



# Valency in the Prague Dependency Treebank Part II.

Markéta Lopatková

Institute of Formal and Applied Linguistics, MFF UK

[lopatkova@ufal.mff.cuni.cz](mailto:lopatkova@ufal.mff.cuni.cz)

---



---

# Valency in PDT: Outline

- the concept of valency
- valency in FGD
- valency in PDT
  - functors as labels for inner participants and free modifications
  - functors for nominal and adjectival complementations
  - functors for non-valency relations
- PDT-VALLEX
- valency in other LRs

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



---

# Syntactic Information in PDT

- attribute **functor** for **all** nodetypes
- functors ... labels for the type of syntactic relation governing/parent node – modifying/child node
- complex nodes ... functor ~ type of valency complementation
  - inner participants
  - free modifications
  - complement (Cz: doplněk)
- other nodetypes ... functor ~ non-valency relation
  - coordination
  - effective root of an independent clause
  - rhematizers, conjunction modifiers
  - multiword expressions
- (OPER)

# Valency in PDT: PDT-VALLEX



- all sem. verbs, some nouns, adjectives, adverbs (aspectual counterparts as different units)
- attribute **val\_frame.rf**:
  - one or more frame members
  - a member ~ a frame element
  - functor
  - obligatory or optional
  - possible realizations
- alternations/diatheses
- consistency checking

## \* odpovídání

ACT(.2,u) PAT(*na-l*[.4]) ADDR(.3) ?EFF(*že*[.v]) v-w2838f1 Used: 1x  
(odpovídat- dávat odpověď) nedokončitelné odpovídání a tázání

## \* odpovídat

ACT(.1,*že*[.v]) PAT(.3) v-w2839f1 Used: 85x

zaměstnání odpovídá jeho schopnostem  
řešení o. požadavkům

ACT(.1) ?PAT(*na-l*[.4]) ADDR(.3) EFF(.4,7,*že*[.v],*zda*[.v],*aby*[.v],*at*[.v],.s,.c)

v-w2839f2 Used: 28x

odpovídal mu na jeho dotaz, že nemá pravdu  
o. nám na dotazy  
o. pravdu  
o. nám tato slova

ACT(.1) PAT(*za-l*[.4]) ?ADDR(.3) v-w2839f3 Used: 14x

odpovídáš mi za ztrátu  
svým majetkem. MEANS

ACT(.1) PAT(*na-l*[.4]) v-w2839f4 Used: 2x

organismus odpovídal na zákrok  
tvorbou. MANN vaziva  
tímto způsobem. MANN o. na nátlak obyvatelstva

# Valency in PDT: PDT-VALLEX (cont.)

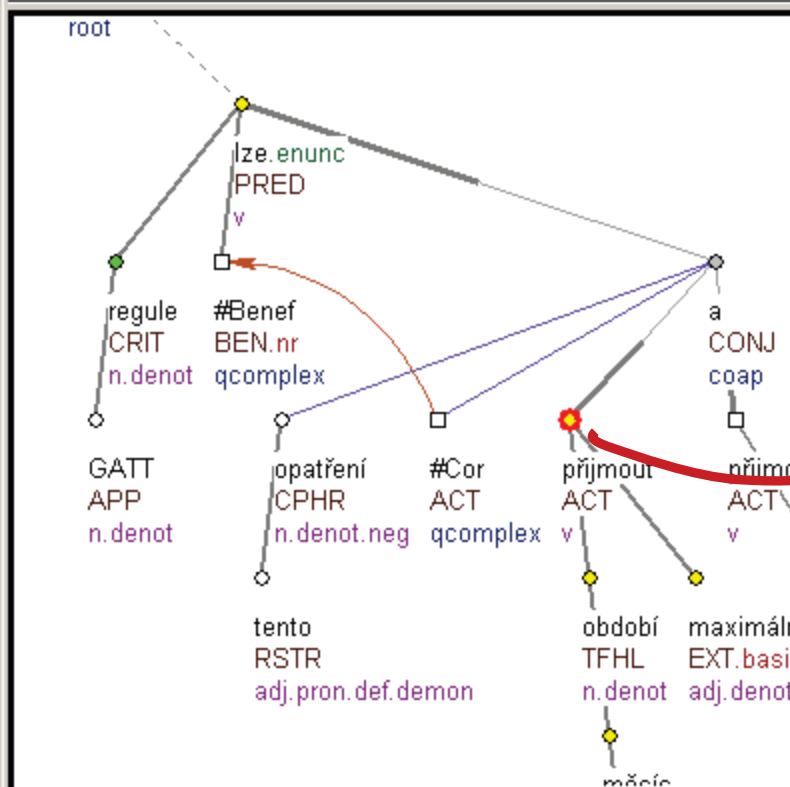


TRee Editor Default(2/1): C:/PDT-2.0/data/full/tamw/train-1/cmpr9410\_001.t.gz

File View Node Session Bookmarks User-defined Help

Podle regulí GATT lze toto opatření přijmout maximálně na období šesti měsíců a pouze u vybraných položek.

