Information-structurally driven syntactic configurations
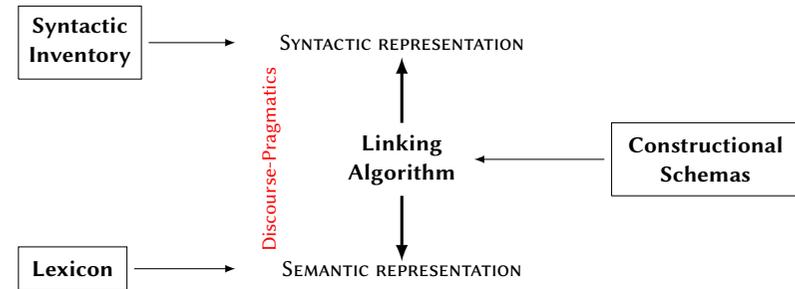
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RRG architecture

Information structure

- information structure
  - structure building effect (special syntactic positions)
  - interpretational effect (assertion-presupposition, alternatives etc.)

- the place of information structure in grammar
  - interfaces: syntax-semantics-pragmatics
  - universals vs. language specific aspects

- Van Valin (2014)
  - Italian: word order
  - English: subject selection
  - Kaluli: case marking
  - Japanese: ellipsis

- today: information structurally driven syntactic structure

Discourse configurationality

- grammatical functions ('subject' / 'object') are not marked by syntactic configurations

  (1) Mia szeret-i   Tomi-t.   Tomi-t   szeret-i   Mia.
       Mia love-3SG.DEF Tom-ACC   Tom-ACC love-3SG.DEF Mia
       'Mia loves Tom.'

- surface order is related to the information structure of the sentence
  - syntactic positions driven by discourse-semantic functions: topic / focus
    ⇒ **discourse-configurational languages**
      [Vilkuna 1989, É. Kiss 1995, 2001, Surányi 2015]

Discourse configurationality

> **Surányi 2015:430**
>
> "the property of discourse-configurationality holds of languages in which there is at least one phrase structure position such that all elements in that position are exclusively mapped to a unique information structural category that falls under the notions of Topic and Focus."

- not necessarily a broad notion of topic/focus
- sub-categories can be mapped
- cross-category notions (contrast) can also be mapped
- the range of grammaticalizing discourse functions varies on a scale
  ⇒ different degrees and types   [Sasse 1995, Öhl 2010, Surányi 2015]
  [see also talk by Latrouite & Van Valin]

Discourse configurationality

- **Hungarian**: preverbal focus position ↦ identificational focus

  (2) Jani be-mutatta   Mari-t   Zsuzsi-nak.
       John vprt-introduced Mary-acc Sue-dat
       'John introduced Mary to Sue.'

  (3) Jani Mari-t   mutatta   be   Zsuzsi-nak.
       John Mary-acc introduced vprt Sue-dat
       'It was Mary whom John introduced to Sue.'

- **Finnish**: left-peripheral position ↦ contrast

  (4) Tukholm-aan Pekka lensi Finnair-illa.
       Stockholm-ill Pekka flew Finnair-with

       1. 'To Stokholm, Pekka flew with Finnair.' (contrastive topic)
       2. 'It is Stokholm that Pekka flew to with Finnair.' (contrastive focus)
       [adapted from Surányi 2015]

Discourse configurationality

- **weak discourse-configurationality**
  - a phrase structural position ↦ information structural category
  - at least one other position ↦ same information structural category

  "In addition to having at least one phrase structural position that is mapped to a unique IS category, a weakly discourse-configurational language also has at least one other position that hosts elements that may (though need not) be associated with the same IS category."   [Surányi 2015:432]

- **strong discourse-configurationality**
  - syntactic position X ↦ information structural category Y
  - information structural category Y ↦ syntactic position X

  "Languages in which the mapping between a particular syntactic position and an information structural category of Topic or/and Focus is bi-unique can be termed strongly discourse-configurational."   [Surányi 2015:433]

Hungarian functional positions

- postverbal field → free word order

  (5) Be-mutatta   Péter az igazgató-t   Mari-nak.
       vprt-introduced Peter the director-acc Mary-dat
       'Peter introduced the director to Mary.'   (all-new)

- preverbal field → word order by discourse-semantic functions
  TOPIC* > DistQ/UnivQ* > ID-FOCUS > Verb > ...

(6) Mari-nak tegnap   mindenki az igazgató-t   mutatta be.
     Mary-dat yesterday everyone the director-acc introduced vprt
     'As for Mary, it was the director that everyone introduced to her yesterday.'

