

Contrastive topics between syntax and pragmatics in Hungarian: an experimental analysis

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24 June 2010

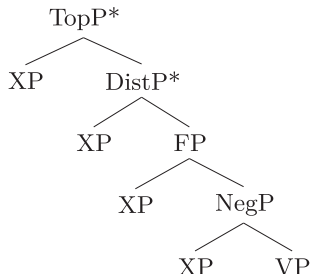
- To use experimental evidence for the first time to investigate the prosody of constituents that appear in the so-called Topic Position of the Hungarian sentence according to É.Kiss (2002).
- To describe the findings and investigate the theoretical consequences of the results.

É. Kiss, K. (2002): *The Syntax of Hungarian*. CUP

Important fact about Hungarian

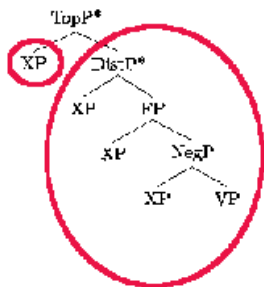
In this language, syntactic roles (subject, object) are marked by case-marking suffixes, therefore structural positions are 'free' to encode other functions, e.g. those of information structuring.

The syntactic structure of the Hungarian sentence according to É. Kiss (2002)



- Basic division: *Topic Part/Field* – *Predicate Part*
- *Topic position* = [Spec, TopP]
- Several TopP projections on top of each other \Rightarrow *Topic Part/Field*
- *Predicate Part* = what follows the *Topic Part*

Additional special positions in the sentence



- [Spec,DistP] = position for distributive quantifiers
- [Spec,FP] = *focus position* (exhaustive interpretation)
- Verbal modifiers (VMs, including verbal prefixes) appear as a default immediately in front of the verb.
- If the focus position is filled, VMs follow the verb.

An example sentence

[_{TopP} *János*_i [_{DistP} *minden lány*_{t_j} [_{FP} *a moziba*_k
John every girl.ACC the cinema.into
[_{VP} *hívott meg t_i t_j t_k*]]]]
invited VM

‘(Where) John invited every girl (was) to the cinema.’

Exhaustive interpretation for the constituent in focus position: If John invited any girl to a place other than the cinema, the sentence is false.

When is a constituent situated in the Topic Part/Field? Condition 1

When it can be followed by sentence adverbials (they can only precede the Predicate Part of the sentence):

(*Sajnos*) **János** (*sajnos*) [_{FP} *MArit* (**sajnos*) *sértette meg.*]
unfortunately John unfort. Mary.ACC unfort. offended VM
'Unfortunately (whom) John offended (was) Mary.'

When is a constituent situated in the Topic Part/Field? Condition 2

When it is FOLLOWED BY (i.e. not identical to or preceded by) “the first obligatory stress, which also represents the heaviest grammatical stress in the sentence [, which] falls on the first major constituent of the predicate. (In Hungarian, phrasal stress – similar to word stress – falls on the left edge, i.e., the Nuclear Stress Rule of Chomsky and Halle (1968) operates in a direction opposite to that attested in English.)” (É. Kiss 2002:11)

Problem: constituents in topic and postverbal positions can also bear major stress (\approx ‘pitch accent’, cf. Varga 1983, 2002).

Suggested modification:

A constituent is situated in the Topic Field/Part if it is followed by the constituent that can only be realized with a “major stress”.

Varga, L. (1983): Hungarian sentence prosody: an outline. *Folia Linguistica* 17: 117-51 Varga, L. (2002): *Intonation and Stress: Evidence from Hungarian*. Palgrave Macmillan: Basingstoke and New York.

Constituents in [Spec,TopP] – Type 1, Context 1

Properties according to É. Kiss (2002) (assumed since the 1980s, original idea: S. Brassai, around 1860)

- *Syntactic properties*: arguments of the verb having the features [+referential] and [+specific].
- *Prosody*: “lack of strong prosodic prominence or pronounced changes in pitch”.
- *Information structure/Function*: “. . . foregrounds an individual (a person, an object, or a group of them) from among those present in the universe of discourse as the subject of the subsequent predication.” (É. Kiss 2002:9) ⇒ TOPIC

[_{TopP} **MÓni/Móni** [_{FP} MANgót evett]].