PDT-VALLEX	units	frames
verbs	5 300	9 000
nouns	3 750	4 750
adjectives	800	950



74 Frame editor: unknown user

Words

Search: \*

lemma  
přijmout  
přijít  
přijít si  
přijíždět  
přijmout  
přikázat  
přikazova  
příklad

Frames

Search Whole Lexicon

Search frame:

Elements

- ACT(1) PAT(4)  
(akceptovat, uznávat) přijmout jeho teorii
- COMPL p. ji jako urážku
- MANN p. ji s nadhledem {lj01am.fs##38.2} (ZU)
- ACT(1) PAT(4)  
(brát) přijmout dělníka na práci
- AIM[na+4] p. brigádníky na česání jablek {lm09am.fs##2.2}  
p. studenty (ZU)
- ACT(1) PAT(4) ?EFF(.4[{jako jakožto}/AuxY];za+4)  
(angažovat, vzít) přijmout někoho za člena, jako člena
- COMPL jako začátečníka ho přijali dobře (ZU)
- ACT(1) PAT(4) ?EFF(.4[{jako jakožto}/AuxY];za+4)

Show Obsolete Show Superframes

Close



---

# Valency in PDT: PDT-VALLEX (cont.)

- a frame element realization ~ a continuous section of an anal. tree (may be incomplete)
  - the syntactic structure of a given modification;
  - the requirements (esp. POS characteristics)

ACT(.1) PAT(.4) ... transitive verb

ACT(.1) PAT(.f) ... infinitive complementation

ACT(.1) PAT(.4) ?ORIG(z-1[.2]) ?EFF(na-1[.4]) ... optional participants

ACT(.3) DPHR(mráz.S1,po-1[záda:P6]) ... idiom

Examples of surface-form encoding:

nominative: .1

accusative: .4

adjective in instrumental: .a7

possessive pronoun or adjective: .u

numeral: .m

pronoun: .p

adverb: .d

interjection: .i

infinitive: .f

subordinate clause, with any kind of

conjunction: j[.v]

content clause

(a subordinate clause beginning with a

relative pronoun/adverb): .c

direct speech: .s



---

# Valency in PDT: PDT-VALLEX (cont.)

- a frame element realization ~ a continuous section of an anal. tree (may be incomplete)
  - the syntactic structure of a given modification;
  - the requirements (esp. POS characteristics)

ACT(.1) PAT(.4) ... transitive verb

ACT(.1) PAT(.f) ... infinitive complementation

ACT(.1) PAT(.4) ?ORIG(z-1[.2]) ?EFF(na-1[.4]) ... optional participants

ACT(.3) DPHR(mráz.S1,po-1[záda:P6]) ... idiom

- regular changes of a surface form:
  - diatheses:
    - passive
    - reciprocity
    - disp. modality
    - resultative
  - other regular changes:
    - numeral constructions
    - distributivity
    - subfunctors
    - ....

---

# Valency in PDT: Inner Participants (Verbs)



- Actor (ACT) ...functor for the first syntactic position

human and non-human agent

*Její manžel tam pracuje dál.*

*Her husband still works there.*

*Ten román mě oslovil.*

*The novel appealed to me.*

*Byl zabit bleskem*

*He was killed by lightning.*

*zločiny mafie na Sicílii*

*the Mafia's crimes on Sicily*

bearer of an event / of a quality or property

*Sklo zůstává nalepené na fólii*

*The glass stays stuck to the foil.*

*Matka leží.*

*Our mother is in bed.*

*Karoserie je z plechu.*

*The car body is made of plate.*

*radost obyvatel z nezávislosti*

*the joy of the citizens of an independence*

experiencer

*Českým skokanům se dařilo dobře.* *The Czech jumpers were doing well.*

*Je mi smutno.*

*I am sad*

*Líbí se mi to.*

*I like it.*

possessor

*Přítel má nové auto.*

*A friend of mine has a new car.*

*Přítel prodal chalupu.*

*A friend of mine sold his cottage.*



---

# Valency in PDT: Inner Participants (Verbs)



- Actor (ACT)
- Patient (PAT) ... functor for the second syntactic position  
object affected by an event (created / being destroyed / changing its property ...)

*Postavili stany.*

*They pitched the tents.*

*Uspal dcerku.*

*He put his daughter to sleep.*

*Prodal dům.*

*He sold the house.*

*Házel kamenem*

*He was throwing a stone.*

object specifying an event or its goal

*Rád hraje kopanou / na klavír*

*He likes playing football / the piano*

possessor

*Kniha patří Janovi*

*The book belongs to Jan.*

*Matce nezbyly žádné peníze.*

*No money remains to my mother.*

stimulus

*Jareček se bojí psů.*

*Jareček is afraid of dogs.*

recipient

*Ozval se mu.*

*He let him know.*

theme/topic of a book, story, painting (esp. verbs of communication)

*Vyprávěl nám o svých cestách.*

*He was talking on his travels.*

---

# Valency in PDT: Inner Participants (Verbs)



- Actor (ACT)
- Patient (PAT)
- Effect (EFF) ... the third syntactic position (semantically indistinct) quality/property or state the Patient has in the course of the event

*Považoval Pavla za odborníka.      He considered Pavel a professional.*

*Zachovali památku neporušenou.      They kept the memory intact.*

final state

*Zvýšili počet voličů z 50% na 75%.      They increased the number of the voters from 50% to 75%.*

so called slavonic accusative (esp. verbs of perception)

*Slyšet hodiny tíkat.      lit: He heard the clock ticking.*

dictum = what was said (esp. verbs of communication)

