On the typology of the prosodic expression of focus

Frank Kügler
Goethe University Frankfurt
What is focus? – Hermann Paul

Deutsche Grammatik
(1919, Vol. III, Part IV, Kapitel 1: Aufbau des einfachen Satzes, § 54)

"Fritz fährt morgen nach Potsdam."
“Fritz is going to Potsdam tomorrow.”

(1)a. Where is Karl going tomorrow?
    Karl fährt morgen nach POTSdam.
b. When will Karl go to Potsdam tomorrow?
    Karl fährt MORgen nach Potsdam.
c. How will Karl travel to Potsdam tomorrow?
    Karl FÄHRT morgen nach Potsdam.
d. Who’s going to Potsdam tomorrow?
    KARL fährt morgen nach Potsdam.

- The same information is presented in different ways according to different intentions of the speaker.
- Distinction between grammatical and information structural ("psychologisch") level.
- Linguistic means as expression of information structure – here: prosody (capitalization)
Structure of the talk

- Introduction to Information Structure (IS) – basic concepts and terminology
  - IS
  - Interaction of IS with grammar
  - The cognitive category “Focus”

- Proposal of a typology of the prosodic expression of focus – strategies that languages use
  i. Stress-based cues
  ii. Phrase-based cues
  iii. Register-based cues
  iv. No prosodic cues but syntax and/or morphology

- Summary
Information structure
What is “Information structure” anyway?

Michael Alexander Kirkwood Halliday –

- Halliday (1967) introduced the term to denote the division of information units in spoken languages

  “The distribution of the discourse into information units is obligatory in the sense that the text must consist of a sequence of such units.”
  (Halliday 1967: 200)

(2) a. //John saw the play yesterday//
    b. //John // saw the play yesterday//
    c. //John // saw the play // yesterday//
    d. //John saw the play yesterday but said nothing about it//

⇒ **Unmarked/marked option in mapping information structure to sentence structure.**
⇒ **Information structure is realized phonologically.**
What is “Information structure” anyway?  
(The Potsdam-Berlin research centre)

**Manfred Krifka** –
“[…] characterization of IS […] within a communicative model of Common Ground (CG), which distinguishes between CG content and CG management. IS is concerned with those features of language that affect the local CG. (Krifka 2008:243)

**Caroline Féry** –
“packaging of information that meets the immediate communicative needs of the interlocutors, i.e. the techniques that optimize the form of the message with the goal that it be well understood by the addressee in the current attentional state.” (Féry & Krifka 2008:123)

**Malte Zimmermann** –
“Information structure is that cognitive domain that mediates between the modules of linguistic competence in the narrow sense, such as syntax, phonology, and morphology, and other cognitive faculties which serve the central purpose of the fixation of belief by way of information update, pragmatic reasoning, and general inference processes.” (Zimmermann & Féry 2010:1)
What is “Information structure” anyway? – Conclusion

Properties of information structure:

- **Structuring** of information within a sentence/utterance
- For optimization of information **transfer**
- Between interlocutors in **discourse**

Abstracting away from speaker intuitions: “The information structure of a particular clause is determined by the larger sentence or discourse of which it is a part (i.e., its context).” (Foley 1994:1678).

**IS-Categories are cognitive entities:**
Properties of mental representation of entities and situations in a discourse model of a speaker/hearer, which **may be but must not be expressed** cross-linguistically or language internally.
Information structural categories
Categories – overview

Common pairs of dimensions of Information structure

(i) Focus – background
(ii) Given – new
(iii) Topic – comment (Krifka 2008)

Definition of the concepts and examples

These dimensions are orthogonal to each other
Focus – background

(7) “Focus indicates the presence of alternatives that are relevant for the interpretation of linguistic expressions.” (Krifka 2008: 247)

Along the lines of alternative semantics (Rooth 1992).

Nothing said about focus marking, i.e. the linguistic expression of focus.