Móni mango.ACC ate

’(What) Móni ate (was) mango.’

Krifka and Musan (to appear):

“The *topic constituent* identifies the entity or set of entities under which the information expressed in the comment constituent should be stored in the common ground content.”

Q: *Mit* *evett Móni*? A: [_{TopP} ***Móni*** [_{FP} *MANgót* *evett.*]]
what.ACC ate Moni Moni mango.ACC ate

Q: 'What did Moni eat?' A: 'Moni ate mango.'

Krifka, M. and R. Musan (to appear) Basic notions of information structure. In: M. Krifka and R. Musan (to appear) *The expression of information structure*. Mouton.

- *Syntactic Properties*: as for Type 1, Context 1.
- *Prosody*: “rising intonation followed by a marked pause” Szabolcsi (1981); “a particular, contrastive intonation comprised of a brief fall and a long rise” (É. Kiss 2002:22)
- *Information structure/Function*: Topic function plus an ‘as for ...’ surplus (Szabolcsi 1981a), or implicature: “the claim he [the speaker] is making need not be true of something else” (Szabolcsi 1981b). ⇒ CONTRASTIVE TOPIC

Szabolcsi, A. (1981a): Compositionality in Focus. *Folia Linguistica* 15: 141-161.

Szabolcsi, A. (1981b): The Semantics of Topic-Focus Articulation. In: J. Groenendijk, Th. Janssen and M. Stokhof (Hrsg.) *Formal Methods in the Study of Language, Part 1*. Amsterdam, 1-28.

Contrastive topic as a concept of information structuring

Krifka and Musan (to appear):

Contrastive topics “consist of an aboutness topic that contains a focus, which is doing what focus always does, namely indicating an alternative. In this case, it indicates alternative aboutness topics.”

Relevant contexts where contrastive topics appear (Büring 1997,2003):

Q: *Mit ettek a gyerekek?* A: [_{TopP} **MÓni** [_{FP} *MANgót evett.*]]
what.ACC ate the children Moni mango.ACC ate

Q: 'What did the children eat?' A: 'Moni ate mango.'

Q: *Mit evett Marianna?* A: [_{TopP} **MÓni** [_{FP} *MANgót evett.*]]
what.ACC ate Marianna Moni mango.ACC ate

Q: 'What did Marianna eat?' A: 'Moni ate mango.'

Büring, D. (1997): *The Meaning of Topic and Focus. The 59th Street Bridge Accent*. London, New York: Routledge.

Büring, D. (2003): On D-Trees, Beans, and B-Accents. *Linguistics and Philosophy* 26: 511-545.



Constituents in [Spec,TopP] – Type 2

- *Syntactic Properties*: bare (determinerless) nouns, adjectives, adverbs, quantificational noun phrases, and infinite verb forms.
- *Prosody*: ONLY “rising intonation followed by a marked pause”; or “contrastive intonation comprised of a brief fall and a long rise”.
- *Information structure/Function*: expresses the ‘as for ...’-meaning.
- *Truth conditions*: narrow scope w.r.t. other preverbal operators.
- *Important*: without the ‘contrastive’ intonation, these constituents are not acceptable in [Spec,TopP]!

[_{TopP} **Mangó** [_{FP} *MÓ*ni.nál volt.]]

mango Moni.at was

‘As for mangos, Moni had one.’

[_{TopP} **Minden manó** [_{NegP} *nem* [_{FP} *mangót* *vett ki.*]]]

every goblin not mango.ACC took VM

‘All goblins did not take mango.’

