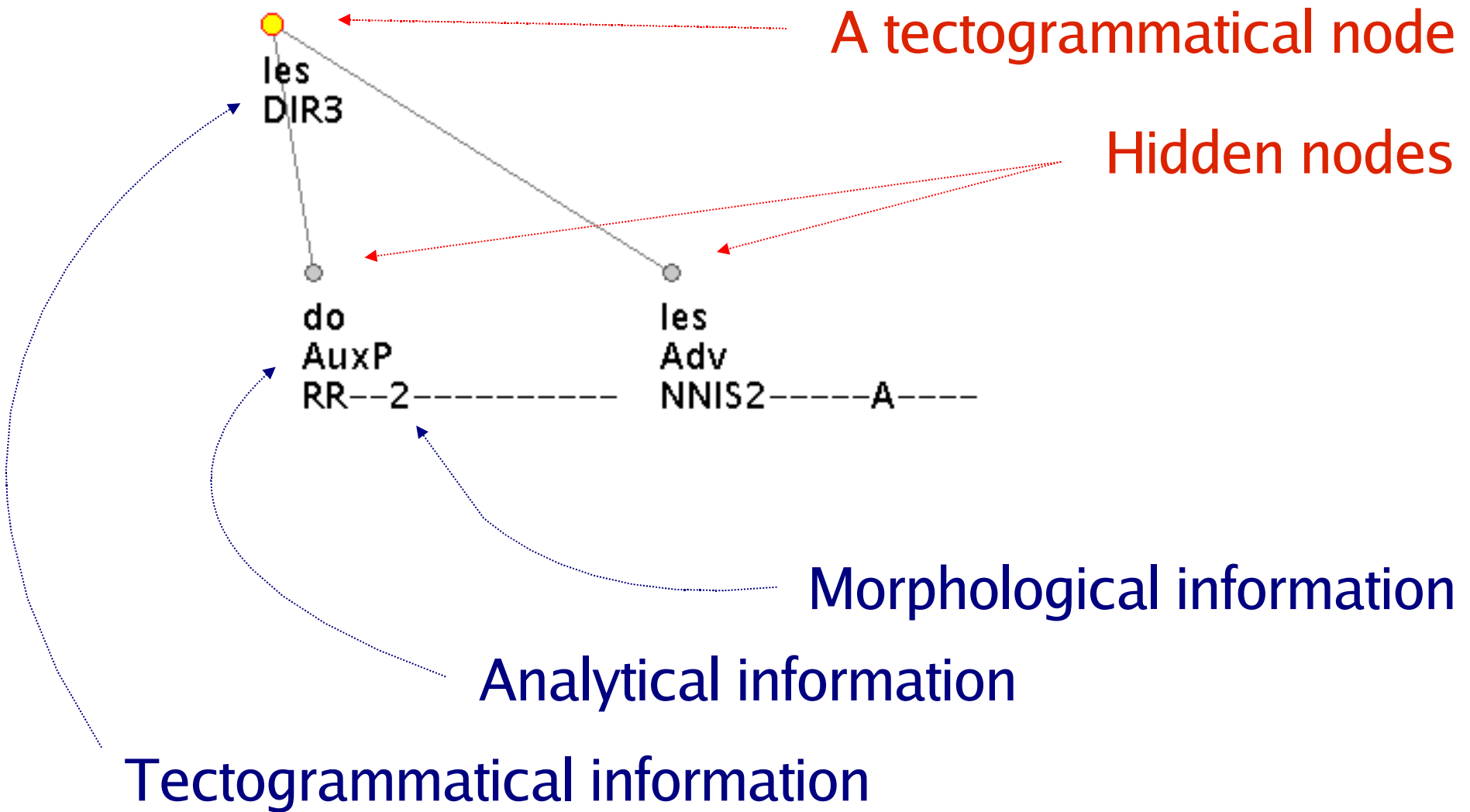
English: He would have gone to the forest.

- Three layers of annotation
  - Morphological layer (NNIS2-----A-----)
  - Analytical layer (Adv)
  - Tectogrammatical layer (DIR3)