*Petr vyprávěl o dovolené zábavné historky.*

*Petr told us amusing stories about his holiday.*

direct or indirect speech

*Řekli mu: "Nechod tam!"*

*They told him: "Do not go there!"*

*Oznámil, že nepřijde.*

*He announced that he would not come.*

---

# Valency in PDT: Inner Participants (Verbs)



- Actor (ACT)
- Patient (PAT)
- Effect (EFF)
- Addressee (ADDR)

recipient with verbs of giving

*Dal dítěti hračku.*

*He gave the child a toy.*

*Učí děti angličtinu.*

*He gives children English lessons.*

original possessor

*Vzal dítěti hračku.*

*He took the toy from the child.*

*Ukradl cizinci peněženku.*

*He stole a wallet from a foreigner.*

benefactor/recipient the event is directed at

*Obrátil se na soud s problémem.* *He turned to the court with a problem.*

partner of the event

*Svou nejtěžší bitvu vybojoval s přáteli/nad přáteli.*

*He won his heaviest battle with his friends.*

---

# Valency in PDT: Inner Participants (Verbs)



- Actor (ACT)
- Patient (PAT)
- Effect (EFF)
- Addressee (ADDR)
- Origin (ORIG)

material something is made from

*Vyráběli nábytek ze dřeva.*

*nádoba z plechu*

*They made furniture out of wood.*

*a dish (made) of plate*

circumstances, event or state on the basis of which something comes into existence

*Vybudoval kariéru na cizí práci.*

*He built his career on other people's work.*

original owner (usually animate), the source something comes from

*Získal na dětech slib.*

*dárek od maminky*

*He got a promise from the children.*

*a present from his mom*

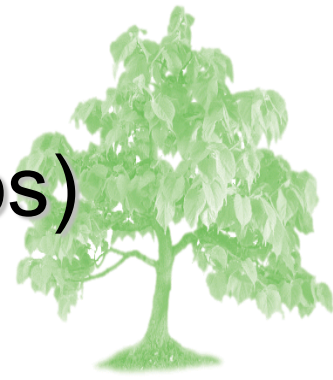
initial state (with verbs of change)

*Předělala loutku z kašpárka na čerta.*

*She remade the puppet from the jester into the devil.*

---

# Valency in PDT: Free Modifications (Verbs)

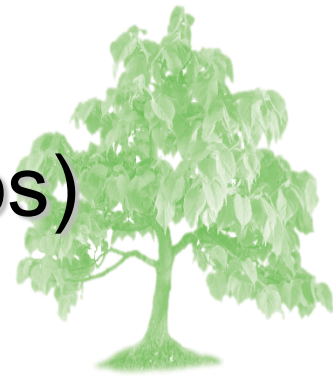


- Local and directional modifications

- DIR1    *Přijeli z Plzně.*                      *They came from Plzeň.*  
            *Ustoupil od stěny.*                      *He stepped back from the wall.*  
            *jeden z chlapců*                      *one of the boys*
- DIR2    *Šli podél lesa.*                      *They walked along the forest.*  
            *Přes louku vede cesta.*                      *There is a path across the meadow.*
- DIR3    *Odešel do města.*                      *He left for a city.*  
            *Schoval se pod deštník.*                      *He hid himself under an umbrella.*  
            *Položil to blízko vázy.*                      *He put it near the vase.*
- LOC    *Obchod stojí naproti nádraží.*                      *The shop is located opposite the station.*  
            *Nebezpečí může být všude kolem nás.*                      *Danger can be all around us.*  
            *Kde na mě počkáte?*                      *Where will you wait for me?*

---

# Valency in PDT: Free Modifications (Verbs)



- Local and directional modifications

- DIR1    *Přijeli z Plzně.*                      *They came from Plzeň.*  
            *Ustoupil od stěny.*                      *He stepped back from the wall.*  
            *jeden z chlapců*                      *one of the boys*
- DIR2    *Šli podél lesa.*                      *They walked along the forest.*  
            *Přes louku vede cesta.*                      *There is a path across the meadow.*
- DIR3    *Odešel do města.*                      *He left for a city.*  
            *Schoval se pod deštník.*                      *He hid himself under an umbrella.*  
            *Položil to blízko vázy.*                      *He put it near the vase.*
- LOC    *Obchod stojí naproti nádraží.*                      *The shop is located opposite the station.*  
            *Nebezpečí může být všude kolem nás.*                      *Danger can be all around us.*  
            *Kde na mě počkáte?*                      *Where will you wait for me?*

+ **subfunctors** for more specific classification

e.g.: DIR2 ... basic (adverb, noun<sub>Instr</sub>), across, along, around, betw, near, nr

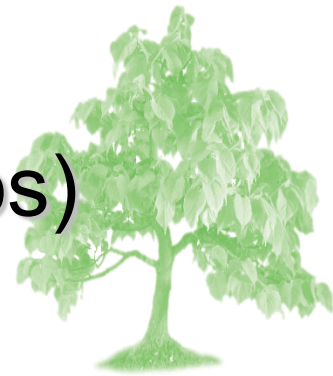


- **TWHEN** *Zítřka má být už hezky. Tomorrow weather should be nice.*  
+ subfunctors: basic, after, approx, before, begin, betw, end, flow, mid, nr
- **TFHL** *Používá se jen dočasně. It is used only temporarily.*
- **TFRWH** *Přeložil výuku z pátku na vhodnější dobu.*  
*He postponed the lesson from Friday to more convenient time.*
- **THL** *Spor se táhne donekonečna. lit: The dispute lasts forever.*
- **THO** *Běžně chodil k svému lékaři. Commonly he visited his physician.*
- **TOWH** *Přeložil výuku na pátek. He postponed the lesson to Friday.*
- **TPAR** *Hraje a přitom zpívá. He is playing and at the same time singing.*
- **TSIN** *Znají se od školy. They know each other since their school years.*
- **TTILL** *Dodnes nevím, kde je. Till today I do not know where he is.*