A particular way of marking a focus signals how the alternatives are exploited:

– Cleft sentences ~ exhaustiveness (≠ in situ focus)

Languages may vary as to how they mark a focus.
Focus – background: Pragmatic use of focus

Question-answer pair: question denotes a set of propositions. The answer identifies one of these propositions and adds it to the CG content.

Information focus.

(8) a. Who stole the cookie?
   b. [Peter]₀ stole the cookie. (Krifka 2008:250)

Correct or confirm information: Focus alternatives must include a proposition which was proposed in the immediately preceding CG.

(9) a. Mary stole the cookie.
   b. (No,) [Peter]₀ stole the cookie!
   c. Yes, [Mary]₀ stole the cookie. (Krifka 2008:252)

Highlighting parallels in interpretations (p.252)

(10) Mary stole the COOkie and PEter stole the CHOcolate.
Focus – background: Semantic effect of focus

Semantic operators whose interpretational effects depend on focus are associated with focus.

**Only**: Focus denotation is the only one among the alternatives that leads to a true assertion

(11) a. John only showed Mary [the PICTures]_F.
    b. John only showed [MARY]_F the pictures.

Focus particle takes scope over focus:

(13) John only introduced Mary to Sue.
    - only Mary / only Sue / only introduced / only introduced Mary to Sue
    - *only John (no c-command)
Information status – dimension of given–new

Halliday (1967):
New information is “not being recoverable from the preceding discourse.” (204)
Given information “is offered as recoverable anaphorically or situationally.” (211)

(14) Q: Who painted the shed yesterday?
   A: // John painted the shed yesterday // (p.207)
       → (painted the shed yesterday)_{given}

However, Halliday views new information in relation to focus: “what is focal is ‘new’ information” (p.204) (“information focus”), and given information in relation to the background.

Prince (1981):
Three-way distinction of “familiarity scale”: new – inferable – evoked (given)

Clark & Haviland (1977) propose the “given-before-new” order.
Information status – dimension of given–new

**Given:** “denotation of an expression is present in the immediate CG content” (Krifka 2008:262)

(15) A feature X of an expression \( \alpha \) is a Givenness feature iff X indicates whether the denotation of \( \alpha \) is present in the CG or not, and/or indicates the degree to which it is present in the immediate CG. (p.262)

This definition makes reference to **degrees of givenness**.

Expression: Deaccentuation (16a), deletion (b), word order (c)

(16) a. Ten years after John inherited an old farm, he sold [the shed]\(_{\text{Given}}\).
    b. Bill went to Greenland, and Mary did ___ too.
    c. Bill showed the boy a girl.
       *Bill showed a boy the girl.
          Bill showed the girl to a boy. \( (\text{given} \sim \text{indefinite}) \)

Relation between focus and givenness:

(17) A: I know that John stole a cookie. What did he do then?
    B: He [reTURNED [the cookie]\(_{\text{Given}}\)]\(_{\text{Focus}}\) \( (\text{Krifka 2008:264}) \)
Newness & focus are different cognitive notions

Contrary Halliday (1967):
Acoustics: Katz & Selkirk (2011);
SOF: Féry & Ishihara (2009), Beaver et al. (2007)
Processing: Chen et al. (2012 eye-tracking, 2014 ERP)

(18)  a. Jane could not get the soap on the top of the shelf.
       b. It was Tom who helped her.

(19) Jane went shopping with Tom and others. She could not get the soap on the top of the shelf. It was Tom who helped her.

<Tom> represents the focus and is new in (18b).

