Functional Generative Description (FGD)
Syntactic layers

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## System of layers in FGD

<table>
<thead>
<tr>
<th>Deep/Underlying Syntax</th>
<th>Surface Syntax</th>
<th>Morphematics</th>
<th>Morphonology</th>
<th>Phonology/Phonetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>meaning</td>
<td>surface syntax</td>
<td>morphematics</td>
<td>morphonology</td>
<td>phonology/phonetics</td>
</tr>
</tbody>
</table>

**Deep/Underlying Syntax**
- tectogrammar

**Surface Syntax**
- deep / underlying syntax

**Morphology**
- morphonology

**Morphemes**
- morphematics
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
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\[
\begin{align*}
n+1 & \quad \text{function} \\
n & \quad \text{form}
\end{align*}
\]

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

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

meaning

- proposition
- semanteme
- sentence
- tagmeme
- formeme
- sema
- morpheme
- morf
- morphoneme
- phoneme
- distinctive f.

expression

deep / underlying syntax
- tectogrammar
- surface syntax
- morphematics
- morphonology
- phonology

PDT – FGD
Lopatková
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
The layer of **surface syntax**

*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 *(pojmenovavaci)*

  vs. correlating *(usouvztazhujici)* categories

- syntactic: types of relation, **function 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**

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- different sets of complex units
  - tagmeme vs. semanteme

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

- modal verbs
  
  *Peter wants to attend the concert.* [to attend + volitive]
  
  *Charles has to pass the exam.* [to pass + debitive]

- nominalization
  
  *After grandma's arrival … →* [to arrive]

- active / passive verbs → [active form]
  
  *Tato krásná kniha byla vydána nakladatelstvím Albatros.*
  
  [This beautiful book was published by the Albatros publishing house.]
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  - **tagmeme** vs. **semanteme**

Tagmemes: only *autosemantic / lexical words* at TR

- completeness of the representation
  - (surface) ellipses are restored
  - omitted surface subject, object, comparison …

**Czech:** Vidíš bratra? Vidím. Přichází.


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

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

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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

propozition \(\rightarrow\) semanteme

sentence \(\rightarrow\) tagmeme

formeme \(\rightarrow\) sema

morpheme

expression

morf \(\rightarrow\) morphoneme

phoneme \(\rightarrow\) distinctive f.
References

• Sgall, P. (1967) *Generativní popis jazyka a česká deklinace*. Academia, Praha
• Sgall, P. a kol. (1986) *Úvod do syntaxe a sémantiky*. Academia, Praha