Properties of Type 1, and Type 2 constituents in [Spec, TopP] – summary

	<i>Type 1 Context 1</i>	<i>Type 1 Context 2</i>	<i>Type 2</i>
<i>Constituents</i>	referential NPs	referential NPs	also non-NPs
<i>Intonation</i>	'flat'	'rising'	'rising'
<i>Meaning of the rise</i>		pragmatic	syntactic
<i>'Aboutness'?</i>	yes	yes	not in a class. sense
<i>Name in Hung. Literature</i>	Topic	Contrastive Topic ¹	Contrastive Topic ¹

¹ Since Szabolcsi (1981a,b). It follows cross-linguistic practice, cf. Krifka (1998), discussed below, and Büring (1997,2003).

Jacobs (1997) also uses the same term (I-Topik) to refer to German analogues of Hungarian Type 1 constituents in Context 2, and Type 2 constituents.

- Are the prosodic properties of Type 1 constituents in Context 2 and Type 2 constituents really alike, given the fact that intonation has a pragmatic meaning in the case of the former, whereas in the case of the latter it is part of the syntactic licensing conditions?
- Do the prosodic properties of Type 1 constituents in Contexts 1 and 2 correspond to the descriptions in the literature?
- Is the prosody of Type 2 constituents always the same (independently of context)?

Molnár (1998) on the interpretation of [Spec,TopP]

“ “contrastive topics” must show the combined effects of the pragmatically definable “topicality” (as a pragmatic notion referring to aboutness) and the implication of “I-contrast” as one possible reading of the “I-contour”*. Only where all three of these notions co-occur is it meaningful to speak of “contrastive topics”. . . different types of prominent topics in clauses realized with I-contours, where the implication of the double contrast is blocked, must be considered to belong to other topic types. . . ” (p. 116)

Problem: Non-NPs in [Spec,TopP] do not seem to belong to any topic type. What is then the reason for such different expressions like Type 1 and Type 2 ones to appear in exactly the same position?

* A term proposed by Jacobs (1997), denotes an intonation contour consisting of two equally strong accents, a fall-rise followed by a fall.

Jacobs, J. (1997): I-Topikalisierung. *Linguistische Berichte* 168: 91-133.

Molnár, V. (1998): Topic in focus. On the syntax, phonology, semantics and pragmatics of the so-called “contrastive topic” in Hungarian and German. *Acta Linguistica Hungarica* 45: 89-166.

An analogous case in German? Krifka (1998)

(beware the terminological differences!)

- Quantificational expressions situated in [Spec, CP] in German, pronounced with a fall-rise accent: *contrastive topics*, taking either wide or narrow scope with respect to a second operator, pronounced with falling stress.

“the contrastive topic construction . . . is realized by a rise accent, or rather by a slight fall followed by a strong rise” (p. 99)

/ALle Politiker sind NICHT korrupt.

- “contrastive topics are distinct from *regular topics*, even if they *contain an accent* for some reason . . . Regular topics have a *simple rise accent* if they contain a focus.” (p. 99)

Q: Wo sind die Kinder? A: /HANS ist zu HAuse.

Krifka, M. (1998): Scope inversion under the rise-fall pattern in German. *Linguistic Inquiry* 29: 75-112

- Participants: 5 subjects (3 females) between 20 and 30 years.
- Recordings: in a sound-treated room at the Department for Psychology, Hungarian Academy of Sciences, Budapest.
- Recording device: head-mounted microphones connected to a laptop via an external sound card, sample rate: 44.1 kHz.
- Presentation mode: question in red, answer in black on the screen. One subject read the question, the other the answer. Stimuli were randomised and read twice each.

40 questions and answers with following variables (only answers were analysed):

- [Spec,TopP] constituent: proper name, bare noun, and quantificational DP.
- Givenness (Context 1) vs. newness (Context 2) of [Spec,TopP] constituent with respect to counterpart in question.
- Second accented constituent: constituent in [Spec,FP] or negative particle.

Realisations with breaks or additional pitch accents were excluded. Number of sentences analysed: 206. (Low proportion of *new* quantificational DP's due to multiple accents!)

Examples: Type 1, Contexts 1 and 2

Context 1:

F: *Mit evett Marianna?* A: **MArianna** *MANgót evett.*
what.ACC ate Marianna Marianna mango.ACC ate
Q: 'What did Marianna eat?' A: 'Marianna ate mango.'