- topic position(s): left-peripheral, iterable
- focus position: immediate preverbal position
  - narrow focus
  - identificational semantics (+ exhausitivity)
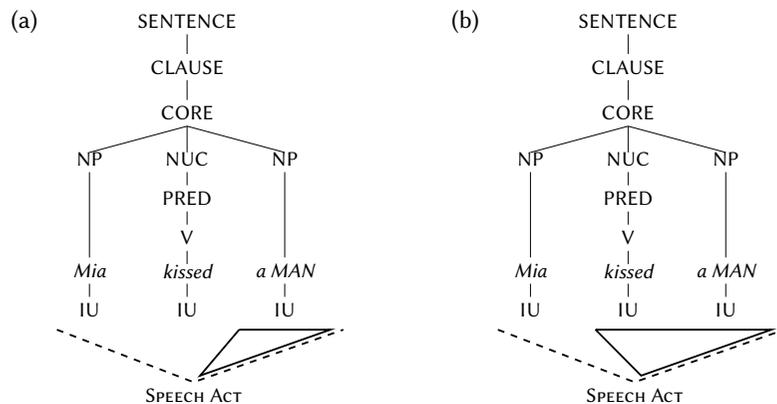 - nuclear pitch accent (+ deaccenting after)

Focus in Hungarian

- various focus types are relevant for sentence structure

- focus position: immediate preverbal position
  - ▸ narrow **identificational focus** → structurally marked
  - ▸ **information focus**: postverbal ("in situ"), merely prosodically marked
    "All and only identificational foci must be fronted to a dedicated left peripheral pre-verbal position, and all and only plain information foci must remain in situ." [Surányi 2015:432]

- **pragmatic focus** → related to but different from information focus
  - ▸ predicate focus → topic-comment structure
  - ▸ sentence focus → V-initial or SVO
  - ▸ associate of additive particles: [Balogh (2019)]
    - ★ preverbal or postverbal
    - ★ different range of focus (narrow, predicate, sentence)
    - ★ outside of focus position and topic position

RRG: focus projection

[Van Valin & LaPolla 1997, Van Valin 2005]

- discourse pragmatics → **focus projection**
- inspired by Lambrecht's (1994) perspective on information structure
  - ▸ **actual focus domain** (AFD): the syntactic domain that corresponds to Lambrecht's focus (domain)
  - ▸ **potential focus domain** (PFD): the syntactic domain where the focus can occur
  - ▸ SPEECH ACT node: scopes over the PFD and the AFD
- both AFD and PFD include one or more **information unit** (IU) nodes
  - ▸ minimal phrasal units in the syntactic representation
  - ▸ carry their corresponding semantic content and the information about being an argument or a predicate of the sentence

RRG: focus projection

- examples: narrow focus (a) and predicate focus (b) constructions

RRG: focus projection

Some open questions:
- representation of the topic-comment distinction
  - ▸ relevance, e.g., linearization constraints of additive particles
- how to link the representation of the focus structure to the semantics of the sentence
- how to derive the assertion-presupposition distinction
- how to distinguish structure building vs. mere interpretational effects of information structure
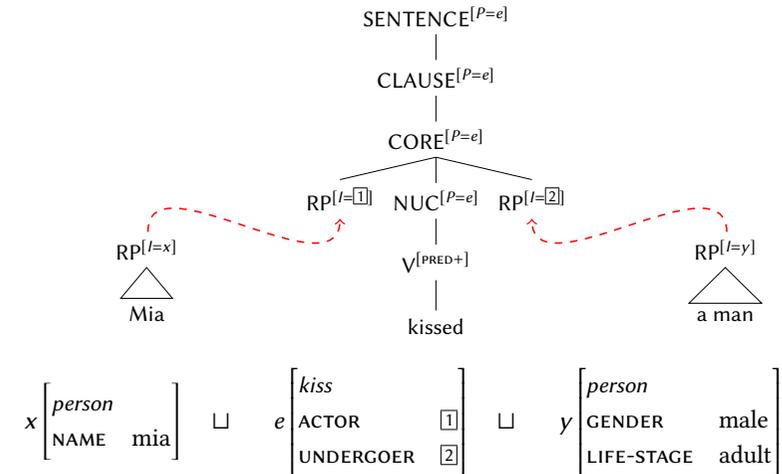
Proposal:
- formalized RRG with decompositional frames
- the link established via the IUs and the respective semantic contents of the sentence parts
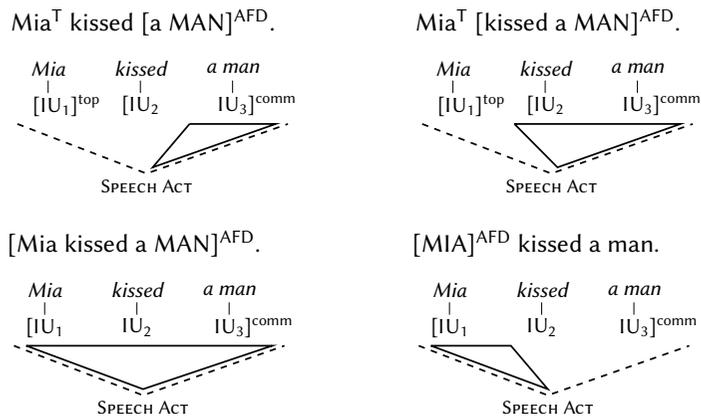- abstract information structure frame replacing the focus projection

