

Discontinuous nominal phrases: syntax and prosody

joint work with Gisbert Fanselow, Potsdam

Graz Summer School, September, 2018
Intonation and word order, class 5
Féry

Structure of the class

1. Introduction and demarcation
2. Two types of Split NPs
3. The role information structure
4. Intervention effects in weak and strong Slavic languages
5. Typological comparison: Indian languages

Discontinuous NPs

Non-elliptical noun phrases consist of a noun, possibly various other heads such as determiners (*the*), quantifiers (*all*), numerals (*two*), adjectives (*small*), demonstratives (*this*), and possibly maximal projections that stand in an argument- or adjunct relation to the noun (1). When a noun phrase becomes discontinuous, the pertinent heads appear in different parts of the sentence.

Noun phrases can become discontinuous in various other ways.

Relative and argument clauses can be extraposed from the noun phrase (1a-c), or there is leftward movement of an XP out of the noun phrase (1d):

- (1) a. **A man** came in **who carried a dangerous gun**
- b. She communicated **the claim** to him **that John was incompetent**
- c. She made **an attempt** yesterday **to finish the chapter on Catalonia**
- d. **Who** did tell you her **a story about?**

Split NPs

Split noun phrases (SNP) are a special case of discontinuous NPs.

(2) **Bücher** habe ich **keine** gelesen (German)
books have I no read

(3) **Ile** **interesujących** przeczytałeś **książek?** (Polish)
how.many interesting you.read books
'How many interesting books have you read?'

Split NPs exist in a number of languages, but they are impossible or restricted in others.
Can we relate the occurrence of split NPs to prosodic properties?

Split NPs

It is not always the case that the parts of SNP can easily be assembled into a normal continuous one. (4) shows morphological repair, and (5) shows number mismatch

- (4) a. Sie hat **kein-Ø** **Geld** (German)
 she has no.weak.acc money
 "she has no money"
- b. **Geld** hat sie **keines**

Number mismatch

- (5) **Strände** habe ich **nur einen** gefunden
beaches have I merely one found
"I have merely found one beach"

Split and other discontinuous NPs

Demarcation of SNPs from other discontinuous NPs

- (sub-) extraction of arguments and adjuncts out of noun phrases
- floating quantifiers
- secondary predicates and extraposition
- free topics

These result in discontinuous NPs but not in Split NPs

Subextraction

Ross (1967) observed that the **left branches of noun phrases** are much less mobile than right branches (6), but he also noted that the constraint against left branch extraction (**LBE**) is not universal, as shown by (7) for Czech.

- (6) a. *whose did you see [_ book]?
b. *which did you buy [_ car]?
c. who did you see a [book of _]

- (7) (**Hodně** má Marie **židlí**)_φ (Czech)
many has Mary chairs-gen
'Mary has many chairs.'

Subextraction

Subextraction should be distinguished from split noun phrases because there are languages in which the two constructions have a **different grammaticality status**, like English:

- (8) a. who did you see a picture of_ ? (subextraction is fine)
b. *pictures, I have seen no expensive _ (SNP is not fine)

Generalization: languages with SNP allow subextraction, while the reverse does not hold.

Floating Quantifiers

The floating quantifier construction FQC (11b-12b) seem to qualify as SNP, because the two parts can form a continuous phrase and they share a thematic role:

- (11) a. **they all** have invited Mary
b. **they** have **all** invited Mary

In SNP (12a) the quantifier is linked to an indefinite nominal expression while in (12b-c) FQC, the target of quantification is a definite DP. Furthermore, FQC involve **universal or maximizing quantification** (*all, both, each*).

- (12) a. **Bücher** liest er **viele** (German)
books reads he many
"he read many books"
- b. Die Bücher liest er alle
the books reads he all
Die Kinder haben **beide/jedes** ein Eis bekommen
the children have both/each an icecream got
- c. **Kinder** mögen so was doch **alle**
children like so something prt all

Floating Quantifiers

Floating quantifiers occur in languages that disallow SNP. In **French** (Romance) there are floating quantifier constructions, but no SNP.

(13) **Les enfants** ont **tous** dansé (French)
the children have **all** danced
'the children have all danced'

Many languages allow only FQC , but some do not allow SNP or FQC

Generalization: When a language has indefinite SNP, it also allows FQC (but not vice versa).

Secondary predication

English depictive secondary predication in (14). The secondary predicate refers to a state that overlaps or coincides with the main event: the man left, and he was drunk when he left.

In discontinuous noun phrase constructions such as (15a), the adjective agrees in number and Case;

in a secondary predication (15b), the adjective appears in the non-agreement predicative form.

(14) The man left drunk.

(15) a. **Äpfel** essen die Kinder nur **geschälte** (German)

apples eat the children only peeled.pl.acc

‘The children eat only peeled apples’

b. **Äpfel** essen die Kinder nur **geschält**

apples eat the children only peeled.unm

‘The children eat apples only peeled’

Free topics

Another kind of construction that needs to be delimited from SNP and discontinuous NPs in general is sentences with ‘free’ or ‘external’ topics, as in (16).

(16) Brabant Dutch Contrastive Left Dislocation (van Hoof 1997a: 280)

[**Koeien**] (die) heeft-ie [**een helehoop—**] in de achterste wei.

Cows D-pr has-he a whole heap in the most behind meadow

‘As for cows, he has quite a lot in the meadow that is most behind.’

Split NPs

SNP are not a uniform phenomenon, but can arise in at least two ways:

- by **subextraction of a nominal projection out of a noun phrase** (movement)
- and by **the merger of two independent noun phrases that share the argument role of the verb they are linked to** (base generation)

Split NPs

Word order changes as in split NPs are related to syntax, information structure, and they can be triggered by preferences in prosody: a particular position) may be intrinsically prominent and may attract focus, (like the pre-verbal position in Hungarian, Szendrői 2003).

Independent of the motivation of word order variation, marked syntactic word orders allow a better understanding of prosody: new prosodic phrases are created, changes in tonal scaling, additional boundary tones etc.

Comparison with canonical word order is also helpful.

Joint project with Gisbert Fanselow (Potsdam):

Corpus of about 200 languages for syntax, and about 50 for prosody (about 100 with recordings).

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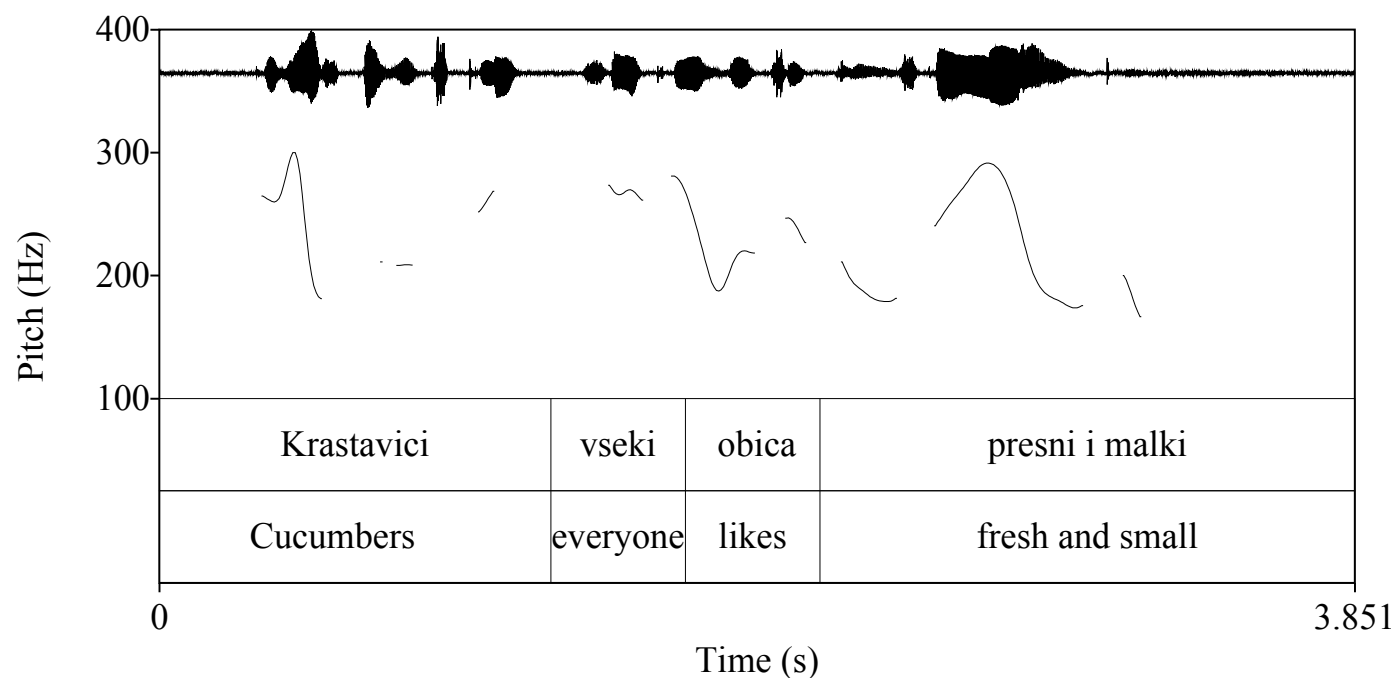
Two types of SNPs

Hierarchy-inverting ('Split Topicalization'): the most deeply embedded head (normally, the noun) of the DP appears at the left edge of the clause

(17) (Krastavic-i)_ϕ (vseki obica maki-l presn-i)_ϕ (Bulgarian)

Cucumber-pl everyone likes small-pl fresh-pl

'Every one likes fresh small cucumbers.'



