

Annotation of Prosody and Information Structure in PAGE (WP 5 & 6)

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■ Aims

- Develop multi-level annotation scheme, with basic sets of categories for different levels
- Prerequisite for research questions dealing with convergence in
 - type of pitch accent, type of boundary tone in head-marking (Dutch, English) vs. edge-marking languages (Maltese, Papua Malay)
 - prosody of backchannels
 - speech rate, rhythm
 - timing in turn-taking
 - prosodic marking of given, accessible and new and/or focused elements

■ Aims

- Scheme should be largely language-independent
- All investigated languages have pitch accents and boundary tones (lexical tone in Iha?)

■ Prosody annotation

- ‘Discrete’ prosody (based on autosegmental-metrical principles)
- Phonetically informed phonological transcription
- Tones: only turning points / tonal targets (L, H, !H)
- Boundaries: one level only (# or %)
(align tones – additionally – with boundaries?)
- Prominences: one level only (*)
(align with prominent syllables; if present, align with a tone)

■ Prosody annotation

- In proposal:

	segments semi-automatic	gradual prosody automatic	discrete prosody: ToBI	discrete prosody: RPT
Dutch	+	+	?	+
English	+	+	?	+
Maltese	after training	after training	+	?
Papuan	after training	after training	-	+

■ Rapid Prosody Transcription

- Developed by Jennifer Cole and colleagues (e.g. Cole et al. 2010; Cole 2012)
- Method for collecting coarse-grained prosodic judgements from untrained listeners based on their integrated perception of form and function

■ Rapid Prosody Transcription

- Transcribers mark prominent words and boundaries on a printed transcript (no capitalisation, no punctuation), only brief instruction, no examples

word word word || word

- Probabilistic P(rominence)- and B(oundary)-scores for each word:
= *percentage of subjects who label a word as prominent / who perceive a boundary after a word*

Information structure annotation

- Three relevant levels for the interplay between prosody and information structure
- 1. Information status (given-new) at *referential* level
 - relations between referring expressions (individuals, places, facts)
= givenness as coreference
- 2. Information status (given-new) at *lexical* level
 - relations between lexemes = givenness as repetition, synonymy or hyponymy of words (and the concepts they denote)
- 3. “Contrastive” Focus
 - constellations triggering clearly identifiable alternative sets of a constituent

Information structure annotation

- Yesterday, a friend of mine prepared a laSagne for me.

→ 1 I found it hard to enJOY the tasteless stuff.
(deaccentuation due to coreference)

→ 2 It tasted much better than my OWN lasagne.
(deaccentuation due to lexical givenness)

- Was it Mary or John who invited you to the party?

→ 3 It was JOHN.
(accentuation due to contrastive focus,
despite referential and lexical givenness)

RefLex (simplified) – Referential level (1)

Units: Definite DPs	
r-given	anaphor corefers with antecedent in previous discourse
r-bridging	anaphor can be resolved to non-coreferring antecedent or within a described scenario
r-unused	discourse-new, non-anaphoric definite expression referring to an item which is generally known or identifiable from its own linguistic description
Units: Definite or Indefinite DPs	
r-generic	abstract or generic item
Units: Indefinite DPs	
r-new	specific or existential indefinite introducing a new referent

(Baumann & Riester 2012, 2013)

■ RefLex (simplified) – Lexical level (2)

Units: Nouns (or NPs)	
I-given	noun is a repetition (excluding homonyms) or a synonym, or it is lexically superordinate to a previous noun (markable is a hypernym, holonym, superset)
I-accessible	noun is lexically subordinate to previous noun (markable is a hyponym, meronym, subset)
I-new	noun not related to another noun

extendable to other content words (esp. verbs and adjectives)

RefLex examples

A colleague came in.	The	idiot	dropped a vase.
		L-NEW	
	R-GIVEN		

A	man	came in.	Another	man	left.
	L-NEW			L-GIVEN	
R-NEW			R-NEW		

RefLex examples

The	man	who stole	my	wallet	yesterday	is very tall.
	L-NEW			L-NEW		
			R-UNUSED			
R-UNUSED						

John	lives	in	Italy	and is married	to a	Neapolitan.
L-NEW			L-NEW			L-ACCESSIBLE
R-UNUSED		R-UNUSED			R-NEW	

(Riester & Baumann 2013)

Focus annotation in RefLex (3)

- Label “ALT” marks alternative-eliciting features

Sublabel of ALT	Description
FSP	Item is associated with a <u>focus-sensitive</u> <u>particle</u> .
OVERT	Item is an element of a pair or list of <u>overtly</u> contrastive expressions
-ARG	- Type-identical <u>arguments</u> of the same predicate.
-COMP	- Items occur in a <u>comparative</u> construction.
-COORD	- Items are <u>coordinated</u> .
-EXT	- Items occur in different sentences – sentence- <u>external</u> contrast
SEL	Item <u>selects</u> one element from a pair or list of <i>previously</i> introduced alternatives.