Formalized RRG

[Kallmeyer et. al. 2013, Kallmeyer & Osswald 2017, Osswald & Kallmeyer 2018]

- tree nodes illustrated with feature structures
- **interface features**: establish a link between syntax and the semantics
- semantic representation: **decompositional frames**

  [Barsalou 1992, Löbner 2014]

  (≈ conceptual models, conceptual structures)
- **compositionality**
  - semantic composition on a par with syntactic composition
  - syntactic operations trigger unification in the semantics
  - mediated by interface features (I, P)

Formalized RRG: example

$$\text{SENTENCE}^{[P=e]}$$

$$\text{CLAUSE}^{[P=e]}$$

$$\text{CORE}^{[P=e]}$$

$$\text{RP}^{[I=\boxed{1}]} \quad \text{NUC}^{[P=e]} \quad \text{RP}^{[I=\boxed{2}]}$$

$$\text{RP}^{[I=x]} \qquad \text{V}^{[\text{PRED}+]} \qquad \text{RP}^{[I=y]}$$

Mia　　　kissed　　　a man

$$x\begin{bmatrix} person \\ \text{NAME} \quad \text{mia} \end{bmatrix} \sqcup e\begin{bmatrix} kiss \\ \text{ACTOR} \quad \boxed{1} \\ \text{UNDERGOER} \quad \boxed{2} \end{bmatrix} \sqcup y\begin{bmatrix} person \\ \text{GENDER} \quad \text{male} \\ \text{LIFE-STAGE} \quad \text{adult} \end{bmatrix}$$

Information structure projection

Mia$^{\text{T}}$ kissed [a MAN]$^{\text{AFD}}$.

Mia　　　kissed　　　a man

$[\text{IU}_1]^{\text{top}} \quad [\text{IU}_2 \qquad \text{IU}_3]^{\text{comm}}$

SPEECH ACT

Mia$^{\text{T}}$ [kissed a MAN]$^{\text{AFD}}$.

Mia　　　kissed　　　a man

$[\text{IU}_1]^{\text{top}} \quad [\text{IU}_2 \qquad \text{IU}_3]^{\text{comm}}$

SPEECH ACT

[Mia kissed a MAN]$^{\text{AFD}}$.

Mia　　　kissed　　　a man

$[\text{IU}_1 \qquad \text{IU}_2 \qquad \text{IU}_3]^{\text{comm}}$

SPEECH ACT

[MIA]$^{\text{AFD}}$ kissed a man.

Mia　　　kissed　　　a man

$[\text{IU}_1 \qquad \text{IU}_2 \qquad \text{IU}_3]^{\text{comm}}$
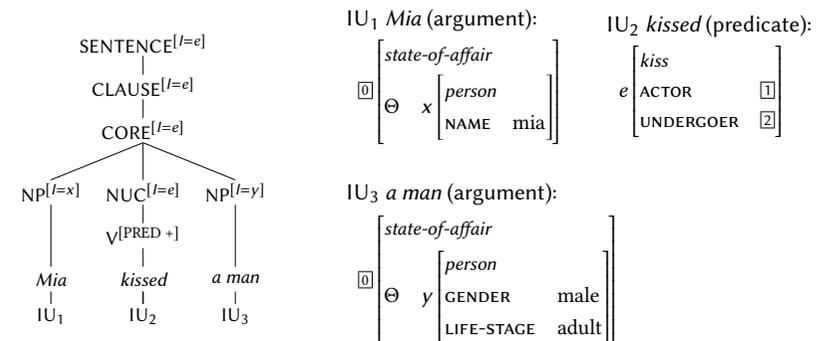
SPEECH ACT