Two types of SNPs

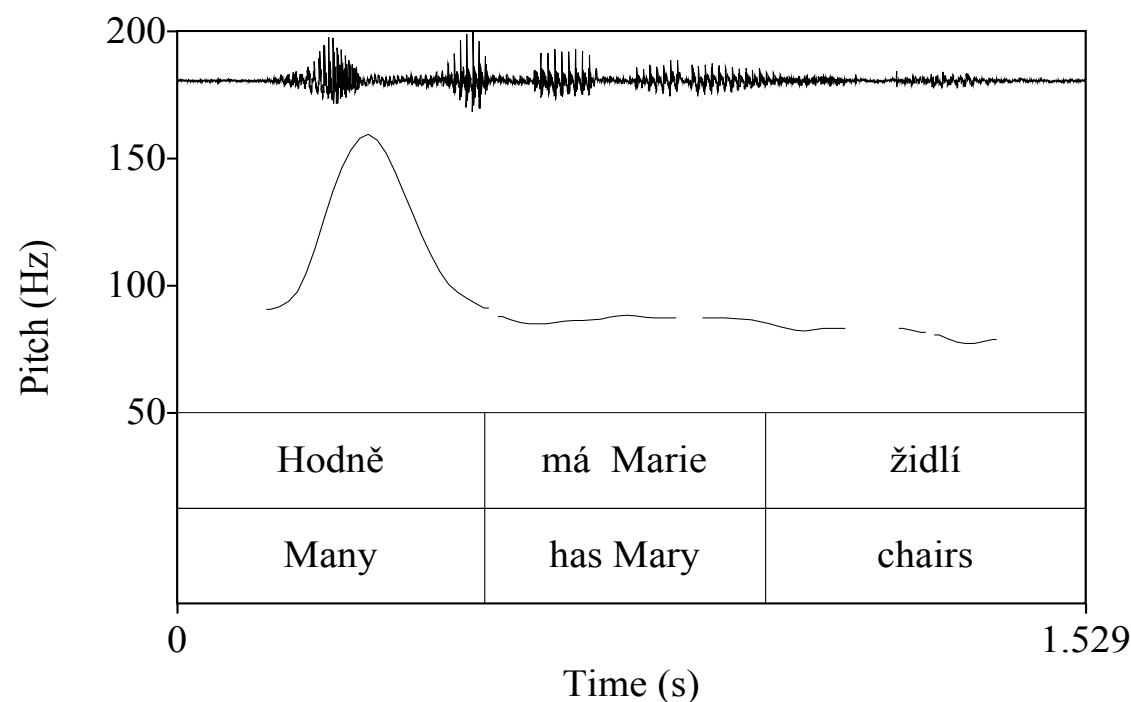
Hierarchy-preserving ('Left Branch Extraction'): the highest head or specifier of the DP is attached at the left edge of the clause; word order is preserved.

Hierarchy preserving SNPs are much less frequent universally.

(18) (Hodně má Marie židlí)_Φ (Czech)

many has Mary chairs-gen

'Mary has many chairs.'



Two types of SNPs

Slavic languages illustrate have both syntactic types of splits:

Hierarchy-inverting (SPLIT TOPICALIZATION): : the most deeply embedded head (normally, the noun) of the DP appears at the left edge of the clause

(19) **Knyžku** Marija pročytala **cikavui** (Ukrainian)
 book.ACC.FEM Mary has-read interesting.ACC.FEM
 ‘Mary has read an interesting book.’

Hierarchy-preserving (LEFT BRANCH EXTRACTION): the highest head or specifier of the DP is attached at the left edge of the clause.

(20) U **jake** vin pojide **misto?**i
 In which he will-go town?
 ‘In which town will he go?’

Two types of SNPs

The two syntactic patterns (inverting and preserving) are not equivalent.

Inverting: two autonomous NPs/DPs with a predication relationship that share a single theta-role (Fanselow 1988, Ott 2012), **base-generation of the two parts**.

Preserving: single DP, with two parts minimally separated from each other, or separated from each other by some intervening material (**movement**).

Prosodic structure is decisive to understand the two patterns better, and the relationship they have with each other.

About split constructions in general, we find some languages in our sample (about 200 languages) that permit only inverted splits and no preserving splits, but no language that allows preserving splits only.

Fanselow, Gisbert (1988) Aufspaltung von NPn und das Problem der „freien“ Wortstellung. Linguistische Berichte 114, 91–113.

Ott, Dennis (2012) Local Instability: The Syntax of Split Topics. Berlin: Mouton DeGruyter. MIT Diss.

Two types of SNPs

Hierarchy-inverting and hierarching-preserving SNPs can differ morphologically

- (21) a. Toj ima **tri** stol-a. (Bulgarian)
He has three chairs
- b. **Tri** ima toj stol-a
three has he chairs
- c. **Stol-ove** toj ima **tri**
chairs he has three
'He has three chairs.'

Prosody: non-cohesive pattern

Prosodic division (based on about 100 languages, at least half of them lacking an analysis):

In the non-cohesive pattern, two (maximal) prosodic phrases (ϕ -phrases) or two intonation phrases (ι -phrases) are present.

Each of them must be well-formed:

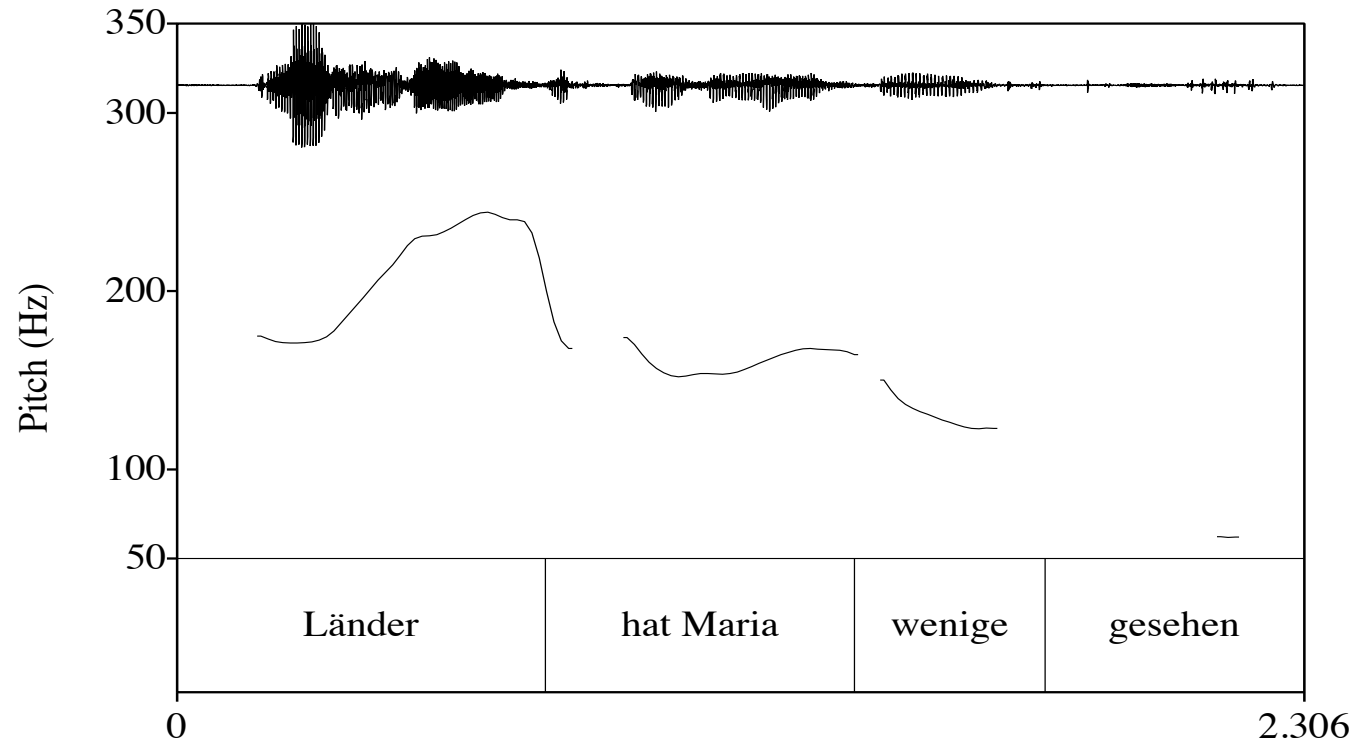
- each has a pitch accent (culminativity)
- each has a boundary tone
- tone scaling is dependent on the relationship between the two parts of the DNP
- the prosodic domains do not need to be adjacent
- more than two ϕ -phrases may be involved

The non-cohesive pattern is preferred in inverting splits: topic-focus is prototypical.

Prosody: non-cohesive pattern

Non-cohesive pattern: There may be downstep between ϕ -phrases (partly because of the intervening ϕ -phrase on *Maria*).

(22) (**Länder**_{Top}) $_{\phi}$ (hat (Ma**Ria**) $_{\phi}$ (**wenige**) $_{\phi}$ Foc gesehen) $_{\phi}$ Downstep
'As for countries, Mary saw a few of them.'



Prosody: cohesive pattern

In the cohesive pattern, only one (maximal) ϕ -phrase (or ι -phrase) is present.

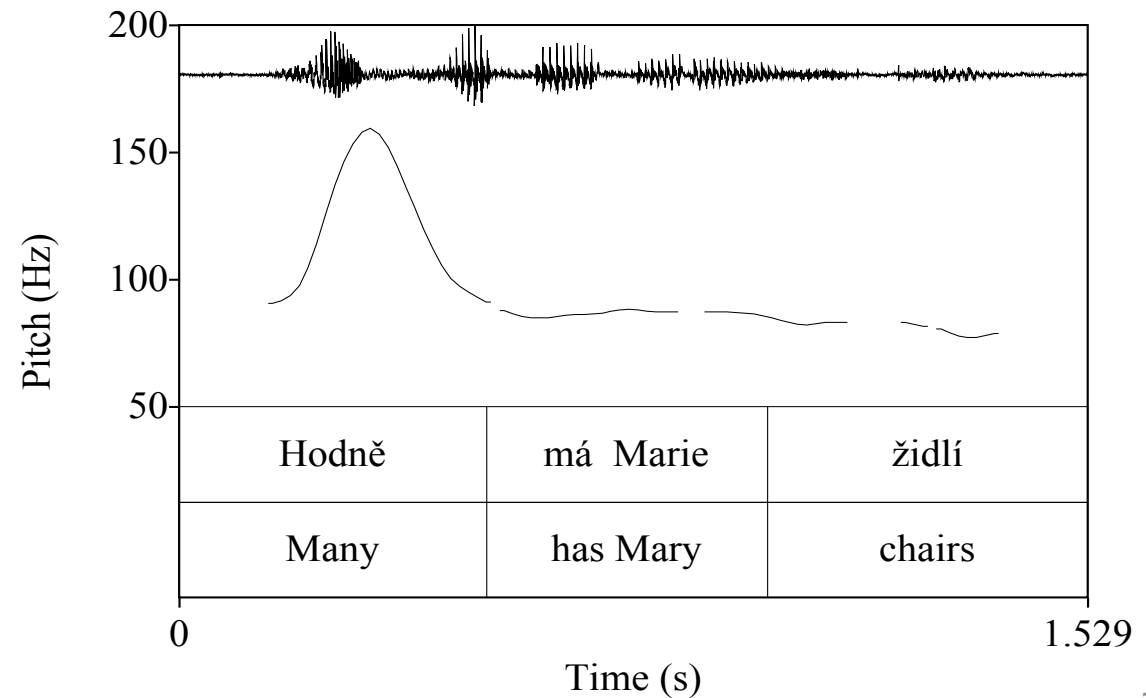
- Only one pitch accent is needed.
- Only one boundary tone.
- Often only a pitch accent on the fronted part of the discontinuous DP.
- The two parts are minimally separated.