Context 2:

F: *Mit evett Marianna?* A: **MÓni** *MANgót evett.*
what.ACC ate Marianna Moni mango.ACC ate
Q: 'What did Marianna eat?' A: 'Moni ate mango.'

Examples: Type 2, Context 1 (same)

(1)
Q: *Kinél volt mangó?* A: **MANgó** *MÓninál volt.*

who.at was mango mango Moni.at was

Q: 'Who had mangos?' A: 'As for mangos, Moni had one/them.'

(2)
Q: *Mit vett ki négynél kevesebb manó?*

what.ACC took PFX four.than fewer goblin

'What did fewer than four goblins chose?'

A: **NÉGYnél kevesebb manó** *MANgót vett ki.*

four.than fewer goblin mango.ACC took PFX

'What fewer than four kobolds chose was mango.'

Examples: Type 2, Context 2 (different)

(1)

Q: *Kinél volt mandula?* A: **MANgÓ** *MÓninál volt.*
who.at was almond mango Moni.at was

Q: 'Who had almonds?' A: 'As for mangos, Moni had one/them.'

(2)

Q: *Mit vett ki négyenél kevesebb manó?*
what.ACC took PFX four.than fewer goblin

'What did fewer than four goblins chose?'

A: **Minden manó** *mangót vett ki.*
every goblin mango.ACC took PFX

'What every goblin chose was mango.'

Pitch accents and pitch contours classified according to f_0 movement.

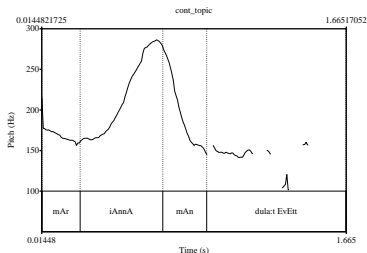
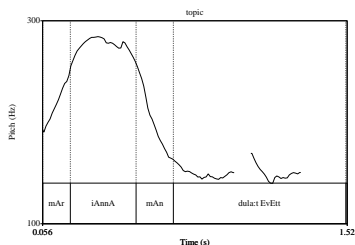
The apparatus of AM-oriented intonational phonology (Pierrehumbert 1980) was avoided at this point. Reasons:

- Distinctive nature of pitch accent patterns is unclear in Hungarian
↔ ToBI accent labels stand for phonological categories.
- Status of intermediary and intonational phrases is unclear in this language → utilisation of phrase and boundary tone labels should be avoided at this point.

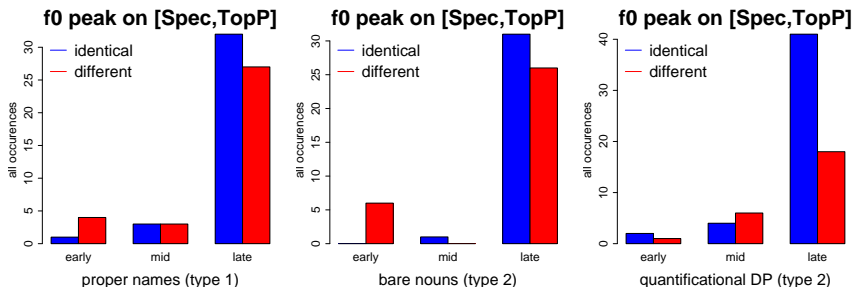
Pierrehumbert, J. (1980): The phonology and phonetics of English intonation. PhD thesis, MIT.

Units of analysis

- Peak type (early, mid, late) of pitch accent on topic,
- f0 contour on unstressed syllables on topic (N.B.: lexical stress fixed to first syllable in Hungarian!) → topic tail,
- peak type (early, mid, late) of pitch accent on next (= last) accented unit.