---

# Valency in PDT: Free Modifications (Verbs)



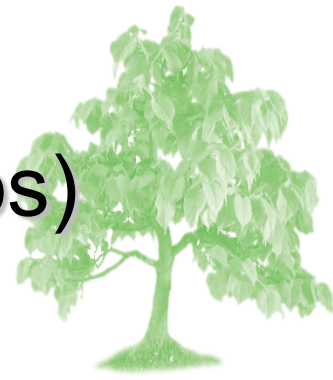
- Local and directional modifications
- Temporal modifications
- Manner (ACMP, CPR and EXT with subfunctors)

- **MANN** *Pracuje pomalu.* *He is working slowly.*
- **ACMP** *Tatínek s maminkou šli do divadla.* *Father with mother went to the theater.*  
*válečná plavidla včetně bojových letadel a vrtulníků* *warships including air force*
- **CPR** *Naproti tomu Jirka přišel včas.* *On the contrary, Jirka was on time*  
*Na Afriku zbývají jen asi 3 miliardy dolarů ročně, což je méně, nežli obdržela loni*  
*Malajsie.* *..., which is less than Malaysia got last year.*
- **CRIT** *Podle regulí GATT lze toto opatření přijmout maximálně na dobu šesti měsíců.*  
*According to the GATT rules, it is possible to take the measure*
- **DIFF** *Pavel je o 2 cm větší než já.* *Pavel is taller than me by 2 cm.*
- **EXT** *Utkání se příliš nevyvedlo.* *The match wasn't very good.*
- **MEANS** *Napsal to na počítači.* *He wrote it on the computer.*
- **REG** *Sbor je (co) do počtu slabý.* *The choir is weak, as to the number of people.*
- **RESL** *Marie úspěšně prošla zkouškami.* *Marie passed the exams successfully.*
- **RESTR** *Kromě Pavla nepřišel ještě Mirek.* *Apart from Pavel, also Mirek didn't come.*



---

# Valency in PDT: Free Modifications (Verbs)



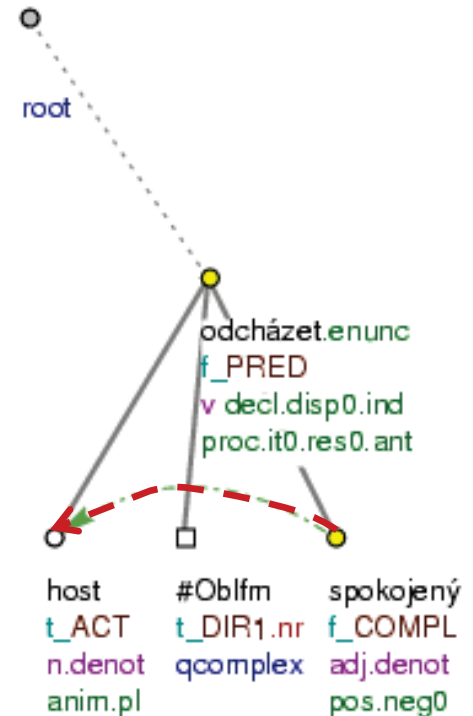
- Local and directional modifications
- Temporal modifications
- Manner
- Causality

- AIM *Jsem tu pro to, abych vám pomohl. lit: I am here in order to help you.*
- CAUS *Nepovím vám to, protože byste mi stejně nevěřili.  
I will not tell you because you would not believe me anyway.  
Kvůli tobě mám teď po dobré náladě. Because of you my good humor is gone.*
- CNCS *Ač zemřeli, ještě mluví. Although they are dead, they still speak.  
Při vší opatrnosti stejně několik hrnců rozbila.  
Despite all her carefulness she has still broken several pots.*
- COND *Jestliže nepůjde dobrovolně, použijeme násilí.  
lit: If he does not go willingly we shall use a force.*
- INTT *Šel nakoupit, aby doplnil zásoby. He went shopping to replenish the stock.*

# Valency in PDT: Predicative Complement



- functor COMPL
- two syntactic dependencies
  - verbal governing node ... parent in a dependency tree
  - nominal governing node ... coreference arrow (compl.rf, later)



*Hosté odcházeli spokojeni.*  
lit. *Guests were leaving satisfied*

---

# Valency in PDT: New Complementations (Verbs)



- BEN

*Kreslil pro děti nádherné obrázky. He painted beautiful paintings for the children.*

*Padá mu hlava na prsa. His head is falling on his breast.*

*Ten pán vám měl ale fousy! The beard the man had!*

- CONTRD

*Zatímco loni v premiéře proti Samprasovi hrál chaoticky, nyní už měl plán.*

*While he played chaotically last year in his premiere against Sampras, now he had a plan.*