The cohesive pattern is preferred in preserving splits

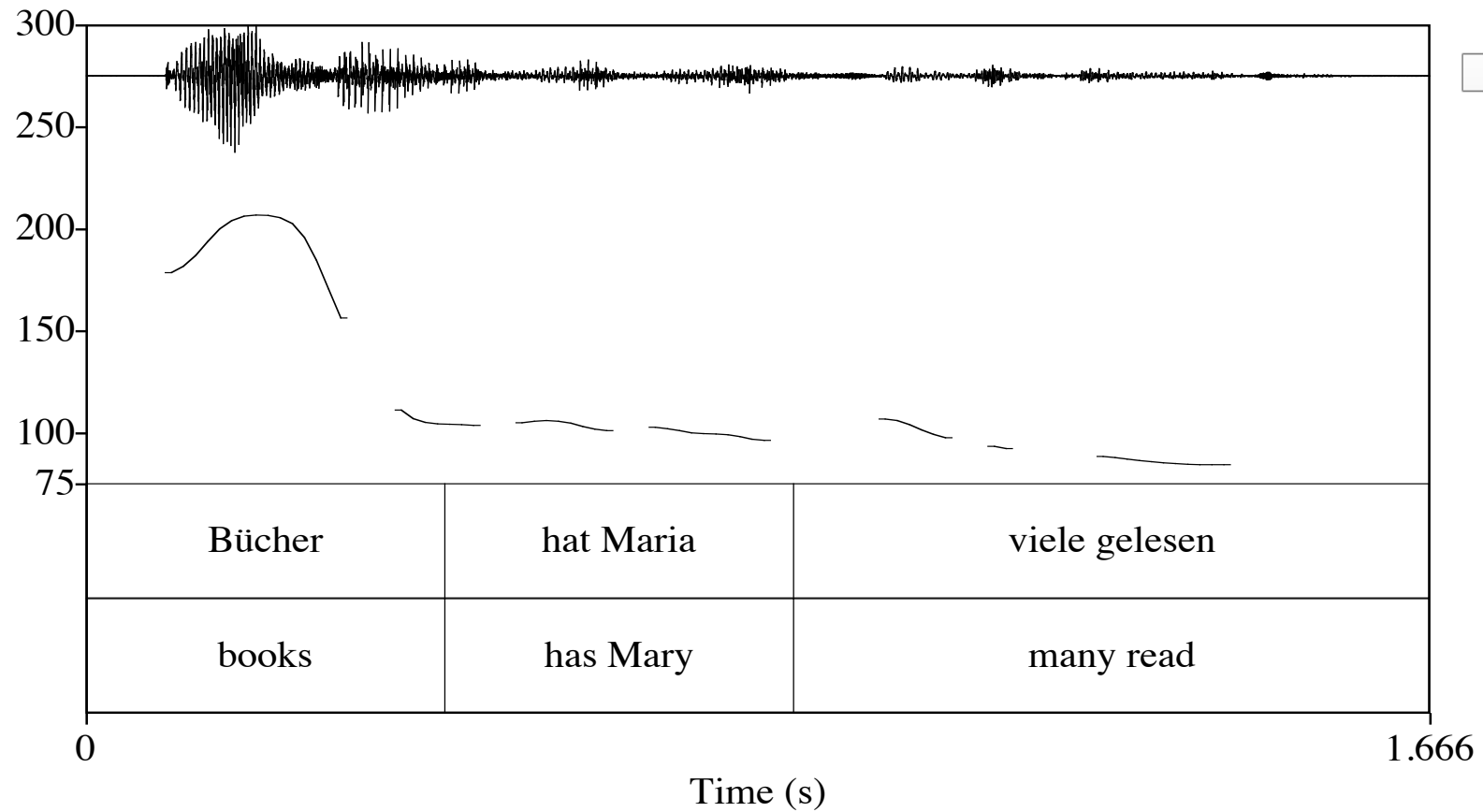
Prosody: cohesive pattern

(23) (Hodně má Marie židlí)_Φ (Czech)
many has Mary chairs-gen
'Mary has many chairs.'

In this pattern the wh-word is
Focused.



Prosody: cohesive pattern



Prosody: cohesive pattern

Cohesive pattern on an inverting split:

(24) {A: Many of what did Mary read?/ (#What did Mary do?)}

B: ((**Bücher**_{Foc} hat sie **viele** gelesen)_φ
books has sie many read
'She read many books.'

Canonical word order (main accent is also on *Bücher*)

(25) {A: What did Mary do?/ Many of what did Mary read?}

B: (Sie hat (**viele** **BÜCHER**)_φ gelesen)_φ
she has many books read
'She read many books.'

In a sense the prosodic structure is the same: one prosodic domain, a single pitch accent.

Prosody: cohesive pattern

Cohesive pattern with wide focus is possible on a DNP when the modifier is unaccentable.

(26) A: {What did you do downtown?}

B: ((**BÜCHER** hab ich **ein paar/welche** gekauft)_φ)_φ
books have I a couple/some bought
'I bought a few/some books.'

Fanselow & Lenertová (2010), Féry (2010), Wierzba (2017)

Prosody: summary

In the languages that have the division between non-cohesive and cohesive split NPs, the second prosodic pattern for DNP is much more restricted than the first one.

It appears in exactly two conditions:

- The first part is narrowly focused and the rest of the sentence is given
- The whole sentence is new (wide focus), but then, the second part of the DNP is unaccentable.

The result is always a nuclear accent early in the sentence and none afterwards.

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Information structure

Role of information structure:

Fanselow & Ćavar (2002), van Hoof (2005) and others: specific information structural features are responsible for DNPs, for movement (and deletion)

Ott (2011): the first part of a SNP is obligatorily a frame-setting topic, no variation.

(27) *Fisch gibt es heute nur Scholle*

Fish, there is today only European plaice (Nolda 2007)

Problems with these approaches:

Information structure is not invariable, both parts can be focused, topic or given.

Moreover, under special prosodic conditions, the entire DNP can be part of a wide focus

Information structure

a) (Contrastive) topic for TOP and focused REM

(28) {How many Italian books and French newspapers did she buy?}

Italienische BÜCHER hat sie **DREI** gekauft.

‘She bought three Italian books.’

b) Focused TOP and given REM

(29) {She bought three (Italian) watches, didn’t she?}

Italienische BÜCHER sie **drei** gekauft.

c) (Aboutness) topic for TOP and a (contrastive) topic for REM

(30) {She gave somebody three Italian books and four French newspapers, who was that?}

Italienische Bücher hat sie **drei** BENNO gegeben.

Given-given also marginally possible, (but only as a repetition)

Information structure

An alternative explanation:

In an intonation language like German, a split NP is preferred when the two parts of the NP have different information structural roles: Topic-Focus, Focus-Given ...

Greek

In Greek, it is possible to realize a hierarchy-inverting SPN with a postponed SNP. The intonation is non-cohesive.

(31) (O petros vrice **karekles** xtes)_i (**poses**)_i (Greek)
DET Peter found chairs yesterday how-many.ACC.PL.F
'How many chairs did Peter find yesterday?'

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Intervention effects

Hierarchy-preserving SNP are subject to intervention effects in many languages

(32) a. **Millised** Peetrile meeldivad **autod?** (Estonian)

which.PL Peter:ALLAT like-3PL car.PL.NOM

‘Which cars does Peter like?’

b. ***Millised** Peetrile ei meeldi **autod?**

which.PL Peter:ALLAT negation like.3PL car.PL.NOM

‘Which cars doesn’t Peter like?’

(33) a. *Combien n’as-tu pas lu de livres? (French)

how many neg-have-you not read of books

‘How many books have you not read?’

b. Combien de livres n’as-tu pas lus? (Butler & Mathieu 2004)

Intervention effects

(34) Hierarching-inverting are are not subject to intervention effects (Estonian)

Raamatuid Peeter ei andnud vennale **häid.**
book.PL.PART Peter:NOM Neg give:part2(negation) brother:ALLAT good.PL.PART
'Peter does not give good books to his brother.'

Slavic languages

Slavic languages differ as to how flexibly LBE can be employed.

Bulgarian, Slovenian, and Sorbian: E intervention by a negation/quantifier has negative effects: weak LB

- (35) ***Precej** Marija ni videla **stolov** (Slovenian)
many Marija NEG-AUX seen chairs
'Mary has not seen many chairs.'

In Polish, Serbo-Croatian, Russian, Ukrainian, Czech, Macedonian, Belorussian, intervention has no negative effects: strong LBE

- (36) **Koliko** Petar ne voli **kola?** (Serbian)
how many Peter not like cars
'How many cars doesn't Peter like?'

Slavic languages

All Slavic languages separate a sentence-initial topic from the comment in the remaining part of the sentence in phrasing the topic in a separate prosodic domain and providing it with a pitch accent, usually with a rising contour, although Russian typically use a falling contour for contrastive topics (Jasinskaja 2016).

All Slavic languages mark a narrow focus with the main pitch accent of the sentence and pre-nuclear accents on given and new constituents. And they all deaccent post-nuclear material, allowing marginally post-nuclear phrase accents or just weak post-nuclear pitch accents in some circumstances.

See the literature starting with the Prague School: [Mathesius 1929, 1932]; [Daneš 1960]; [Firbas 1992]) and continuing until today in recent works (for example [Mehlhorn 2002]; [Sekerina 1999]; [Meyer & Mleinek 2006] for Russian, [Kučerová 2007]; [Sturgeon 2008] for Czech, [Eschenberg 2007] for Polish, [Andreeva 2007] for Bulgarian, [Bašić 2005]; [Godjevac 2006] for BCS, and [Jasinskaja 2013] for a review of different languages.