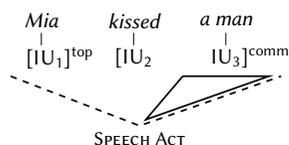✓ representation of the topic-comment distinction

Information units

Information units [IUs]:

- minimal phrasal units in the syntactic representation
- carry their corresponding semantic content + the information about being an argument or a predicate
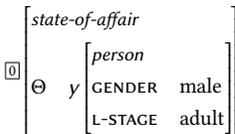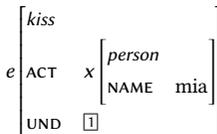
$$\text{SENTENCE}^{[I=e]}$$

$$\text{CLAUSE}^{[I=e]}$$

$$\text{CORE}^{[I=e]}$$

$$\text{NP}^{[I=x]} \quad \text{NUC}^{[I=e]} \quad \text{NP}^{[I=y]}$$

$$\text{V}^{[\text{PRED}+]}$$

Mia　　　kissed　　　a man

IU_1　　IU_2　　IU_3

IU_1 *Mia* (argument):

$$\boxed{0}\begin{bmatrix} state\text{-}of\text{-}affair \\ \Theta \quad x\begin{bmatrix} person \\ \text{NAME} \quad \text{mia} \end{bmatrix} \end{bmatrix}$$

IU_2 *kissed* (predicate):

$$e\begin{bmatrix} kiss \\ \text{ACTOR} \quad \boxed{1} \\ \text{UNDERGOER} \quad \boxed{2} \end{bmatrix}$$

IU_3 *a man* (argument):

$$\boxed{0}\begin{bmatrix} state\text{-}of\text{-}affair \\ \Theta \quad y\begin{bmatrix} person \\ \text{GENDER} \quad \text{male} \\ \text{LIFE-STAGE} \quad \text{adult} \end{bmatrix} \end{bmatrix}$$

Focus structure

Mia^T kissed [a MAN]^{AFD}.

$$
\begin{array}{cccc}
Mia & kissed & a\ man & \\
[IU_1]^{top} & [IU_2 & IU_3]^{comm} & . \\
\end{array}
$$

SPEECH ACT

focus=AFD (IU$_3$):

$$
\boxed{0}\left[\begin{array}{l} \textit{state-of-affair} \\ \Theta \quad y \begin{bmatrix} \textit{person} \\ \text{GENDER} \quad male \\ \text{L-STAGE} \quad adult \end{bmatrix} \end{array}\right]
$$

background (IU$_1$ ⊔ IU$_2$):

$$
e\left[\begin{array}{l} \textit{kiss} \\ \text{ACT} \quad x \begin{bmatrix} \textit{person} \\ \text{NAME} \quad mia \end{bmatrix} \\ \text{UND} \quad \boxed{1} \end{array}\right]
$$

assertion = focus ⊔ background = (IU$_1$ ⊔ IU$_2$) ⊔ IU$_3$

Mia^T [kissed a MAN]^{AFD}.

$$
\begin{array}{cccc}
Mia & kissed & a\ man & \\
[IU_1]^{top} & [IU_2 & IU_3]^{comm} & . \\
\end{array}
$$

SPEECH ACT

focus=AFD (IU$_2$ ⊔ IU$_3$):

$$
e\left[\begin{array}{l} \textit{kiss} \\ \text{ACT} \quad \boxed{1} \\ \text{UND} \quad y \begin{bmatrix} \textit{person} \\ \text{GENDER} \quad male \\ \text{L-STAGE} \quad adult \end{bmatrix} \end{array}\right]
$$

background (IU$_1$):

$$
\boxed{0}\left[\begin{array}{l} \textit{state-of-affair} \\ \Theta \quad x \begin{bmatrix} \textit{person} \\ \text{NAME} \quad mia \end{bmatrix} \end{array}\right]
$$
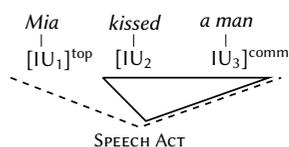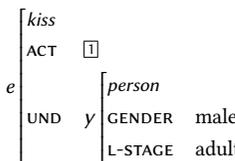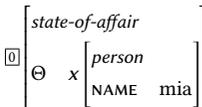
assertion = focus ⊔ background = (IU$_1$ ⊔ IU$_2$) ⊔ IU$_3$

✓ link the representation of the focus structure to the semantics of the sentence
✓ derive the assertion-presupposition distinction