- HER

*Zůstal zde majetek po třech a půl milionu Němců.*

*The property after 3,5 million of Germans was left here.*

*Jméno dostala holčička po kmotře. The girl has got the name after the godmother.*

*BUT: Jméno dostala holčička od kmotry. ORIG The girl has got the name from the godmother.*

- SUBS

*Do učeben zasednou otcové místo svých synů.*

*The fathers will sit in the classrooms instead of their sons.*

*Mám-li ovšem mluvit za sebe, trochu maluji a píšu.*

*But should I speak for myself, I paint and write a little.*



---

# Valency in PDT: Nouns (only in PDT)

nominal complementations (Piřha, 1981)

- Partitive (MAT) (also Material) ... inner participant governing node ... container; quantification

*sklenice piva, kořík hub*

*skupina studentů, sada nořů*

*miliony lidí; řtvrt millionu*

*a glass of bier, a basket of mushrooms*

*a group of students, a set of knives*

*millions of people; a quarter (of) million*



---

# Valency in PDT: Nouns (only in PDT)

nominal complementations (Piřha, 1981)

- Partitive (MAT) (also Material) ... inner participant

- Appurtenance (APP) (cz přináležitost)

~ something belongs to something

family relations: otec dítěte, můj bratr

part-whole rel.: střecha domu

set-member rel.: člen týmu, tým brankářů  
organizace neslyšících

possession: naše kapela, její seznam

*the father of the child, my brother*

*a roof of a house*

*a member of the team, a team of goal-keepers*

*an organization of the hearing-impaired*

*our band, her list*



---

# Valency in PDT: Nouns (only in PDT)

nominal complementations (Piřha, 1981)

- Partitive (MAT) (also Material) ... inner participant
- Appurtenance (APP) (cz přináležitost)
- Identity (ID)

form ... nominative of identity (cz nominativ jmenovací) / genitive  
meta-language expressions

*slovo stát*

*the word to stand*

proper nouns and names of animals, objects and events

*nápis Obětem války*

*the sign "To the victims of war"*

*skladba Svatý Václave*

*the piece Saint Wenceslas!*

*povídka Opatrně*

*the short story Carefully*

*pražská Galerie U Řečických*

*the Prague gallery U Řečických*

*starobylé písně ze Sušilovy sbírky Vandrovali hudci*

*old songs from Sušil's collection Vandrovali hudci*

*publikace Začínáme podnikat*

*the publication Introduction to business*

---

# Valency in PDT: Nouns (only in PDT)

nominal complementations (Piřha, 1981)

- Partitive (MAT) (also Material) ... inner participant
- Appurtenance (APP) (cz přináležitost)
- Identity (ID)
- Author (AUTH) ... free modification

the author of an artefact

form ... a noun expr. by genitive or by a possessive adjective

*básně Vítězslava Nezvala*      *poems by Vítězslav Nezval*

*dekret nového prezidenta Leonida Kučmy*

*the order of the new president Leonid Kutchma*

*román Oty Filipa*

*a novel by Ota Filip*

*autorova současná tvorba*

*author's present work*

*jeho texty*

*his texts*

*skladatelovo nejúspěšnější hudebně-dramatické dílo*

*the composer's most famous musically-dramatic piece)*

*podobizna Matěje Kopeckého od M. Alše*      *the portrait of Matěj Kopecký by M. Aleš*





# Valency in PDT: Nouns

nominal complementations (Piřha, 1981)

- Partitive (MAT) (also Material) ... inner participant
- Appurtenance (APP) (cz přináležitost)
- Identity (ID)
- Author (AUTH)
- Restrictive attribute (RSTR)

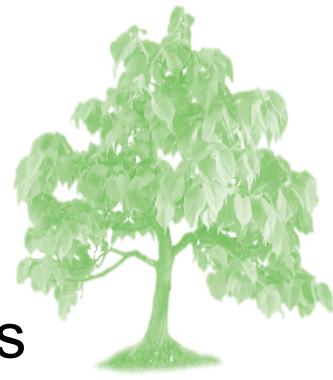
<u>drsné</u> počasí	<u>rough</u> weather
<u>sedící</u> žena	a <u>sitting</u> woman
<u>několik</u> měsíců	a <u>few</u> months
<u>pět</u> dětí	<u>five</u> children
<u>Karlova</u> univerzita	<u>Charles</u> University
<u>Karel</u> Novák	<u>Karel</u> Novák
<u>rozhodčí</u> Severýn	<u>the referee</u> Severýn
v Praze - <u>Dejvicích</u>	in Prague - <u>Dejvice</u>

- Descriptive attribute (DSTR) ... not in PDT



---

# Valency in PDT: Adjectives



- the same repertoire of complementations as for verbs
- plus complementations for comparative and superlative
- (Piřha, 1982), (Panevová, 1998)
  - PAT: *plný čeho* [full of st], *schopný čeho* [capable of st],  
*lačný čeho* [athirst to st], *podobný čemu* [similar to st], *příbuzný čemu* [related to st]
  - ADDR: *nepříjemný komu* [unpleasant to sb], *přístupný komu* [acesible to sb]  
*povědomý komu* [familiar to sb]
  - PAT ADDR: *odpovědný komu za co* [responsible for st to sb], *vděčný komu za co*  
[grateful to sb for st]