# Prague Dependency Treebank 2.0

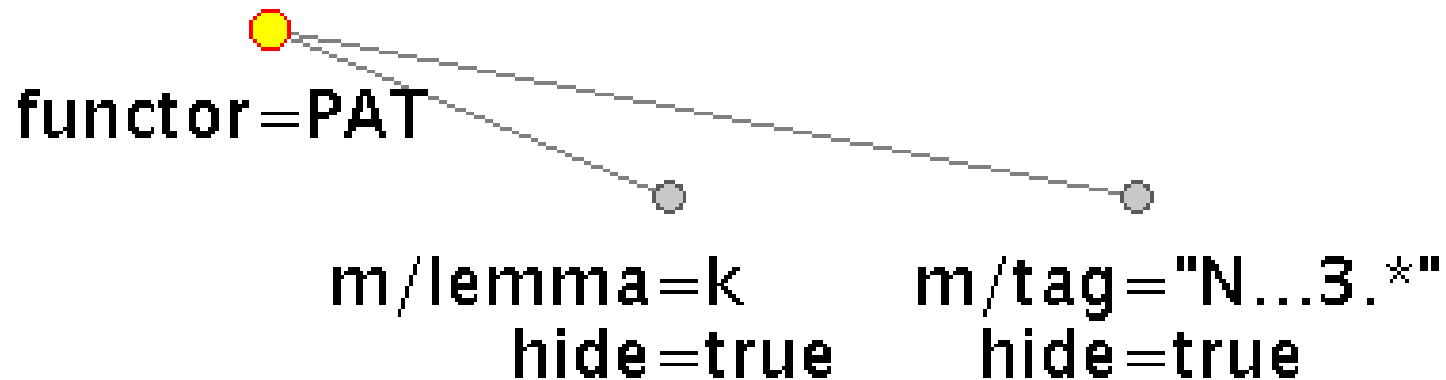


# Hidden Nodes



# Hidden Nodes – A Query

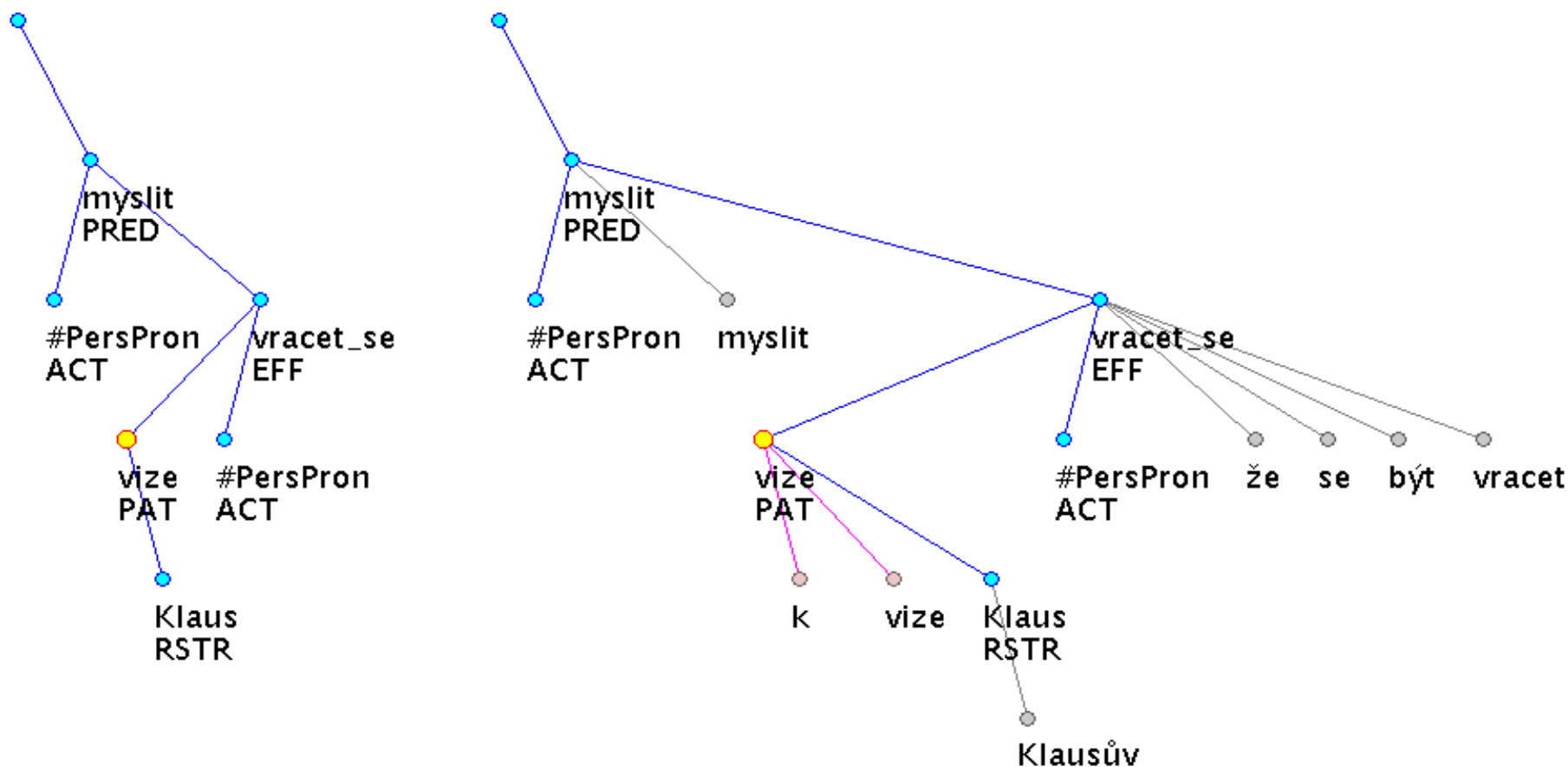
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- A query with hidden nodes
- **PAT**ient expressed with preposition **k** and a **N**oun in **3.** case on the morphological layer

# Hidden Nodes – A Result Tree

Czech: Myslím, že ke Klausově vizi se budeme vracet.  
English (lit.): I think that to Klaus`s vision we will get back.



<http://quest.ms.mff.cuni.cz/netgraph>