Weak and strong Slavic languages

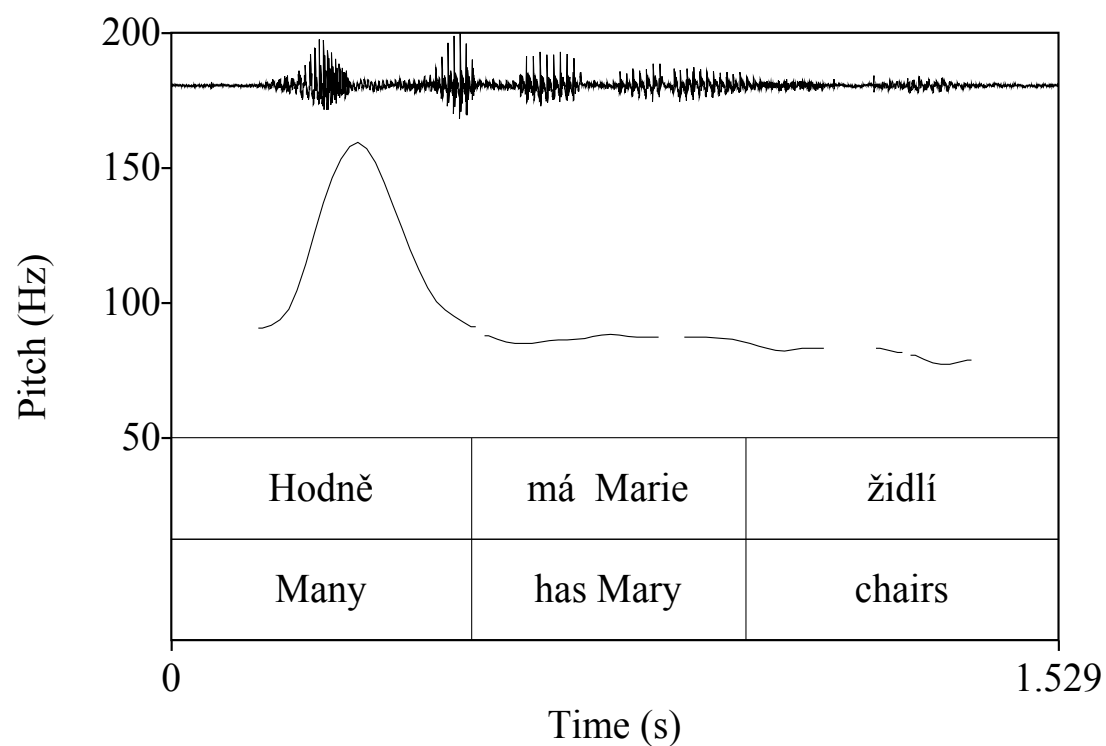
The 'free' word order of Slavic languages is mirrored by the plasticity of prosody, and together they are powerful means for the expression of information structure.

While the hierarchy inverting constructions are usually realized in two intonation phrases (i-phrase), hierarchy Preserving splits are prosodically 'cohesive,' i.e. they form a single intonation phrase.

In strong LBE, the fronted part can be phrased independently.

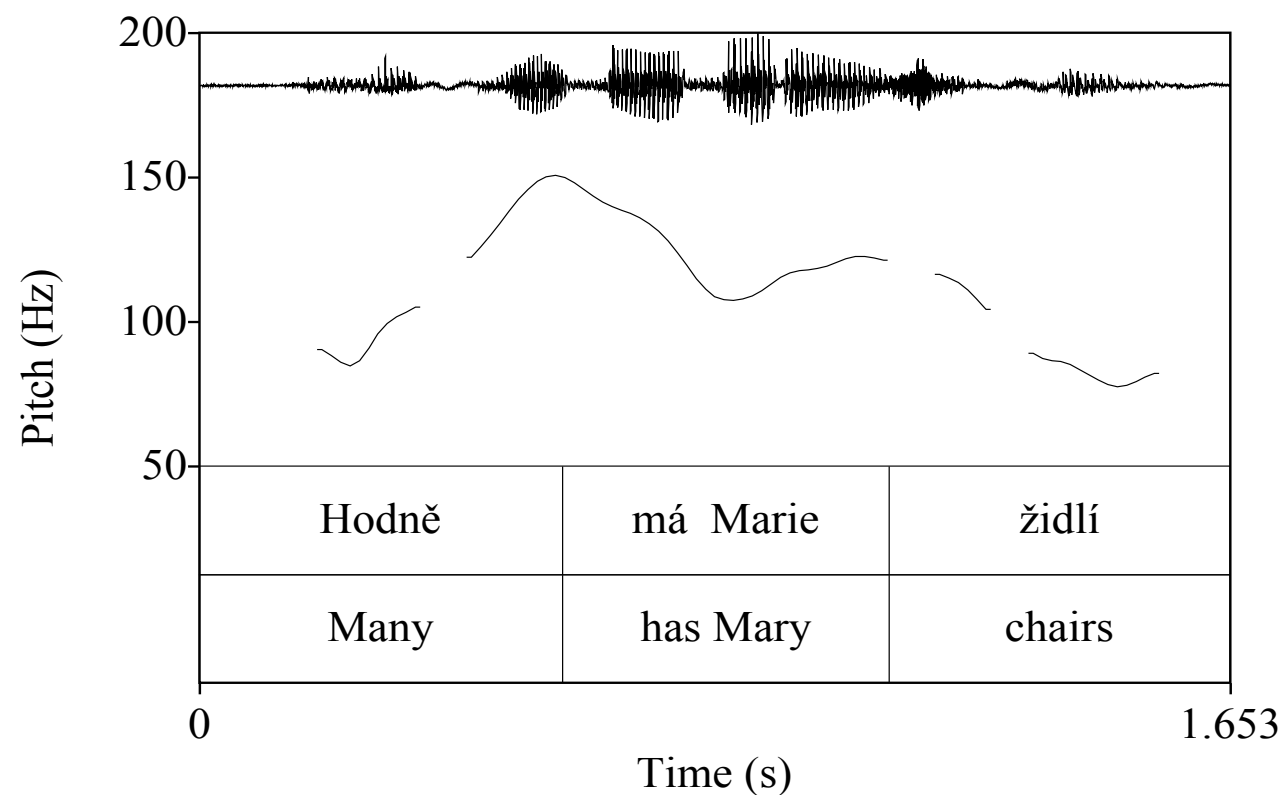
In weak LBE, this is not possible and the fronted part is phrased together with the head of the discontinuous NP/DP across whatever separates them in syntax. LBE constructions are simple splits and are cohesive by default.

Weak and strong Slavic languages



LBE as focus (one phrase) in Czech

Weak and strong Slavic languages



LBE as topic (more than one phrase) in Czech

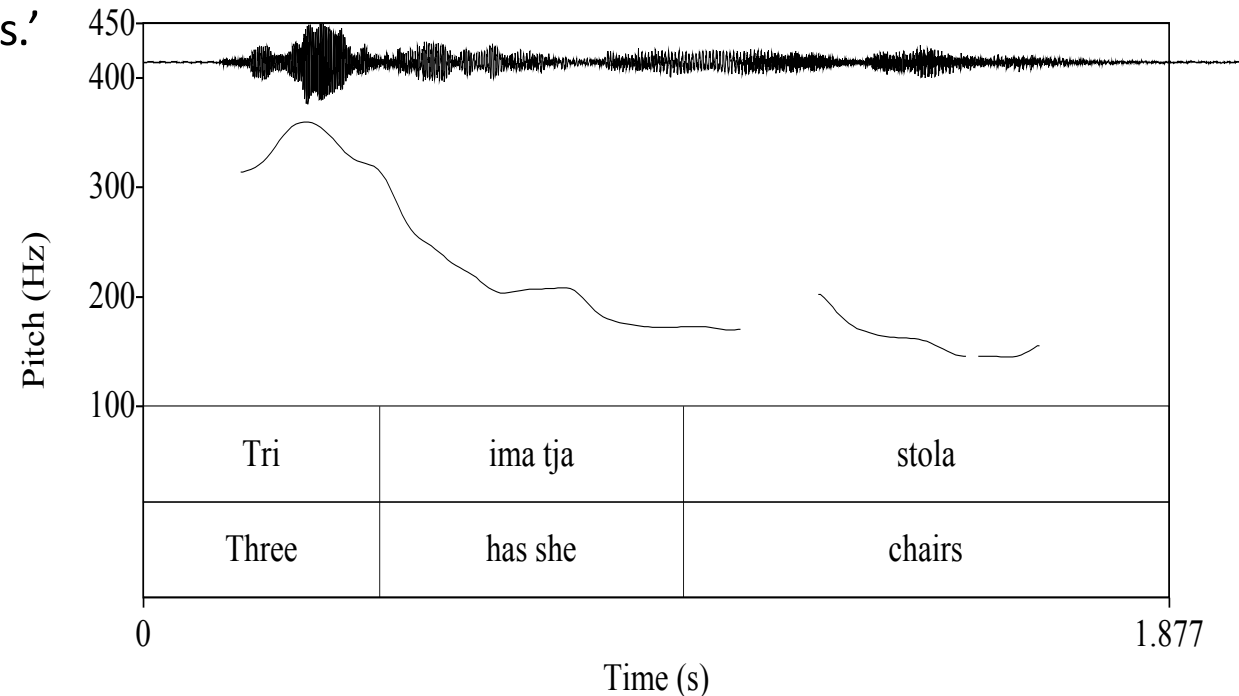
Weak and strong Slavic languages

In Bulgarian, a language with weak LBE, the following sentence is realized with a focus on the fronted numeral, at least for those informants who accept LBE at all. The whole sentence is only one prosodic phrase: it has a single main pitch accent on the first word, and none in the post-nuclear region.

(37) [Try ima tja stola]_φ (Bulgarian)

Three has she chairs

‘You have three chairs.’