---

# Functors for Non-Valency Relations

- effective root of an independent clause

PRED     *Pavel dal kytku Marii.     Paul gave a flower to Mary.*

DENOM   restriction to nouns in nominative

*Názory čtenářů.     Readers' opinions.*

*K názorům čtenářů {#EmpVerb.PRED}.*

VOCAT   *Milá Jano!     Dear Jane!*

*Pane majore, hodlám zavést nové prvky.*

*Sir, I intend to introduce new elements.*

PARTL   *Pozor!     Attention!*

*Ano, to je pravda.     Yes, that is true.*

PAR     *Přijedu 13. prosince (pátek ).*

*I will arrive on December 13 (Friday).*

---

# Functors for Non-Valency Relations



- effective root of an independent clause
- coordination, apposition

CONJ *Mezi smysly patří zrak a sluch. Eyesight and hearing belong to the senses.*  
*Vyniká jak svědomitostí, tak houževnatostí.*  
*She stands out due to her thoroughness, as well as her stringiness.*  
*Šel, aniž by to viděl. {#Neg.CM} lit. He was walking without seeing it.*

DISJ *ať vítaný, či nevítaný welcome or not (only one of them is true )*  
*Vysloví se bud' pro, nebo proti návrhu.*  
*They will be either for or against the proposal.*

ADVS *Vypadalo to, že bude hezky, ale začalo pršet.*  
*The weather looked nice but then it started raining.*

CONFR *Bristol je v Anglii, kdežto Glasgow je ve Skotsku.*  
*Bristol is in England, whereas Glasgow is in Scotland.*

CONTRA *spor Klaus versus Zieleniec. a variance Klaus vs. Zieleniec*

CSQ *Byl nemocný, proto nepřišel. He was sick so that's why he didn't come.*

GRAD *Nemůže se pohnout, natož vstát. He can't move, let alone get up.*

REAS *Úkol splníme, vždyt' není obtížný. We'll fulfill the task, for it is not difficult.*

# Functors for Non-Valency Relations

- effective root of an independent clause
- coordination, apposition

## APPS

*Božena Němcová* autorka *Babičky*

*Božena Němcová* the author of *Babička*

*Morová rána* Skuhravý zraněn.

*Catastrophe* Skuhravý injured

*Labe/Elbe.*

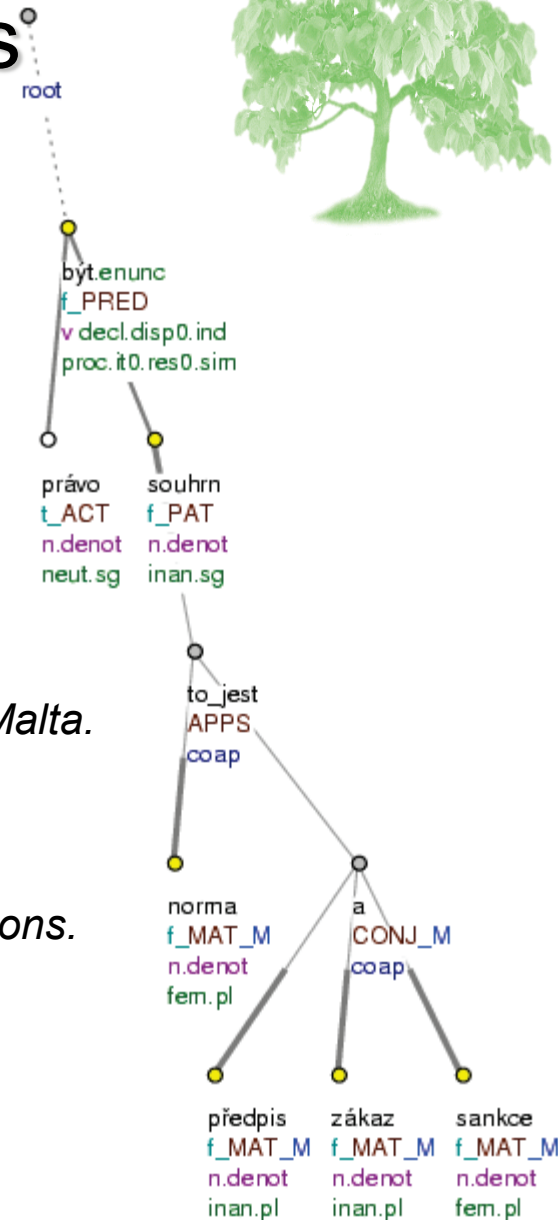
*Tomu odpovídala cílová místa* Kypr, Kréta, Malta.

*This was reflected by the destinations* Cyprus, Crete, Malta.

