



PDT – Tectogrammatical Layer

Introduction and T-lemma

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PDT: t-layer

- Intro
- Relation between t-layer and a-layer
- T-lemma



documentation: <http://ufal.mff.cuni.cz/pdt2.0/doc/manuals/en/t-layer/html/index.html>

PDT: t-layer

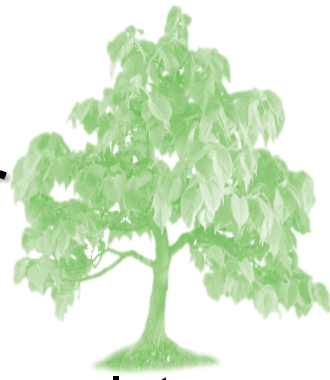


Goal:

- to describe deep, semantic structure of a sentence
~ a sentence meaning
- disambiguated
- dependency 'tree'
- information on
 - lexical items: ***t-lemma*** (primarily)
 - relations between lexical words ~ **deep structure:**
functors + subfunctors
 - ***grammatemes***
 - coreferential links
 - topic focus articulation: linear order + tfa attribute
(cz: aktuální členění)

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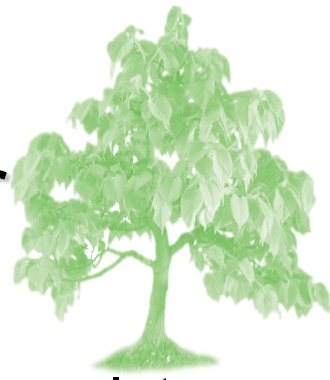
PDT: relation between t-layer and a-layer



each t-node ... PML reference to a-layer

- technical t-root ... **atree.rf** → id of a root of correspond. anal. tree
- non-root t-node... attribute **a** consisting of 2 attributes:
 - **lex.rf** → id of a-node from which the t-node got its lexical meaning
 - **aux.rf** → list of ids of all other a-nodes related to the t-node

PDT: relation between t-layer and a-layer



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- t-node with **no analytical counterpart**: lex.rf and aux.rf **empty**
Dovolil mu odejít. {#Cor.ACT}
- **copied nodes**:
 - lexical items with several occurrences at the t-layer but expressed only once in a surface sentence (e.g., *červené a bílé víno = červené víno a bílé víno*)
⇒ all attributes a/lex.rf, a/aux.rf
... id(s) of the corresponding a-node(s)

PDT: t-lemma



two types of nodes wrt t-lemma

- individual lexical units (present at surface or ‘restored’)

⇒ prototypically t-lemma = m-lemma (suffixes are ignored)

BUT lexical and syntactic derivation

multi-word expressions

frozen verbal forms (e.g. *myslím*, *soudě*) } t-lemma = m-form

foreign-language expressions



PDT: t-lemma

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BUT *lexical and syntactic derivation*

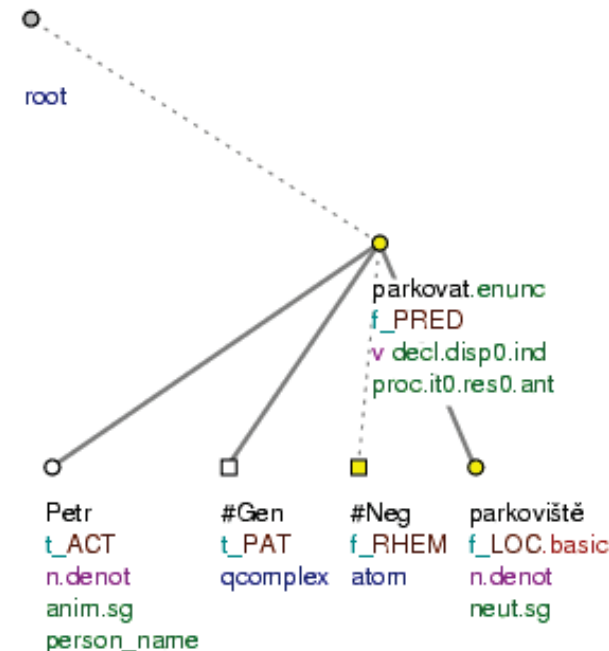
multi-word expressions

frozen verbal forms (e.g. *myslím, soudě*)

foreign-language expressions

} t-lemma = m-form

- t-lemma substitutes ... starting with #
 - personal and possessive pronouns: #PersPron
 - newly established words (not copied)
 - #Gen, #Rcp, #Cor ... (diff. type of ellipses)
 - #Forn, #Idph, ...
 - negation: #Neg
 - punctuation: #Comma, #Dash, #Slash, #Bracket, ...