Focus annotation in RefLex

- Focus-sensitive particles (ALT-FSP)

Ein	starkes	Erdbeben	hat	Zentral-Japan	erschüttert.
				ALT-OVERT-EXT	

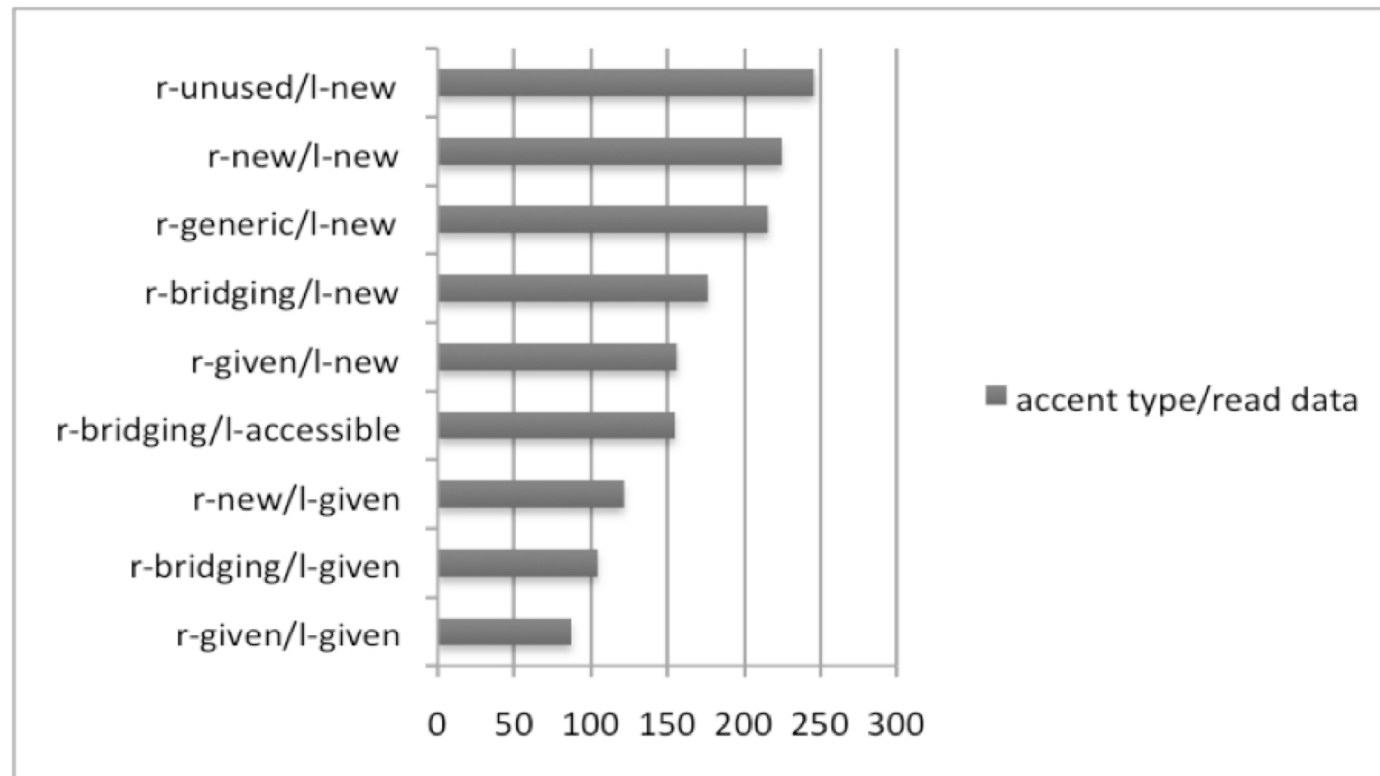
Auch	im	Inselstaat	Vanuatu	im	Südpazifik	wurden	zwei	Beben	registriert.
	ALT-FSP / ALT-OVERT-EXT								

A strong earthquake has hit central Japan.

Also in the island state of Vanuatu in the South Pacific two earthquakes have been registered.

RefLex and Prosody

- Example of prominence measure (read German data):
RefLex combinations and their relation to accent types
($P_{AT} = \text{ratio of } [H^*] * 4 + \text{ratio of } [!H^*] * 3 + \text{ratio of early peak accents} * 2 + \text{ratio of } [L^*]$)



■ Annotation Example

➔ Praat (“zdf” example)

- Und auch den Zivildienst muss keiner mehr machen.
and also the civillian service must nobody anymore do
“And nobody has to do the civillian service anymore either”
- “auch den Zivildienst” -> ALT-FSP
- “muss” -> probably an overtly contrastive element in the previous sentence -> ALT-OVERT-EXT ?

■ To Do / Questions

- Further levels to be included
 - feedback expressions & turn-taking (Elina)
 - hand gestures, body and head movements (imported from ELAN) (Maciej, Marc)
 - how to deal with large number of levels in Praat?
- What else?
 - insert English glosses in Textgrids?
 - speech acts?
 - syntax and morphology?
 - topic-comment, theme-rheme?

■ To Do / Questions

- General data requirements
 - segmentation in syllables, words, intonation units, turns
 - English glosses for each word (plus information on lexical stress)
 - annotations have to be checked by native speakers (exception: Papuan data?)

To Do / Questions

	segments semi-automatic	gradual prosody automatic	discrete prosody: ToBI	discrete prosody: RPT
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- Who annotates prosody and IS for Dutch and the English varieties?
- Who collects RPT data for Dutch and the English varieties?
- Do we want to collect RPT data for Maltese?
- Is it possible to collect RPT data for Papuan languages?

■ To Do / Questions

- Annotation training in Cologne
 - research/student assistants from Malta, Bari, Munich
 - timeline?

- What is our first crucial research question?
- Where to start?

References

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