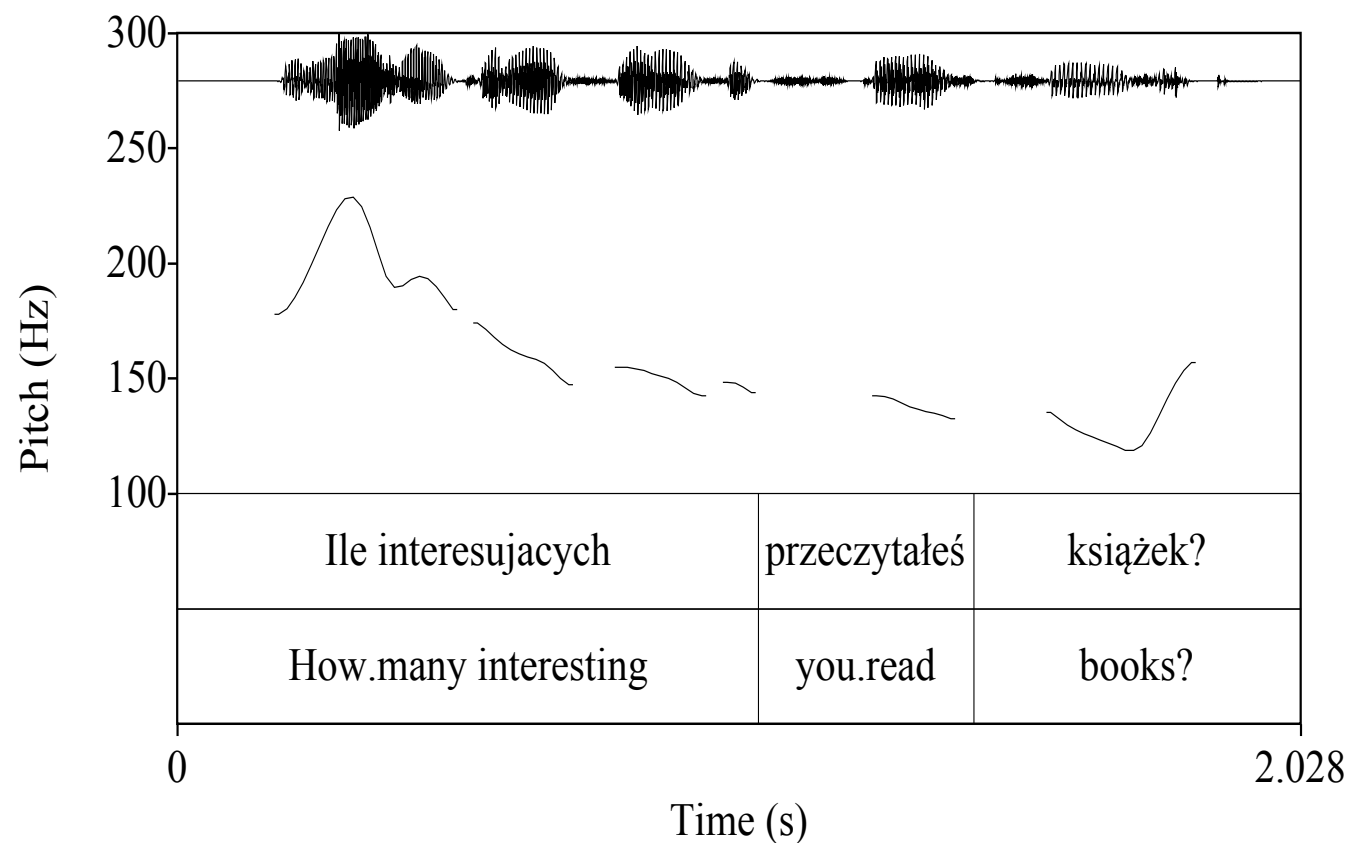
Weak and strong Slavic languages

An example in Polish

- (38) a. [**Ile** **interesujacych** przeczytałeś **książek?**]_φ
 how.many interesting you read books
 ‘How many interesting books have you read?’
 b. [**Ile interesujacych**]_φ [**przeczytałeś książek?**]_φ

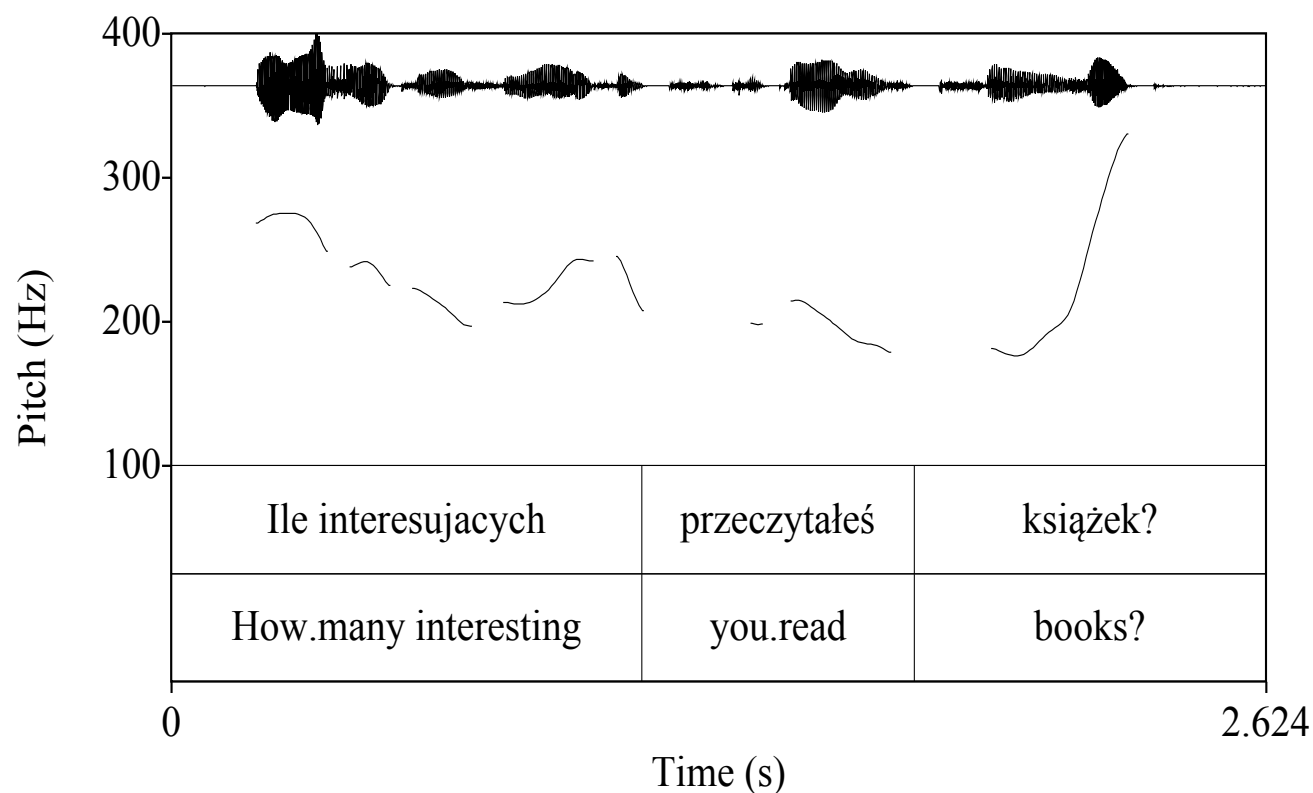
This sentence has at least two variants, which were produced by naïve native speakers of Polish who were asked to read sentences aloud.

Weak and strong Slavic languages



Complex fronting in Polish (one phrase)

Weak and strong Slavic languages

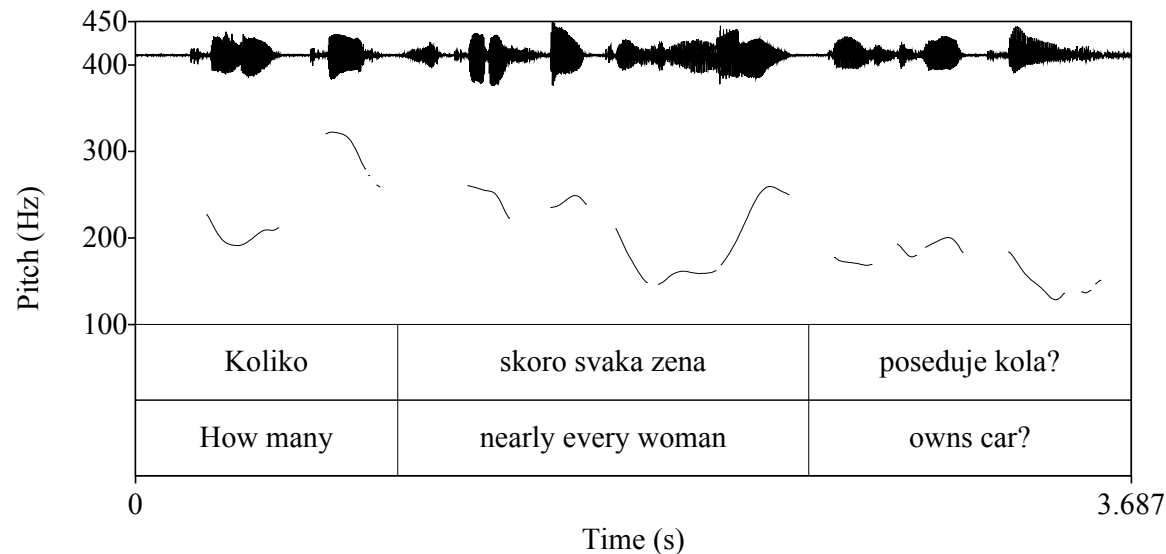


Complex fronting in Polish (two phrases)

Weak and strong Slavic languages

LBE with an intervening quantifier in Serbian, a strong language, but no intervention effect:

- (39) [Kolika]_Φ [skoro svaka zena]_Φ [poseduje kola?]_Φ (Serbian)
How many nearly every woman owns cars?
'How many cars does nearly every woman own?'



Weak and strong Slavic languages

In strong LBE, a Φ -phrase can be formed on the fronted constituent.

In the case of weak LBE, this does not happen—or only very marginally: there, the fronted element needs to be phrased with its head.

The separation between fronted element and head is only syntactic, the important thing is that they are not separated in prosodic terms.

The prosodic pattern for intervention just illustrated for Serbian is not possible in languages with weak LBE since the two parts of the LBE cannot be separated prosodically.

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Indian languages

Indian languages: do we find a main syntactic division between hierarchy-preserving and hierarchy-inverting split nominal phrases, as well as a main division between cohesive and non-cohesive prosodic structure?

In our survey, we have the following 14 Indian languages.

Indo-Aryan: Assamese, Bengali/Bangla, Gujarati, Hindi, Maithili, Marathi, Oriya

Dravidian : Kannada, Malayalam, Tamil, Telugu

Tibeto-Burman: Meithei (Manipuri), Bodo, Tschangla

They differ in the (surface) kind of splits they allow:

Only hierarchy inverting: Oriya/Odia, (Malayalam, Tamil, Telugu are restrictive)

Both hierarchy inverting and hierarchy preserving: all Indo-Aryan except for Oriya

No language has only hierarchy preserving splits

Syntax

Canonical, hierarchy-preserving and hierarchy-inverting SNPs in Assamese.

- (6) *mary-ye bahut chair kin-ile.* (Assamese)
Mary-NOM many chair buy-3.SG.PERF
'Mary bought many chairs.'
- (7) *bahut mary-ye chair kin-ile*
many Mary-NOM chair buy-3.SG.PERF marker
'Mary bought many chairs.'
- (8) *kitaap peter-e bahut parh-ise*
book Peter-NOM many read-3.SG.PRES
'Peter reads many books.'

Syntax

- A majority of Indian languages come with an SOV base order and present some word order freedom, sometimes even in the postverbal domain (Hindi/Urdu).
- Widespread lack of a determiner level within the nominal projection,
- Dominance of Possessor-Q-A-N order in the noun phrases

In fact, there is little evidence for a principled syntactic distinction between the two splits types in Indo-Aryan (except for Bengali and Oriya, as noted). The differences are marginal.

Syntax

The splitting of DPs is largely confined to (underlying) direct objects. We find (40) with a split unaccusative subject, but subjects of transitive and intransitive verbs cannot be discontinuous. This mirrors the transparency of arguments for movement: extractions of PPs from objects and unaccusative subjects are fine, but transitive subjects disallow subextraction.

(40) **bahi**, gata barsa **bahuta** publishoichi (Gujarati)
book, last year many appeared

(41) **clintonnkaupare** kaali **goTie** **bahi** baahaarichhi
about.clinton yesterday one book has appeared

Prosody

Because of their intonational properties, Indian languages do not show the cohesive/non-cohesive distinction found in intonation languages.