Information structurally driven syntactic positions

- Hungarian: (a-)topic and (id-)focus positions
- proposal: generalized information structure frame as an overlay on syntactic positions
  - representing: TOP, COMM, AFD, NF (COMM = PFD)
  - overlay → direct linking of InfS-functions and syntactic positions
  - determined by constructional schemas
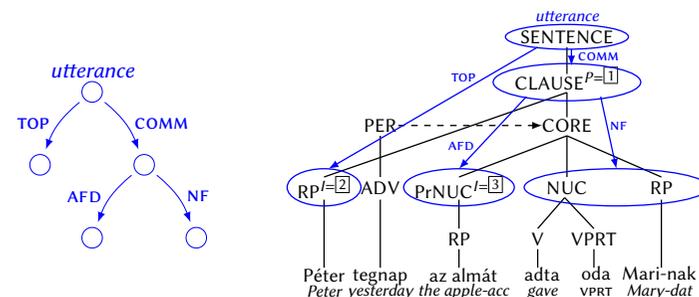
✓ structure building vs. mere interpretational effects of InfS
☹ two representations of information structure

InfS-frame overlay

Proposal:

- InfS-frame overlay generally
- structure building:
  - InfS-functions linked to syntactic positions
  - determined by constructional schemas
- mere interpretational effect:
  - InfS-functions linked to IUs
  - not in constructional schemas

Summary

- discourse configurational languages
- distinguishing structure building and mere interpretational effects of InfS in the grammar architecture
- extensions to (classical) RRG's focus projection
  - representing topic-comment distinction
  - information units represented in more detail
  - focus structure linked to the semantics
  - deriving and representing assertion and presupposition uniformily

Thank you for your attention!

References

- Balogh, K. 2019. Additive particle uses in Hungarian: a Role and Reference Grammar account. *Submitted, under review.*

- Barsalou. L. W. 1992. Frames, concepts, and conceptual fields. In Lehrer & Kittay (eds). *Frames, fields, and contrasts: New essays in semantic and lexical organization.* Hillsdale: Lawrence Erlbaum.

- É. Kiss, K. (ed).1995. *Discourse Configurational Languages.* New York/Oxford: Oxford University Press.

- É. Kiss, K. 2001. Discourse-configurational languages. In Haspelmath et al. (eds). *Language Typology and Language Universals.* Berlin: Mouton de Gruyter.

- Kallmeyer, L. & R. Osswald. 2017. Combining Predicate-Argument Structure and Operator Projection: Clause Structure in Role and Reference Grammar. In Kuhlmann & Scheffler (eds). *Proceedings of the 13th International Workshop on Tree Adjoining Grammars and Related Formalisms (TAG+13).* ACL Anthology.

- Kallmeyer, L., R. Osswald & R. D. Van Valin, Jr. 2013. Tree Wrapping for Role and Reference Grammar. In Morrill & Nederhof (eds). *Proceedings of Formal Grammar 2012 and 2013.* LNSC 8036. Springer.

- Löbner, S. 2014. Evidence for Frames from Human Language. In Gamerschlag et al. (eds). *Frames and Concept Types.* Springer.

References

- Osswald, R. & L. Kallmeyer. 2018. Towards a Formalization of Role and Reference Grammar. In Kailuweit et al. (eds). *Applying and Expanding Role and Reference Grammar* (NIHIN Studies). Freiburg: Albert-Ludwigs-Universität, Universitátsbibliothek.

- Öhl, P. 2010. Formal and Functional Constraints on Constituent Order and their Universality. In Breul (ed). *Comparative and Contrastive Studies of Information Structure.* Amsterdam: John Benjamin.

- Sasse, H-J. 1995. Prominence Typology. In Jacobs et al (eds). *Syntax. An International Handbook of Contemporary Research.* Berlin/New York: de Gruyter,.

- Surányi, B. 2015.

- Vilkuna, M. 1989. *Free Word Order in Finnish. Its Syntax and Discourse Functions.* Helsinki: Suomalaisen Kirjallisuuden Seura.

- Van Valin, Jr., R. D. 2005. *Exploring the Syntax-Semantics Interface.* Cambridge: Cambridge University Press.

- Van Valin, Jr., R. D. 2014. On the Place of Information Structure in a Grammar. In *Comunicación, Cognición, Cibernétic. Actas del XXXI Congreso de AESLA.* The Spanish Society for Applied Linguistics.

- Van Valin, Jr., R. D. and LaPolla. 1997. *Syntax: Structure, Meaning, and Function.* Cambridge: Cambridge University Press.