Syntactic and lexical derivation

- "traditional" part of speech classification (PoS)
 - morphological tag
 - 10 basic classes



Syntactic and lexical derivation

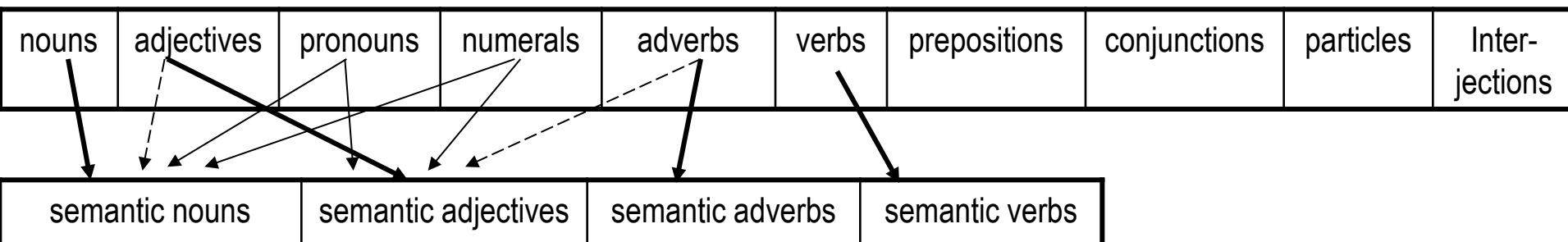


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 - morphological tag
 - 10 basic classes
- syntactic part of speech classification
 - syntactic nouns, adjectives, adverbs, verbs
 - e.g., Šmilauer "skladebné podstatné jméno"



Syntactic and lexical derivation

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- semantic part of speech classification
 - syntactic vs. lexical derivation (Kuryłowicz)
 - attribute ***sempos***



Syntactic and lexical derivation (cont.)



- FGD theory (**but NOT fully implemented in PDT**):
derived words represented by the t-lemma of the original word
- syntactic derivation
 - new syntactic function (change of PoS)
 - the same semantics
 - e.g. *přicházet* → *přicházení*; *to arrive* → *arriving* (not in PDT)
 - přicházení* → *příchod*; *to arrive* → *arrival* (not in PDT)
 - pěkně* [nicely] → *pěkný* [nice]
- lexical derivation
 - new syntactic function (change of PoS)
 - change in semantics
 - e.g. *učit* → *učitel*; *to teach* → *teacher* (not in PDT)
 - učit* → *učebna* [classroom] (not in PDT)

PDT: t-lemma for derived words



Implemented in PDT:

- personal and possessive pronouns

e.g. *já, mi, tobě, sebe, je* [I, me, you, myself, them] → #PersPron
tvé, jejich, svoje [your, their, refl] → #PersPron

- possessive adjectives

e.g. *matčin* [mother's] → *matka* [mother]
Pavlova [Pavel's] → *Pavel*

- deadjectival adverbs

e.g. *pěkně* [nicely] → *pěkný* [nice]

- directional adverbs (→ locative)

e.g. *tudy* [this way] → *tady* [here]; *kudy* [which way] → *kde* [where]

- temporal adverbs (→ answering *When?*)

e.g. *doted'* [until now] → *ted'* [now]; *dokdy* [till when] → *kdy* [when]

- short forms of adjectives

e.g. *zklamán* [disappointed] → *zklamaný*

NOT for passive participles: *pozván* [invited] → *pozvat* [to invite]

syntactic derivation:

m-lemma \leftarrow t-lemma + functor

PDT: t-lemma for derived words



- **numerals**

ordinal, sort/kind, set and fraction numerals

→ derived from the cardinal numerals

- t-lemma of the cardinal number
- grammateme numertype

ord (cz řadové) ... *třetí* [the_third] → *tři* [three]

kind (cz druhové) ... *trojí* [three_kinds_of] → *tři*

set (cz souborové)... *troje* [three_sets/pairs/..._of] → *tři*

frac (cz dílové) ... *třetina* [(one) third] → *tři*

lexical derivation:

m-lemma \leftarrow t-lemma + numertype

PDT: t-lemma for derived words



- *pronouns*, pronominal numerals and pronominal adverbs
relative, indefinite, interrogative, negative and totalizing

⇒ derived from the correspond. interrogative or relative pronoun / numeral / adverb

- t-lemma
- grammateme indeftype

e.g. *někdo* [somebody] → *kdo* [who]

nikdo [nobody] → *kdo*

kdokoliv [anybody] → *kdo*

nic [nothing] → *co* [what]

několik [several] → *kolik* [how many]

všechn [all] → *co* [what]

žádný [no] → *který* [which]

lexical derivation:

m-lemma ← t-lemma + indeftype

PDT: t-lemma for multi-word expressions



- reflexiva tantum
 - e.g. *smát se* [to laugh Refl] → *smát_se*
 - setkat se* [to meet] → *setkat_se*
- complex conjunctions and conjunction pairs, operators
 - e.g. *bud' ... nebo* [either ... or] → *bud'_nebo*
 - od ... přes ... do* [from ... via ... to] → *od_přes_do*
 - a nebo* [or] → *a_přes_do*
- numeral expressions
 - e.g. *278 11* → *278_11*
 - 41 letý* [forty-one_years_old] → *41_letý*
- idioms
 - e.g. *nohy na ramena* [legs on shoulders] → *nohy_na_ramena*
- etc.

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- etc.
- grammatememes
 - e.g. *chtít přijít* [to want to come] → *přijít* [to come] + volitive (deontic modality)
- special functors
 - e.g. CPHR: *mít dojem* [to have the impression]

References



- Manual for Tectogrammatical Annotation
<http://ufal.mff.cuni.cz/pdt2.0/doc/manuals/en/t-layer/html/index.html>
- Kuryłowicz, J. (1936). Dérivation lexicale et dérivation syntaxique. *Bulletin de la Société de linguistique de Paris*, 37, s. 79–92.
Český překlad in: *Principy strukturní syntaxe I*. Praha, Univerzita Karlova, s. 87–94.