Indian languages are not intonation languages. They are 'phrase languages', (or in the case of Tibeto-Burman languages, sometimes tone languages). They present an areal intonational pattern: the prosodic pattern of their prosodic phrases (ϕ -phrases) is often characterized by an initial low tone and a final high tone, except in the final phrase of a declarative sentence which is falling. Tonal scaling plays an important role.

Hayes & Lahiri (1991) and Sameer Khan (2008) for Bengali

Twaha (2017) for Assamese

Patil et al. (2007) and many others for Hindi

Keane (2014) for Tamil

Assamese

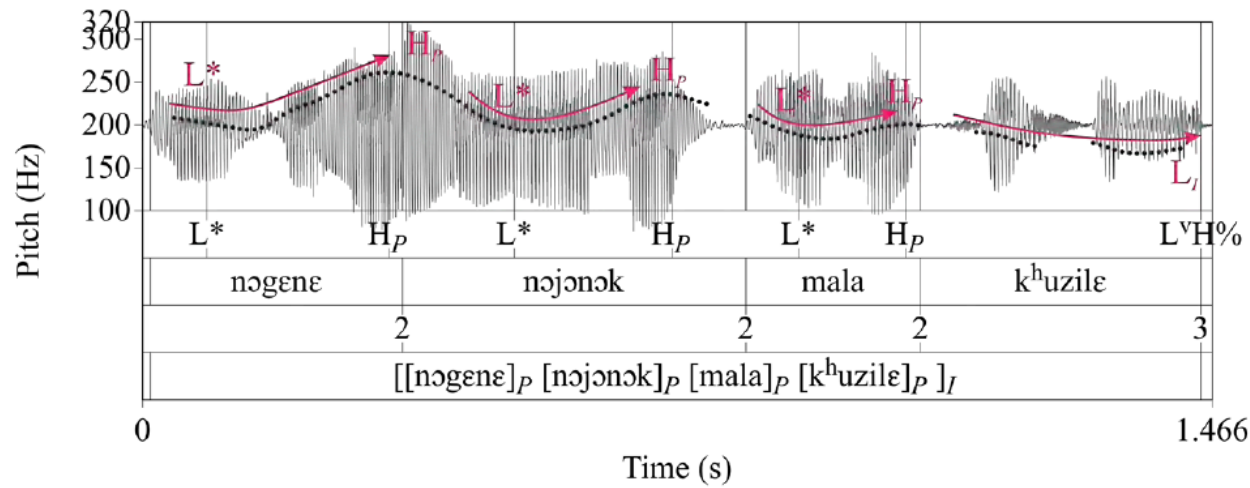
Assamese resembles other Indo-Aryan languages, as far as the intonational structure is concerned.

The ‘building blocks of an intonational contour’ are provided by the prosodic phrases, not the prosodic words.

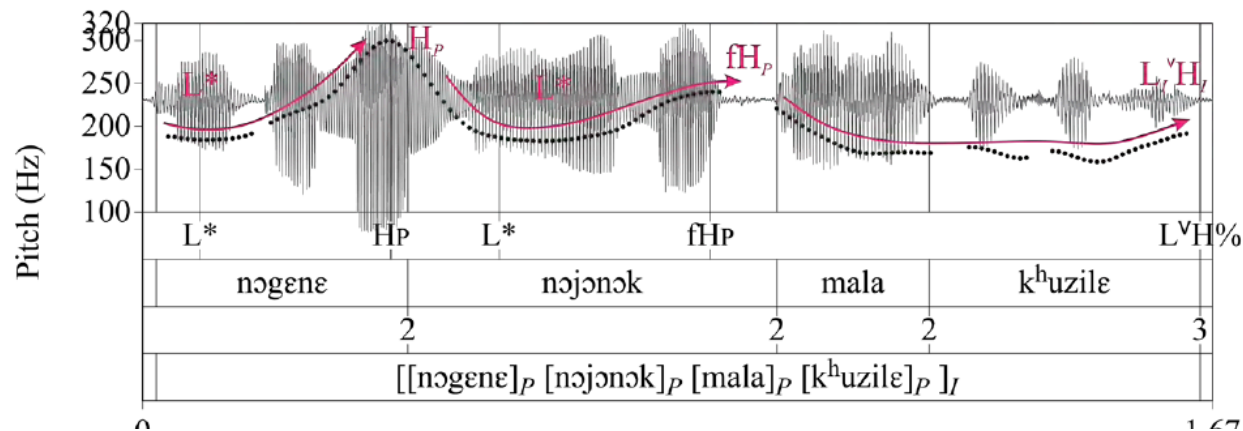
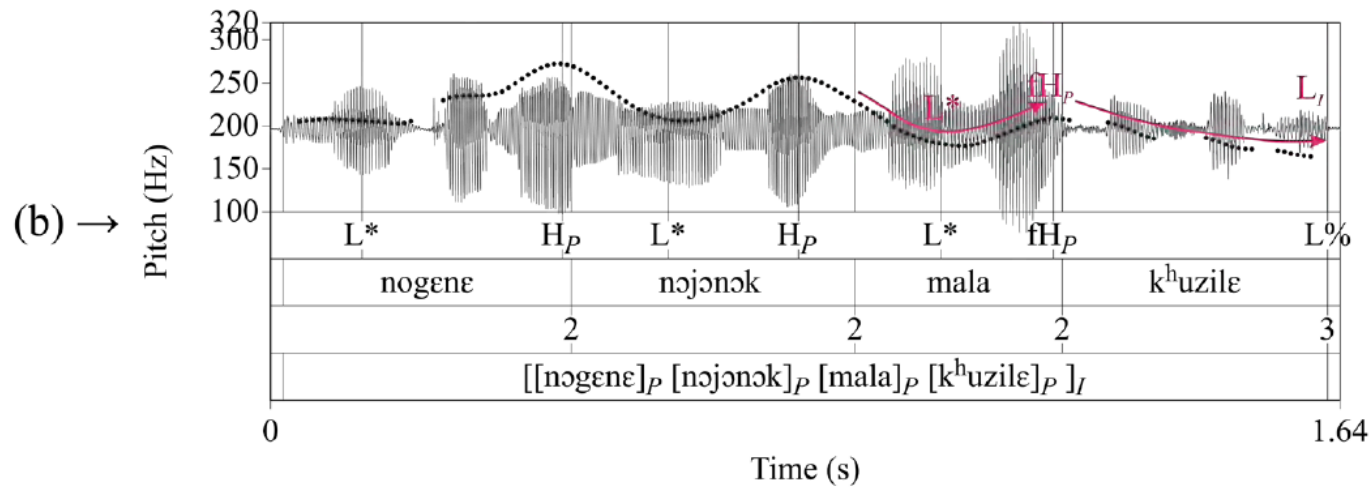
Building blocks are characterized by a low tone at the beginning of the prosodic phrase and a high tone at the end.

Information structure may delete post-focal phrases, see Twaha for Standard Assamese (2017).

Twaha, Asim-UI Islam. 2017. Intonational phonology and focus in two varieties of Assamese. PhD Diss. Indian Institute of technology Guwahati, Assam.



L* H_P L* H_P L*H_P L_I
 [[nɔ̌ɡɛn-ɛ]_P [nɔ̌ʝɔ̌n-ɔ̌k]_P [mala]_P [kʰuz-il-ɛ]_P]_I
 Nagen-NOM Nayan-ACC garland ask-PST-3
 Nagen asked Nayan for a garland.



← (c) (from Twaha 2017)

Prosody of Indian languages

Given the prosodic and intonational properties of Indian languages, the question arises of how discontinuous nominal phrases are realized.

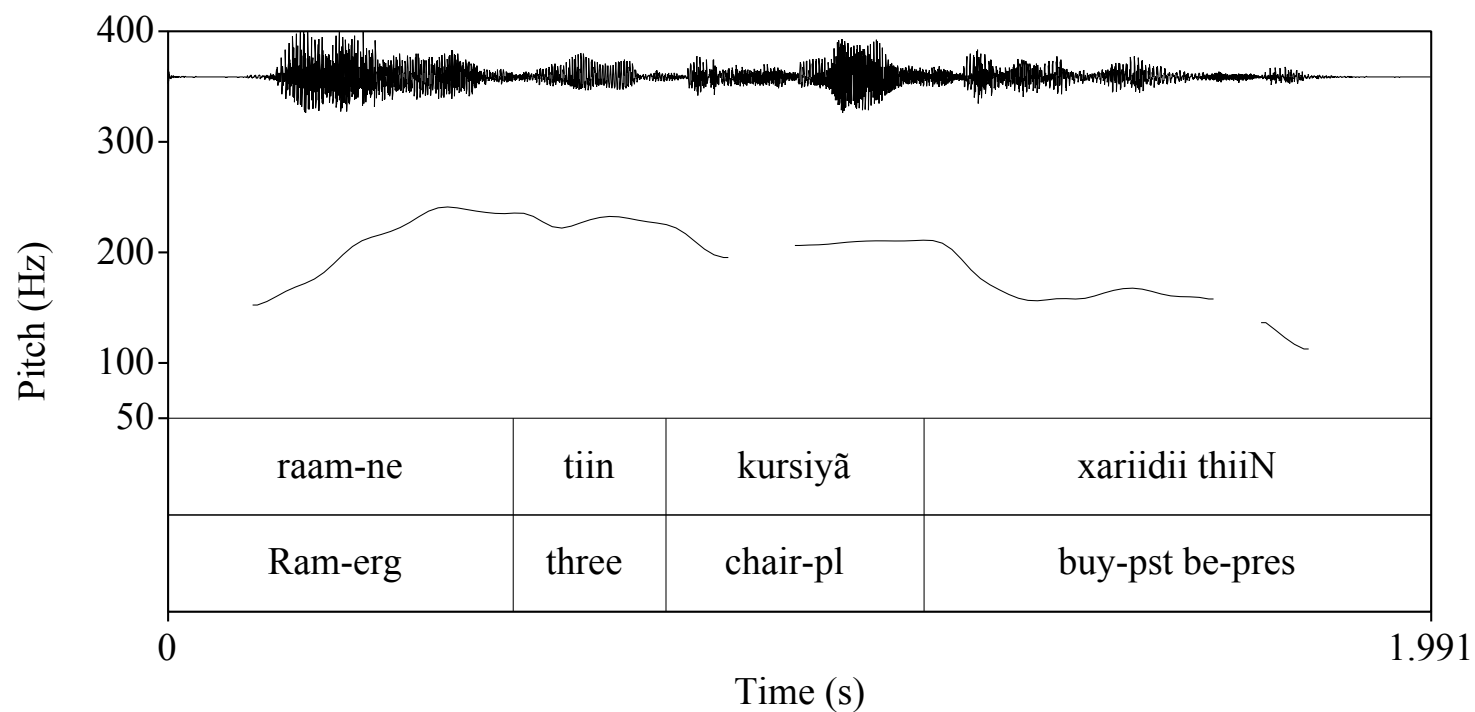
Do they present any special contour?