*ODS (Občanská demokratická strana)*

*Právo je souhrnem norem, to jest předpisů, zákazů a sankcí.*

*Law is a collection of norms, i.e. regulations,  
prohibitions and sanctions.*





---

# Functors for Non-Valency Relations

- effective root of an independent clause
- coordination, apposition
- complex predicates, multiword expressions, phrasemes

CPHR ... a part of compound predicate ... 'light verb' + noun

*Dostali rozkaz nevycházet ze stanů.*

*They received a command not to leave their tents.*

*Učinil rozhodnutí.*

*He made a decision.*

*Je třeba odejít.*

*It is necessary to leave.*

BUT: verbonominal predicate with copula *být*

*Kočka je savec.PAT    The cat is a mammal.PAT*

DPHR ... (a dependent part of) a phraseme

*Jde mi na nervy.    He gets on my nerves.*

*Chodil křížem.DIR2 krážem.*

*lit: He was walking criss cross.*

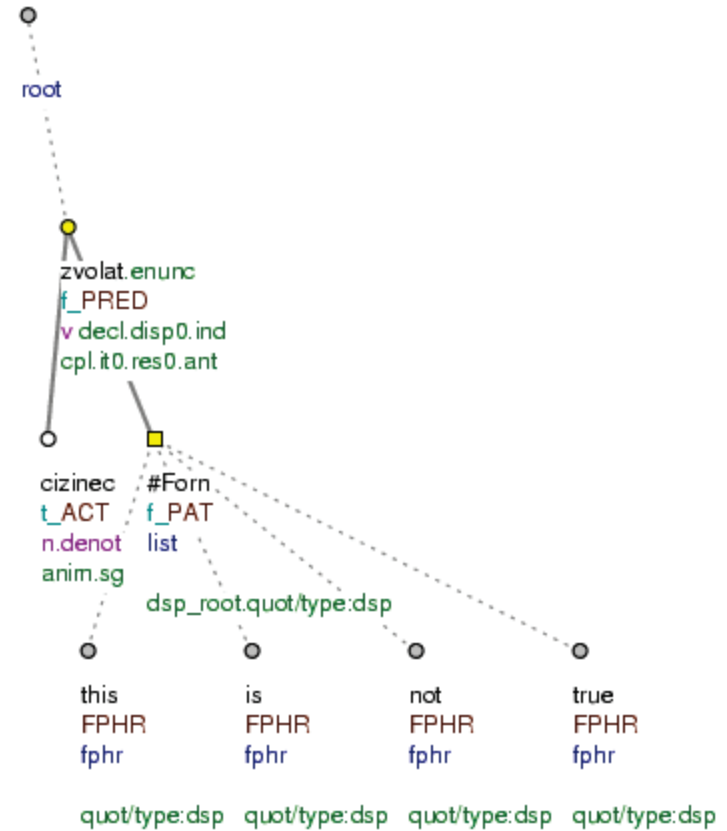
---

# Functors for Non-Valency Relations



- effective root of an independent clause
- coordination, apposition
- complex predicates, multiword expressions, phrasemes

FPHR    *Cizinec zvolal: "This is not true."    The foreigner shouted: "This is not true".*



---

# Functors for Non-Valency Relations



- effective root of an independent clause
- coordination
- complex predicates, multiword expressions, phrasemes
- rhematizers; conjunction modifiers

ATT	<i>Je to <u>bohudíky</u> za námi!</i>	<i>Is it <u>thank God</u> over!</i>
	<i>Vypovědět ji <u>prostě</u> nelze.</i>	<i>It is <u>simply</u> impossible to expel it.</i>
	<i>To je <u>fakticky</u> zlé.</i>	<i>That is <u>really</u> bad.</i>
INTF	<i>To <u>on</u> Jirka ještě spí.</i>	<i>lit: <u>Well</u>, Jirka still is still sleeping.</i>
MOD	<i><u>Pravděpodobně</u> přijdeme.</i>	<i>We will <u>probably</u> come.</i>
	<i>Vím <u>jistě</u>, že Praha mě poznamená.</i>	<i>I know <u>for sure</u> that Prague will affect me.</i>
PREC	<i>Jsem <u>tedy</u> šťasten.</i>	<i>I am <u>therefore</u> happy.</i>
	<i><u>Ale</u> to zatím není náš případ.</i>	<i><u>But</u> that is not our case so far.</i>
RHEM	adverbial and particle expressions	
	<i>On o tom <u>jen</u> nevěděl nic.</i>	<i>He <u>only</u> did not know anything about it.</i>
	negative/affirmative expressions	
	<i>Kdyby {#EmpVerb.COND} <u>ano</u>, pak by asi skončil ve vězení</i>	
	<i>If <u>so</u> then he would probably end up in prison.</i>	



# Functors for Non-Valency Relations

- effective root of an independent clause
- coordination
- complex predicates, multiword expressions, phrasemes
- rhematizers; conjunction modifiers

