Functional Generative Description (FGD)
Syntactic layers

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System of layers in FGD

meaning

expression

deep / underlying syntax

tectogrammar

surface syntax

morphematics

morphonology

phonology/phonetics
System of layers in FGD (cont.)

sentence … full representation on each layer of description

each layer ~ set of descriptions for all possible sentences
  • finite set of elementary units
  • finite set of operations and relations ➔ set of complex units
  • finite set of relations between sentence representations on a particular layer and its representations on adjacent layers
System of layers in FGD (cont.)

sentence … full representation on each layer of description

each layer ~ set of descriptions for all possible sentences
  • finite set of elementary units
  • finite set of operations and relations \(\rightarrow\) set of complex units
  • finite set of relations between sentence representations on a particular layer and its representations on adjacent layers

\[
\begin{array}{c}
n+1 \quad \text{function} \\
\downarrow \quad \text{R} \\
n \quad \text{form} \\
\end{array}
\]

\textbf{type C relations (composition)}: elementary units constitute complex units
  i.e., relations between units of the same layer

\textbf{type R relations (representation)}: form-function relation
  i.e., relation between adjacent layers
System of layers in FGD

meaning

proposition → semanteme

depth / underlying syntax

tectogrammar

sentence → tagmeme

surface syntax

formeme → sema

morphematics

morpheme

morphophonology

expression

morphememe

phonology

phoneme → distinctive f.
Two layers of syntax in FGD

tree-based dependency structure
  • nodes for tagmemes / sememes (complex symbols)
  • edges labeled with a type of a respective syntactic relation
My brother often sleeps in his study.

Po babiččině příjezdu půjdou rodiče do divadla.

[After grandma's arrival the parents will go to the theatre.]
The layer of **surface syntax**

**Surface syntactic tree**
- ~ nodes for formemes \(\rightarrow\) **tagmemes** / sentence members
  (cz school syntax: větné členy)
- ~ edges for syntactic relations

+ surface word order ... linear ordering of tree nodes
The layer of surface syntax

surface syntactic tree
~ nodes for formemes → tagmemes / sentence members
(cz school syntax: větné členy)
~ edges for syntactic relations

surface word order ... linear ordering of tree nodes

3 types of elementary units:
• lexical: units from a dictionary
• morphological: set of morphological features ~ tags
  (a pair of) trousers ... sema - plural
• syntactic: subject, object, attribute, adverbial, complement,...
The layer of **deep syntax**

~ meaning of a sentence:

*semantemes*: lexical (autosemantic) words, their lexical and morphological features and mutual relations

terminology: deep / underlying / tectogrammatical representation (TR)
The layer of **deep syntax**

~ meaning of a sentence:

- **semantemes**: lexical (autosemantic) words, their lexical and morphological features and mutual relations

terminology: deep / underlying / tectogrammatical representation (TR)

3 basic types of elementary units:

- lexical: units from a (tectogrammatical) dictionary
- morphological: **grammatemes**
  
  meaning of individual morphological categories
  (a pair of) trousers … singular
denominating (pojmenovávací)

  vs. correlating (usouvztažňující) categories

- syntactic: types of relation, **functors** and **subfunctors**
  Actor, Patient, Addressee, … local, temporal modifications …
The layer of deep syntax

~ meaning of a sentence:

**semantemes**: lexical (autosemantic) words, their lexical and morphological features and mutual relations

terminology: deep / underlying / tectogrammatical representation (TR)

3 basic types of elementary units:

- lexical, grammatemes, functors

**deep word order**

- increasing communicative dynamism:
  word order reflects "relative degree of importance in comparison with other expressions in the sentence [...]"

- topic focus articulation

condition of **projectivity** !!!
The layer of deep syntax

Po babiččině příjezdu půjdou rodiče do divadla.
[After grandma's arrival the parents will go to the theatre.]
The layers of **deep vs. surface syntax**

- different sets of elementary units
  - 'morphological' lemma vs. tectogrammatical lemma
  - morphological categories vs. grammatemes
  - surface sentence members vs. functors

- different sets of complex units
  - **tagmeme** vs. **semanteme**
The layers of deep vs. surface syntax

- different sets of elementary units
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- different sets of complex units
  - tagmeme vs. semanteme

Tagmemes: only autosemantic / lexical words at TR

- modal verbs
  - Peter \textit{wants} to attend the concert. [to attend + volitive]
  - Charles \textit{has} to pass the exam. [to pass + debitive]

- nominalization
  - After grandma's \textit{arrival} ... \rightarrow [to arrive]

- active / passive verbs \rightarrow [active form]
  - Tato krásná kniha \textit{byla vydána} nakladatelstvím Albatros.
    [This beautiful book was published by the Albatros publishing house.]
The layers of deep vs. surface syntax

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.swapProcessors{direction:-1}

• different sets of complex units
  • tagmeme vs. semanteme

tagmemes: only *autosemantic / lexical words* at TR
  completeness of the representation
  – (surface) ellipses are restored
  – omitted surface subject, object, comparison …


Russian: *Ты видел брата? Вижу [его]. Идёт.*

Spanish: *¿Ves este tronco? [(Do) you see this log?]*
The layers of **deep vs. surface syntax**

- different sets of elementary units
  - 'morphological' lemma vs. tectogrammatical lemma
  - morphological categories vs. grammatemes
  - surface sentence members vs. functors

↔ different sets of complex units

- **tagmeme** vs. **semanteme**

**Tagmemes:** only *autosemantic / lexical words* at TR

*completeness of the representation*

deep word order
- projective trees
- increasing *communicative dynamism*
System of layers in FGD

meaning

proposition \(\xrightarrow{C}\) semanteme

sentence \(\xrightarrow{R}\) tagmeme

formeme \(\xrightarrow{C}\) sema

morpheme

expression

morfol \(\xrightarrow{R}\) morphoneme

phoneme \(\xrightarrow{R}\) distinctive f.
References

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• Sgall, P. a kol. (1986) Úvod do syntaxe a sémantiky. Academia, Praha