<Tom> is given and represents the focus with context (19).
<table>
<thead>
<tr>
<th>Condition</th>
<th>Context</th>
<th>Target sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>New/focus</td>
<td>Heren was persuading his friends to go on an outing. (He) ignored that the weather forecast had predicted a bad weather.</td>
<td>At that time it was <strong>Zhongying</strong> (who) opposed him reasonably.</td>
</tr>
<tr>
<td>New/non-focus</td>
<td>Heren was persuading his friends to go on an outing. (He) ignored that the weather forecast had predicted a bad weather.</td>
<td>At that time <strong>Zhongying</strong> opposed him reasonably.</td>
</tr>
<tr>
<td>Given/focus</td>
<td>Heren was persuading <strong>Zhongying</strong> and others to go on an outing. (He) ignored that the weather forecast had predicted a bad weather.</td>
<td>At that time it was <strong>Zhongying</strong> (who) opposed him reasonably.</td>
</tr>
<tr>
<td>Given/non-focus</td>
<td>Heren was persuading <strong>Zhongying</strong> and others to go on an outing. (He) ignored that the weather forecast had predicted a bad weather.</td>
<td>At that time <strong>Zhongying</strong> opposed him reasonably.</td>
</tr>
</tbody>
</table>
Processing: Chen et al. (2012 eye-tracking, 2014 ERP)

Eye-tracking in reading:
focused information took less time to read than non-focused information
new information took longer to read than given information
(First fixation, gaze duration, total time, total number of fixations)
⇒ processing pattern of focus was different from that of newness

ERP in reading / comprehension:
Focus shows a larger P2, larger positivity than non-focused words,
reflecting attention allocation and immediate integration of focused information.
New words show larger N4, smaller LPC than given words,
reflecting difficult integration or memory retrieval of new information.
⇒ differences in processing patterns between focus and newness

Focus and newness are different concepts (cf. Féry & Krifka 2008) that relate to different aspects of cognitive processing.
Topic – comment

For an overview see van Kuppevelt (1994)

**Topic:** “the entity that a speaker identifies about which then information, the comment, is given.” (Krifka 2008:265)

(20) “The topic constituent identifies the entity or set of entities under which the information expressed in the comment constituent should be stored in the CG content.” (p. 265)

“File-card-like” structure of information storage

Testing the status of an entity as aboutness topic:
- “*as for*”-paraphrase, *about*-paraphrase

(21) a. [Aristotle Onassis]_Topic_ [married Jacqueline Kennedy]_Comment_. (p.265)
   b. As for Aristotle Onassis, he married Jacqueline Kennedy.

Topics frequently refer to given or inferable constituents in discourse, **BUT** may be new as well, introducing a new discourse referent:

(22) [A good friend of mine]_Topic_ [married Britney Spears last year]_Comment_. (p.265)

----------- new -----------
Confusion with focus–background structure, but a comment must not be identical to the focus:

(23) A: When did [Aristotle Onassis] \_Topic marry Jacqueline Kennedy?

A topic may contain a focus, thus rendering it as a contrastive topic (cf. also Büring 1997, 2003; Gast 2010). The focus indicates an alternative aboutness topic.

Function: incremental update in the CG management.

(24) A: What do your siblings do?

A sentence needs not to have a topic – “thetic sentence”

(25) [The HOUSE is on fire] \_Comment. (p.267)
Information Structure – Summary

- IS refers to the structuring of utterances
- For information transfer
- In discourse
- Cognitive categories that interact with linguistic modules
  - Focus
  - Givenness
  - Topic
- Languages differ how they linguistically express these categories
- Prosody is one way of expressing these cognitive categories – which not all languages in the world make use of
A typology of the prosodic expression of focus
A typology of the prosodic expression of focus

- Languages vary widely as to which prosodic cues signal IS (Jun 2005, 2014; Kügler 2011; Downing & Rialland 2016).

- Variation in the prosodic realization of IS can be subsumed by underlying principles ~ common phonological structures present cross-linguistically (Truckenbrodt 1995; Büring 2010; Féry 2013).

- Three different prosodic strategies to express IS found to date in the languages of the world.
  - Stress-based systems (e.g. English, German, Russian, Greek, Estonian, Persian, …)
  - Phrase-based systems (e.g. Korean, Chichewa, French, Japanese, Georgian, Xhosa, …)
  - Register-based systems (e.g. Mandarin, Hindi, Akan, Jaminjung, Serbo-Croatian, …)

- Languages that do mark IS by means of prosody
  - Yucatec Maya, Northern Sotho, …
A typology of the prosodic expression of focus

Stress-based systems
Stress-based strategy

- Most well-studied type of prosodic encoding of IS.
- The focused word in an utterance is the most prosodically prominent one (e.g. Selkirk 1995; Ladd 2008; Büring 2010, Calhoun 2010).
- Stress-based prominence is marked by phonetic and phonological cues to increase the prominence of a word relative to others in the utterance.