Pitch accents on [Spec,TopP]

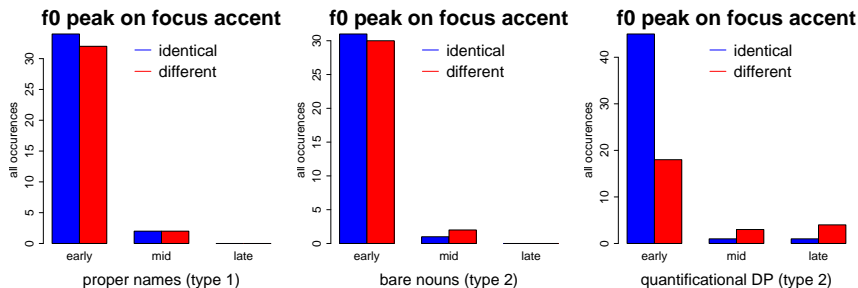


Late peaks prevail in both types and contexts. In accordance with Varga (2008) and Mády & Kleber (2010): initial accents are typically late peaks in Hungarian.

Varga, L. (2008): The calling contour in Hungarian and English. *Phonology* 25, 469–497.

Mády, K. & Kleber, F. (2010): Variation of pitch accent patterns in Hungarian. *5th Speech Prosody Conference, Chicago*.

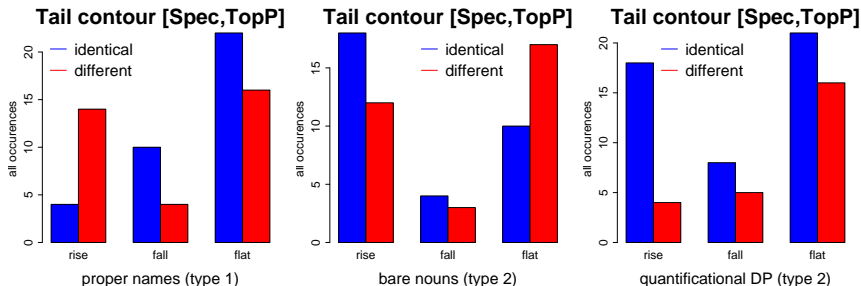
Pitch accents on focus



Early peaks prevail in both types and contexts.

In accordance with Mády & Kleber (2010): terminal accents are typically early peaks in Hungarian.

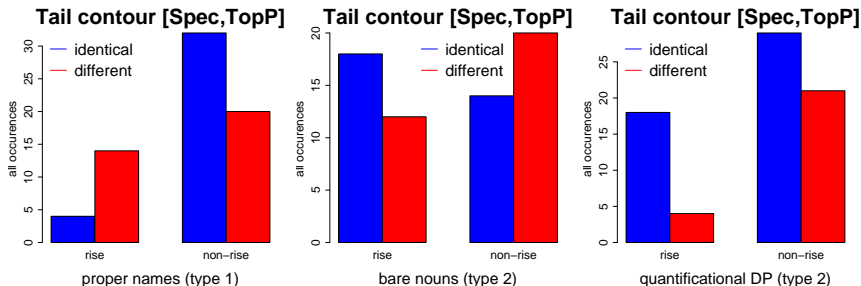
Tail contour on [Spec,TopP]



Tendencies:

- Type 1: Rising contour more frequent for contrastivity.
- Type 2: No clear tendencies, few rises were found on quantificational DPs (interpreted as focus?).

Tail contour on [Spec,TopP] - rise vs. non-rise



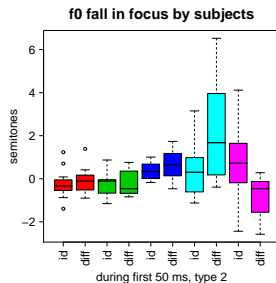
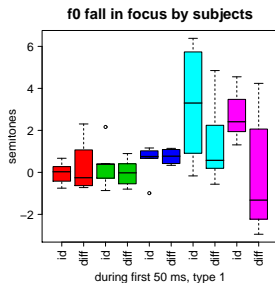
Tendencies:

- Type 1: Answers with identical topic: very few rises, answers with different topic: somewhat more rises.
- Type 2: No clear tendencies.