Is there a difference between cohesive and non-cohesive prosodic contours?

Short answer: There seems to be no clear prosodic difference between simple and inverted splits, thus paralleling the absence of a clear difference between hierarchy-inverting and hierarchy-preserving syntax. Neither are the left parts of simple splits prosodically more integrated into the clause than their inverted counterparts nor have there been observations of differences in accentuation.

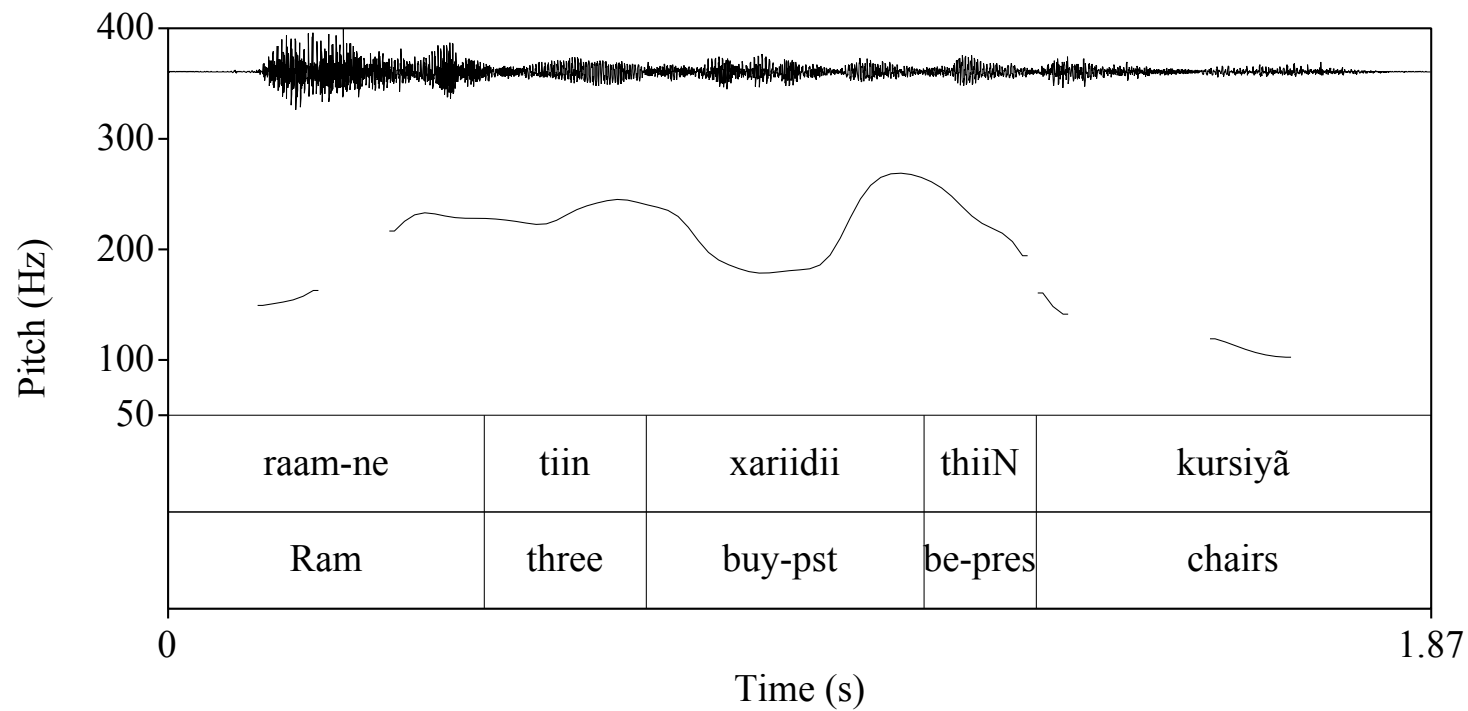
Discontinuity of noun phrases triggers the emergence of a new prosodic phrase on the displaced constituent.

Hindi: Canonical word order



- (42) (raam-ne)_φ (tiin)_φ (**kurs-iyā**)_φ (xariidii thiiN?)_φ
 Ram-Erg three-F chair(F)-PL buy.PRF.PTCP.F be.PST.3PL.F

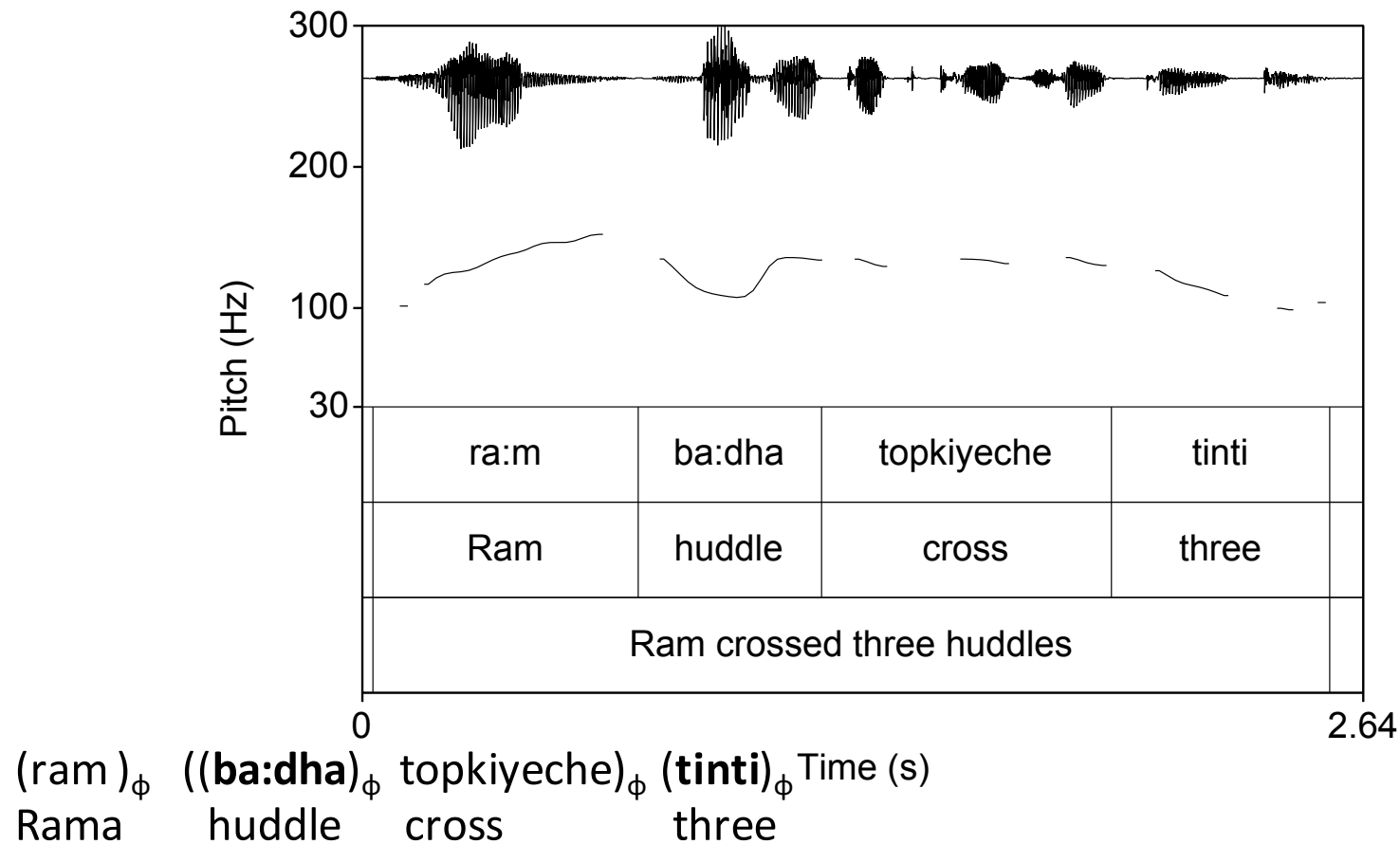
Hindi



(43) (raam-ne)_φ (tiin_F)_φ (xariidii thiiN)_φ (kurs-iyā)_φ
 Ram-ERG three buy be.PST.3PL.F chair-PL