- Phonetic cues:
  - higher fundamental frequency (f0)
  - greater f0 movement
  - lengthening
  - increased intensity and higher spectral tilt on the word
  - a drop in f0 after it

(Ladd 2008; Breen et al. 2010; Fletcher 2010; Turk 2011)
Stress-based strategy

- Phonological cues:
  - Main stressed syllable = head of the largest prosodic phrase that it is part of
  - Head of the \( \iota \)-phrase carries a nuclear pitch accent
- Indirect marking of focus – via phonology

Figure 1. Focus position affects prosodic realisation. Metrical grid and F0 contour.
Intonation and prominence – German

Realization of focus in intonation languages may occur at any sentence position, no effect of word order variation

Factors in a production study:
- Information structure (wide focus, narrow focus on arguments)
- Number of arguments in a sentence (1, 2, 3)
- Word order (N, D, A)

Speech materials, example:
The sheep wanted to introduce the buck to the lion. Why didn’t he do this?

*Weil der Hammel den Rammler dem Hummer vorgestellt hat.*

‘Because the sheep introduced the buck to the lobster.’

(Féry & Kügler 2008)
Intonation and prominence – German

(Féry & Kügler 2008)
Intonation and prominence – Perception

Higher scaling of H* accent shows high congruence in contrastive context

• Manipulation of F0-peak in
  (i) natural speech
  (ii) speech synthesis MARY
  (Schröder & Trouvain 2003)

(i) Original synthesis in MARY
(ii) Focus-adapted synthesis in MARY

Martin hat den Wal gesehen
Intonation and prominence – post-focal area

Option 1

(\(x\)) (i-phrase)
(\(x\)) (\(\Phi\)-phrase)
(\(x\)) (\(x\)) (\(x\)) (\(x\)) (\(\omega\)-word)

[vorgestellt\(\Phi\)] \(\Phi\) [hat der Hummer]\(\Phi\) [den Reiher]\(\Phi\) [dem Hammel]\(\Phi\)

- Flat post-focal F0 and declination, no pitch accents.

Option 2

(\(x\)) (i-phrase)
(\(x\)) (\(\Phi\)-phrase)
(\(x\)) (\(x\)) (\(x\)) (\(x\)) (\(\omega\)-word)

[vorgestellt\(\Phi\)] \(\Phi\) [hat der Hummer]\(\Phi\) [den Reiher]\(\Phi\) [dem Hammel]\(\Phi\)

- Post-focal pitch accents as head of \(\Phi\)-phrase, downstep (as in pre-focal constituents, cf. Féry & Kügler 2008).

“Introduced has the lobster the heron to the sheep”
Intonation and prominence – post-focal area

(Kügler & Féry 2017)
Intonation and prominence – post-focal area

- Downstep in post-focal area.
- Or just declination?

- Prosodic structure in post-focal area is retained (pitch accents); compressed pitch register.

- No correlation between F0-maxima and distance in time between F0-maxima.
  - Downstep in post-focal constituents

(Kügler & Féry 2017)
German – Discussion

Prosodic expression of focus:

– Phonologically, it is the nuclear accent or sentence accent that is realized on the focused constituent.

– Phonetically, F0 of the nuclear pitch accent is raised under focus, and a large drop-down in F0 after the focused constituent occurs.

– Raised F0 is perceptually used to identify a focused constituent.