Quantification of contours in terms of semitones

Topic tail rise vs. non-rise: no clear tendency across subjects.

Steepness of f0 downstep on focus: Tendency towards greater fall for *given Type 1* constituents for 4 out of 5 subjects, no clear tendency for *Type 2* constituents.



Summary of the results of the experiments

- *Type 1* constituents in [Spec,TopP]: no distinction found in pitch accent, rise on tail characteristic in case of new (that is, contrasted/contrastive) topics.
- *Type 2* constituents in [Spec,TopP]: more rises were observed for both *given* and *new* items, but an equal amount of non-rises were found → no clear-cut tendency.
- Few rises for *new* quantificational DPs were found → interpreted as foci?

- Experimental evidence does not contradict the theory that the prosody of Type 1 constituents in Context 2 and Type 2 constituents is analogous.
- *Question:* Can this prosody be given a uniform interpretation?
- *Answer:* The rising tone could indicate the *delimiter* status of the relevant constituent.

Delimiters

“express that, for the communicative needs at the current point of discourse, the current contribution only gives a limited or incomplete answer. With *contrastive topics*, the current common ground management contains the expectation that information about a more comprehensive, or distinct, entity is given; contrastive topics indicate that the topic of the sentence diverges from this expectation. With *frame setters*, the current common ground management contains the expectation that information of a different, e.g. more comprehensive, type is given, and the frame setter indicates that the information actually provided is restricted to the particular dimension specified.”

A frame setter:

Q: *How is John?*

A: ***Healthwise/As for his health, he is [FINE]_F.***

Further consequences

Type 1 constituents in Context 2 and Type 2 constituents should be assumed to occupy a position different from [Spec,TopP], e.g. Spec. of Del(imitator) P(hrase):

- 1 a range of constituents pronounced with rising tone cannot be broken by one that is pronounced without a rise:

What about John? Did he meet Mary at Buda?

János MArival/ BUdán/ NEM találkozott.

John Mary.with Buda.in not met

'John did not meet Mary in Buda.'

* *Marival/ János BUdán/ NEM találkozott.*

Mary.with John Buda.in not met

Intended: 'John did not meet Mary in Buda.'

- 2 DelP should not be considered a scope position: obligatory reconstruction of quantificational elements into the VP explains the narrow scope readings.

Aim: investigation of the prosodic differences between non-contrasted and contrasted themes (topics).

Experiment 1

analysis of subjects' production of themes within sentences embedded in contrastive and noncontrastive contexts (reading of 5-6 sentence texts)

- Prosodic annotation: theme and rheme accents were not realized with different accent types (L^*+H and $L+H^*$ equally distributed for themes), hat patterns were not more frequent for contrastive contexts.
- Acoustic comparison: themes in contrastive context exhibited a higher and later peak, larger F0 excursions and longer rise durations.

Experiment 2:

Testing the perceptual significance of the differences between productions in contrastive and noncontrastive contexts: subjects were visually presented with the start of a semantic parallelism and had to decide between two auditorily presented continuations (from production data), different in peak alignment, peak height or both, rheme accent type identical.

Results:

the presumed contrastive versions were not chosen more often.

Conclusion:

although themes in contrastive vs. noncontrastive contexts are clearly produced differently, this difference is not easily perceived or annotated.

Context 2:

You and your family have many pets: a cat a dog (Momo), and a bird. Today you fed the dog, but did not care of the other pets. Your mother comes home and asks:

Q: Chi ha dato de mangiare agli animali, oggi?

‘Who fed the animals today?’

A: Momo gliel’ho dato io. *Findings:*

‘To Momo, I gave. (it).’

the topic expression in a partial answer is set aside in its own prosodic phrase, made of a rising accent (H*) followed by a !H-boundary tone. Exhaustive answers do not show this pattern.

The first author was supported by the Hungarian Scientific Research Fund (OTKA), and by an Eötvös Scholarship of the Hungarian State, and the second author by the Excellence Initiative of the German Research Fund (DFG).