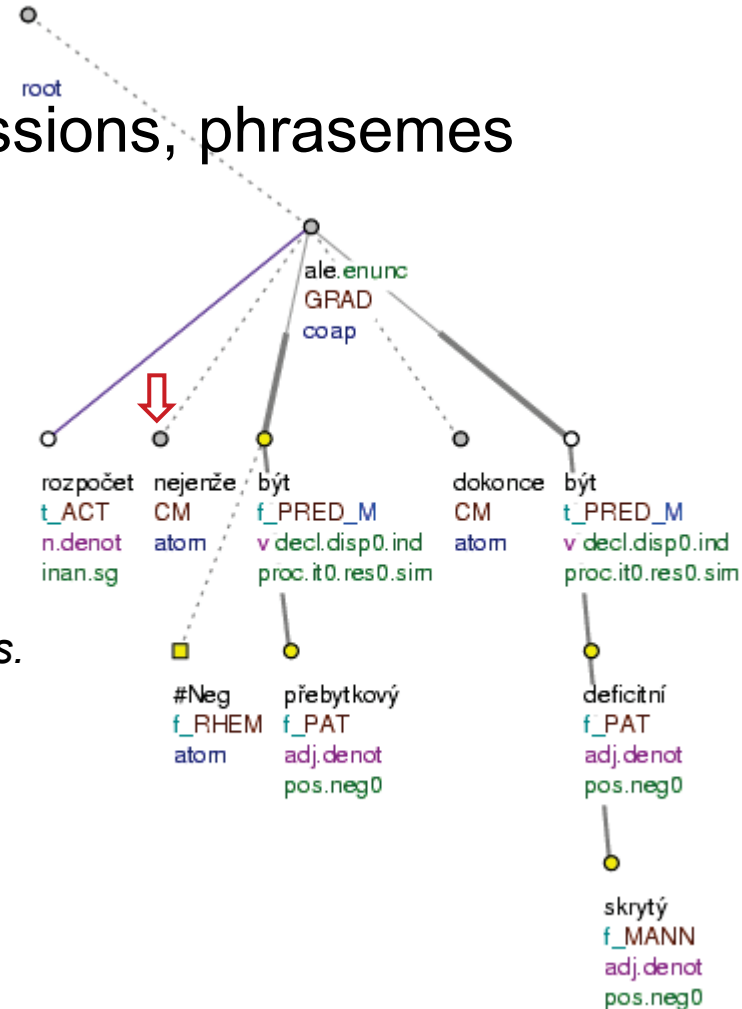
CM

*Rozpočet nejenže.CM není přebytkový,  
ale.GRAD dokonce.CM je skrytě deficitní.*

*The budget not only isn't surplus,  
it is even covertly deficit.*

*Kreslíme tužkou a.CONJ k tomu.CM ještě.CM  
malujeme pastelkami.*

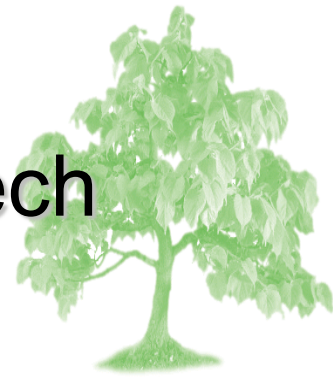
*We draw with a pencil and moreover with colored pencils.*





---

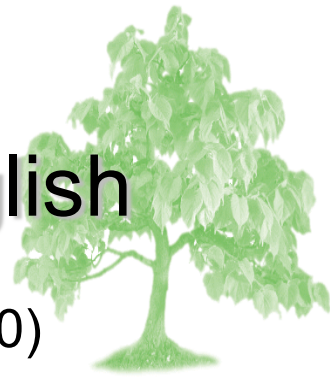
# Valency in Other Lexical Resources: Czech



- other electronic LRs for Czech
  - VALLEX (Lopatková et al., 2008)  
<http://ufal.mff.cuni.cz/vallex/2.5/>
  - Czech Syntactic Lexicon (Skoumalová, 2001)
  - VerbaLex (Hlaváčková, Horák, 2006)
- printed dictionaries:
  - Slovesa pro praxi (Svozilová et al., 1997)
  - Slovník slovesných, substantivních a adjektivních vazeb a spojení (Svozilová et al., 2005)

---

# Valency in Other Lexical Resources: English



- FrameNet (Fillmore, Baker et al., 1998; Ruppenhofer et al., 2010)
- VerbNet (Palmer, Kipper Schuler et al., since 2000)
- PropBank Lexicon (Palmer et al., 2004)
- Pattern Dictionary of English Verbs (Hanks, Pustejovsky, since 2005)
- LCS databáze (Dorr, 2001)
  
- EngVallex (Šindlerová et al., 2007)
- CzEngVallex (Urešová et al., 2015)

---

# References



- Manual for Tectogrammatical Annotation  
<http://ufal.mff.cuni.cz/pdt2.0/doc/manuals/en/t-layer/html/index.html>
- Hajič, J. et al (2003) PDT-VALLEX: Creating a Large-coverage Valency Lexicon for Treebank Annotation. In *Proceedings of The Second Workshop on Treebanks and Linguistic Theories*, Vaxjo University Press, Vaxjo, Sweden, p. 57-68
- Hlaváčková, D., Horák, A. (2006) VerbaLex - New Comprehensive Lexicon of Verb Valencies for Czech. In *Computer Treatment of Slavic and East European Languages*. SNK, Bratislava p. 107-115
- Kolářová, V. (2010) *Valence deverbativních substantiv v češtině*. Praha, Karolinum
- Lopatková et al. (2008) *Valenční slovník českých sloves*. Praha, Karolinum
- Piřha, P. (1981) On the Case Frames of Nouns. In *Prague Studies in Mathematical Linguistics*, Vol. 7, Praha, Academia, p. 91-99
- Piřha, P. (1982) K otázce valence u adjektiv. *Slovo a slovesnost* 43, p.113-118.
- Panevová, J. (1998) Ještě k teorii valence. *Slovo a slovesnost* 59, p. 1-14.
- Panevová, J. (2000) Poznámky k valenci podstatných jmen. In Karlík, P., Hladká, Z. (eds.) *Čeština – Univerzália a specifika*, Brno, Masarykova Univerzita, p. 173-180
- Skoumalová, H. (2001) *Czech syntactic lexicon*. Ph.D. dissertation, FF UK, Prague
- Svozilová et al. (1997) *Slovesa pro praxi*. Praha, Academia