– Post-focal pitch register compression leads to very reduced pitch accents.
Stress-based strategy – Type of nuclear accent

- Type of pitch accent and boundary tone signal IS (in particular in Romance languages, e.g. Frota & Prieto 2015)
- Sardinian (del Mar Vanrell et al. 2015)
  - Broad focus (H+L*)
  - Narrow focus (H*+L)

Alignment of the accent peak is earlier in broad focus.
Stress-based strategy – Variation in Arabic varieties

**Lebanese Arabic**
Realisation of narrow focus on the initial subject with following deaccentuation.

**Egyptian Arabic**
Realisation of narrow focus on the initial subject with following post-nuclear pitch accents.

(from Chahal & Hellmuth 2014)
Stress-based strategy – Summary

- Stress-based cues – higher F0 on the focus and F0 drop after the focus (e.g. in German)
- Phonetic cues enhance prominence of focused constituent.
- Phonetic cues are perceptually salient to identify a focus.
- Phonological differences in e.g. Romance languages, different pitch accent types signalling broad and narrow focus.

Typology:
- Stress-based systems are widely spread over the world’s languages (no particular language family).
- Different strategies between closely related languages or varieties (e.g. Arabic varieties).
A typology of the prosodic expression of focus

Phrase-based systems
Phrase-based strategy

- Languages predominantly do not have stress
- Prominence can not use stress-based cues
- Basic intonation unit: phrase tones
- Prosodic phrasing – inducing phrase boundaries and/or dephrase post-focal constituents
- Presence or absence of phrase boundaries enhances the prominence of the focused constituent
- Korean

- Korean:
  - No lexical pitch accent, no stress; accentual (here: φ) and intonation phrase (ι)
  - Each φ-phrase is tonally marked by two rising patterns, initial and final: (LH … LH)φ
  - Focus: A boundary before the focused constituent; dephrasing of post-focal constituents

(22) a. miraneka neil tfənjəke bananaril məkninte
    mira.family.GEN tomorrow night banana.PL eat.PRO
    ‘Mira’s family is eating bananas tomorrow night.’

b. phrasing in broad focus
   ((LH LH)φ (LH LH)φ (LH LH)φ (LH LH)φ (LH LH)φ (LH L)φ L%)ι

c. phrasing in narrow focus, e.g. focus on second φ-phrase
   ((LH LH)φ (LH L)φ L%)ι

(Korean, Jun & Lee 1998; prosodic phrasing is our own)

- Korean:
  - Phonetics of the rise:
    The focused constituent was realized with higher phrase-initial pitch, longer duration, and higher intensity.
  - Upper point of the grey scale shows the increased pitch in focus compared to the upper black point of broad focus
  - Pitch on the following word (lower point in Figure 4) is mainly lower in focus, or the drop in pitch after the focus is larger.

(from Jun & Lee 1998: 3)
Phrase-based strategy – Chichewa, (Kanerva 1990)

**Chichewa:**
- Two-tone Bantu language.
- Phrasing: Phrase-penultimate vowel lengthening.
- Focus: Insertion of a prosodic boundary at the right edge of a focused constituent.

(23) a. VP focus: What did he do?
   (Anaményá nyumbá ndí mwáála)φ
   he hit the house with a rock
   ‘He hit the house with a rock.’

b. PP focus: What did he hit the house with?
   (Anaményá nyumbá ndí mwáála)φ

c. Object focus: What did he hit with the rock?
   (Anaményá nyúúmba)φ (ndí mwáála)φ

 d. Verb focus: What did he do to the house with the rock?
   (Anaméënya)φ (nyuúmba)φ (ndí mwáála)φ
   (Chichewa, adapted from Kanerva 1990: 156)
Phrase-based strategy – Summary

- Languages thus differ as to where a phrase boundary is inserted
  - Korean: Boundary insertion left of the focus
  - Chichewa: Boundary insertion to the right of the focus

- Languages have no stress, hence no possible stress-based cues to mark focus with.

- Focus marking
  - by means of duration cues that relate to a prosodic boundary (Chichewa)
  - by means of F0 which relates to a tone (Korean)

- Further languages:
  French, West Greenlandic, Japanese, Georgian, Shingazidja, Xhosa
A typology of the prosodic expression of focus

Register-based systems
Register-based strategy

- Focus affects the pitch register.
- Pitch register: reference lines relative to which local tonal targets are scaled (Clements 1979; Ladd 2008).
- Effect of Focus:
  - Increasing the prominence of the focused element by increasing the pitch register.
  - Reduction of prominence by compressing the post-focal pitch register.
- Mandarin
Register-based strategy – Mandarin

- Mandarin:
  - Four lexical tones; F0 is occupied to maintain the distinction of lexical tone
  - Focus: Pitch register expansion in Mandarin Chinese (Xu 1999:64)
  - Post-focal pitch register compression
Register-based strategy – Hindi

- Hindi:
  - No stress (presence of lexical stress is disputed)
  - Every prosodic phrase (roughly syntactic constituent) is associated with an F0 rise – possibly phrase tones; function: word demarcation
  - “Phrase language” (Féry 2017): no pitch accents, but only boundary tones

- Downstep
- No register raising
- Post-focal register compression (PFC)

*graahak ne davaai ko khariidaa*

“Customer bought the medicine.”

(Patil, Kentner, Gollrad, Kügler, Féry, Vasishth 2008)
Register-based strategy – Hindi PFC

Do listeners use the prosodic cue PFC in sentence processing? In particular, do listeners identify the focus on the basis of PFC?

Sentence completion task:

(24) raahul ne mãã ko davaaii dii naa ki …
Raahul ERG mother DAT medicine give NEG that
“Raahul gave the medicine to the mother and not … ”

Predictions

If PFC is present, listeners will identify the indirect object contrast correctly.

If PFC is absent, listeners will show a chance level identification of the contrast.

(Kügler, submitted)
Register-based strategy – Hindi PFC

- Prosodic differentiation of (24):
  - Contrast on indirect object shows PFC on the following object
  - Contrast on direct object shows no PFC on following verb
- Speaker variation: lesser & higher degree of PFC

(Kügler, submitted)
Register-based strategy – Hindi PFC

Speech materials and experimental design
Data from 3 groups of speakers:
  (i) 0 Hz PFC (ii) 10 Hz PFC (iii) 30 Hz PFC
Sentence fragments from five sentences (cf. (2))
  – Original data from production study were cut after the conjunction “ki”
  – Random presentation of fragments with PRAAT–MFC
  – 18 listeners x 5 sentences x 2 conditions x 6 speakers = 1080 trials

Listeners 18 native Hindi listeners (mean age 27 years)

Task
Forced choice sentence completion
Register-based strategy – Hindi PFC

- Higher (75.6 %) correct sentence completion identification for speakers with PFC
  Chance level performance for speakers without PFC.

- The presence of PFC matters for focus perception:
  If PFC is present, listeners identify the correct sentence completion. If PFC is not present, listeners perform on chance level.

➢ Pitch register is a cue for focus perception!

**Interaction plot:** Speakers with no PFC (dotted line) compared to speakers with PFC (solid line) split by condition (Obj. vs. Ind. Obj. contrast)

(Kügler, submitted)
Register-based strategy – Summary

- Languages that show expansion or compression of pitch register.
- Prosodic cue of F0 is used to signal phonological contrasts, e.g. lexical tone.
- No pitch accents.
- Pitch register expansion or compression leaves space for realization of tones.
- Pitch register information is functionally used to identify the focus structure (similar function like pitch accents and boundary tones).
A typology of the prosodic expression of focus

Languages with no prosodic marking of focus
No prosodic marking – Yucatec Maya

- Yucatec Maya (Kügler & Skopeteas 2006, 2007)
  - Two lexical tones, H / L, on syllables with long vowels
  - No tone on syllables with short vowels

(24) luk’ul ‘goes away’ - lúuk’ul ‘swallow’ - lùuk ‘capot’

- Syntax: VOS language (25) with pre-verbal focus position (26)

(25) t-u hàant-ah òon Pedro.
  pfv-a.3 eat:TRR-CMPL avocado Pedro
  ‘Pedro ate avocado.’

(26) òon t-u hàant-ah Pedro
  avocado pfv-a.3 eat:TRR-CMPL Pedro
  ‘It was an avocado, that Pedro ate.’
No prosodic marking – Yucatec Maya

Speech materials

(i) Non-contrastive condition

Q: *ba’x t-a w-il-ah ich-e kòol-o’?*
   what pfv-2.sg 0-see-cmpl in-def cornfield-d2
   'What did you see in the corn field?'

A: *t-in w-il-ah hun-kúul che’ kóom ich-e kòol-o’.*
   pfv-1.sg 0-see-cmpl one-cl.plant tree short in-def cornfield-d2
   'I saw a short tree in the cornfield.'

(ii) Contrastive condition

Q: *t-in w-il-ah hun-kúul che’ chowak ich-e kòol-o’.*
   pfv-1.sg 0-see-cmpl one-cl.plant tree long in-def cornfield-d2
   'I saw a long tree in the cornfield.'

A: *ma t-in w-il-ah hun-kúul che’ kóom ich-e kòol-o’.*
   no pfv-1.sg 0-see-cmpl one-cl.plant tree short in-def cornfield-d2
   'No, I saw a short tree in the cornfield.'
No prosodic marking – Yucatec Maya

No tonal difference between contrastive and non-contrastive focus for low tones (L) and syllables with no tone (N).

In contrast to other languages, the H-tone in non-contrastive contexts is higher than in contrastive contexts (Kügler & Skopeteas 2007b)

Similar results for target words in pre-verbal focus position (Kügler & Skopeteas 2006; Gussenhoven & Teeuw 2008)

➢ Only syntactic focus marking
No prosodic marking – Summary

- Languages may not use prosody to encode focus.
- Usually, these languages show a designated syntactic position for focus (often sentence-initial or -final).
- Word order type and position for a focus seem to covary.
  - V-initial languages ~ sentence-initial focus position
  - SVO languages ~ sentence-final focus
  - V-final languages ~ pre-verbal focus position
- This position often correlates with nuclear prosodic prominence.
- However, languages may show no correlation between a syntactic focus position and prosodic prominence – Yucatec Maya.
  - No prosodic marking of pre-verbal or in-situ focus
- Other languages: Wolof, Sotho, Beaver, …
Summary

▪ Information structure
  – For communication purposes, optimization of a message to be understood
  – Common ground content and management
  – Mediates between the linguistic modules of syntax, morphology and phonology

▪ Focus as a cognitive category of IS

▪ Languages use different linguistic means to express IS categories – Prosody is just one possible way of expressing focus
Summary

- Three prosodic strategies to express a focus:

<table>
<thead>
<tr>
<th>Cues</th>
<th>Stress-based</th>
<th>Phrase-based</th>
<th>Register-based</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F0, duration, intensity</td>
<td>duration ~ phrase boundary</td>
<td>pitch register</td>
</tr>
<tr>
<td></td>
<td>Pitch accent type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>German</td>
<td>Korean</td>
<td>Mandarin</td>
</tr>
<tr>
<td>Other languages</td>
<td>English (Germanic), Russian, Estonian, Persian, Torau (Oceanic), Paraguayan Guaraní</td>
<td>French, Japanese, Georgian, Shingazidja, Xhosa (Bantu)</td>
<td>Hindi, West Greenlandic, Jaminjing, Serbo-Croatian, Akan</td>
</tr>
</tbody>
</table>

- Languages without prosodic marking of focus may use syntactic and/or morphological means (e.g. Yucatec Maya, Kügler & Skopeteas 2007).
This typology of focus expression is joint work with Sasha Calhoun and will appear as:


Manuscript at: https://user.uni-frankfurt.de/~kuegler/#publications
Acknowledgements

Over the past years, this work was funded by the DFG (grants SFB 632, D5 & T2; KU 2323/1-2, KU 2323/3-1, KU 2323/4-1). Special thanks to all language informants and all colleagues at the Universities of Potsdam, Cologne and Frankfurt.

Gracias!
Grácies!
Thank you!
References