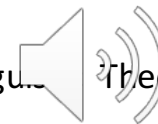
Focus on *three*, and *chairs* is given

Bengali/Bangla: split

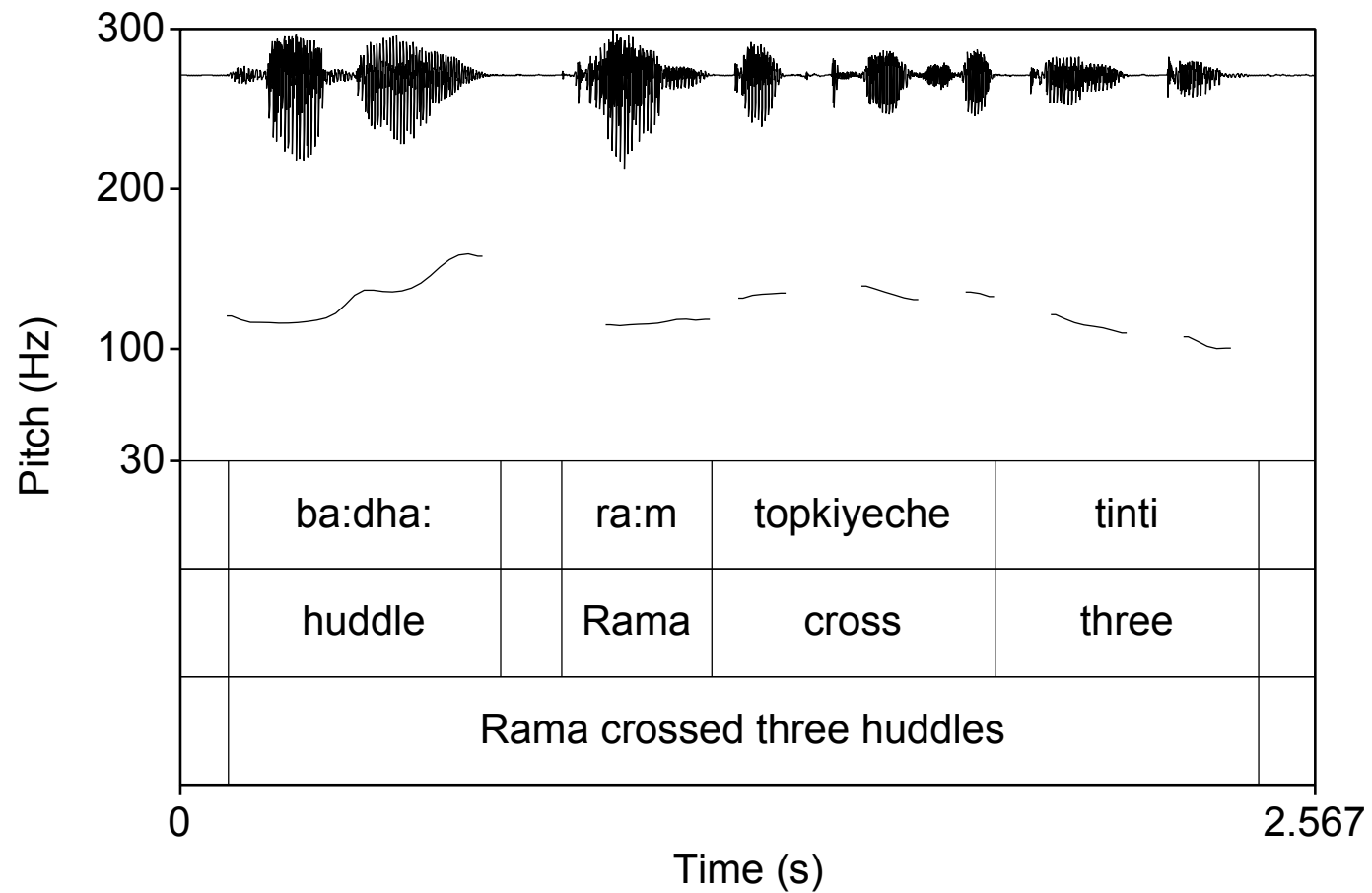


Hayes, Bruce & Aditi Lahiri. 1991. Bengali intonational phonology. *Natural Language and Linguistic Theory* 9. 47–96. doi: 10.1007/BF00133326

Khan, Sameer. 2007. Phrasing and focus in Bengali. Poster presented at the satellite meeting of the 16th International Congress of Phonetic Sciences (ICPhS), Saarbruecken, Germany, August 5, 2007.



Bengali/Bangla: split



(ba:dha:)_φ (ram)_φ (topkiyeche)_φ **(tinti)**_φ
 huddle Rama cross three



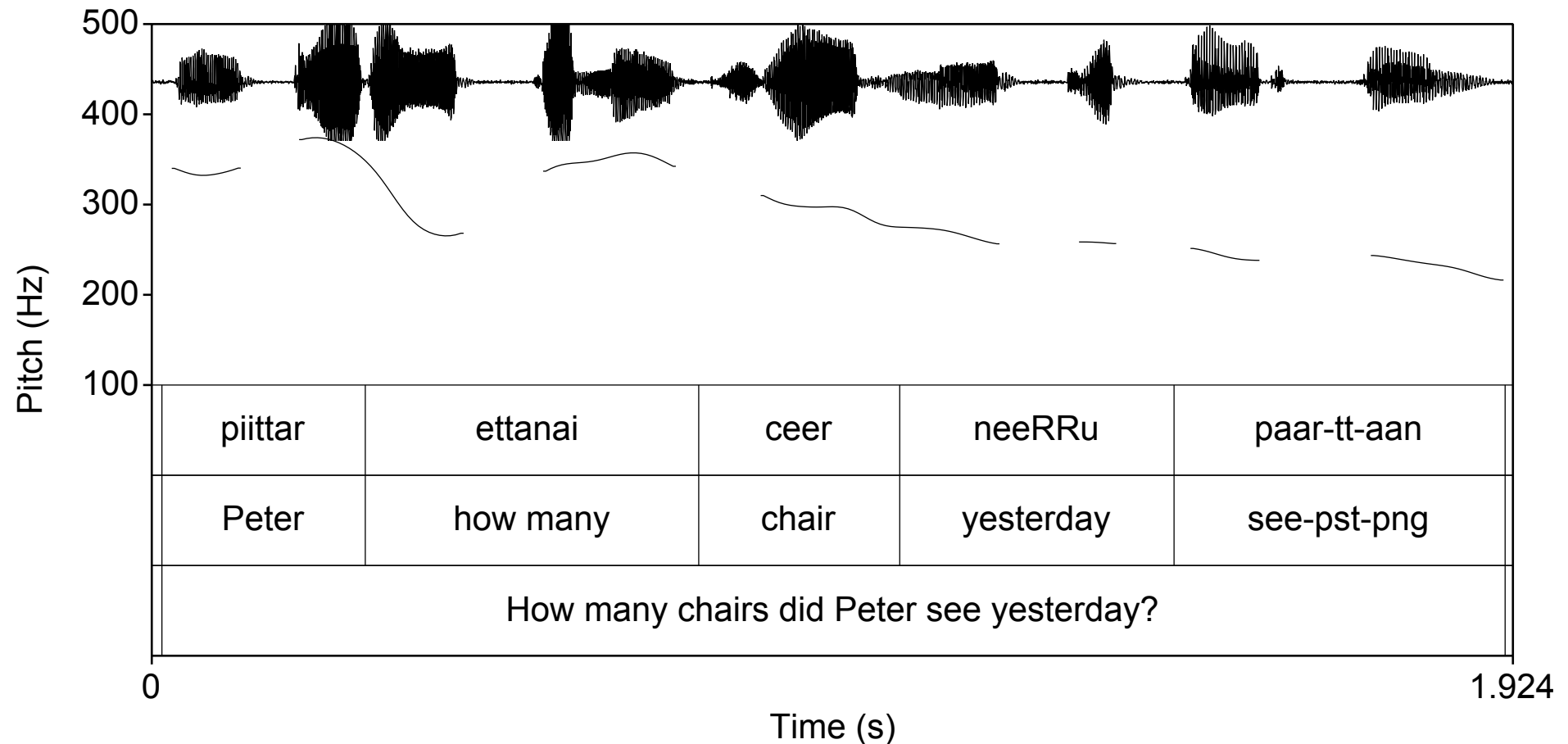
Dravidian

Dravidian languages do not allow SNPs as freely as Hindi or Bangla. In Tamil and Kannada there is most of the time only one postverbal element in our data, that can be interpreted as an afterthought.

The only possible exception is Malayalam, but this can be due to the fact that this language has a large number of cleft constructions.

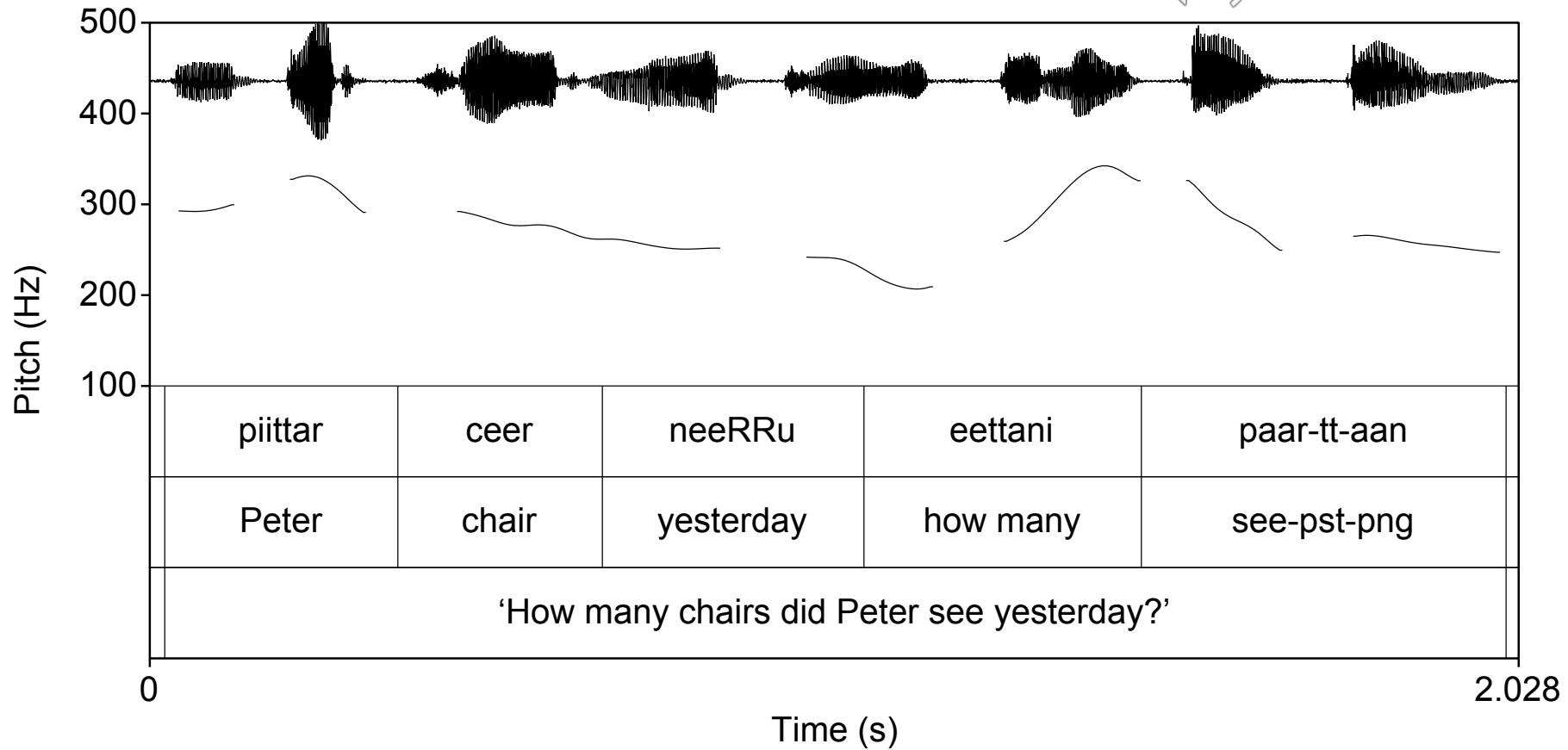
Keane, Elinor. 2007. Distribution and alignment of F0 contours in Tamil. In Proceedings of the 16th International Congress of Phonetic Sciences. Saarbruecken, Germany.

Tamil: canonical word order



(piittar)_φ (**ettanai**)_φ (**ceer**)_φ (neeRRu)_φ (paar-tt-aan)_φ
 Peter how many chair yesterday see-pst-png
 'How many chairs did Peter see yesterday?'

Tamil



(piittar)_φ (**ceer**)_φ (neeRRu)_φ (**eettanai**)_φ (paar-tt-aan)_φ
 Peter chair yesterday how.many see-pst-png
 'How many chairs did Peter see yesterday?'

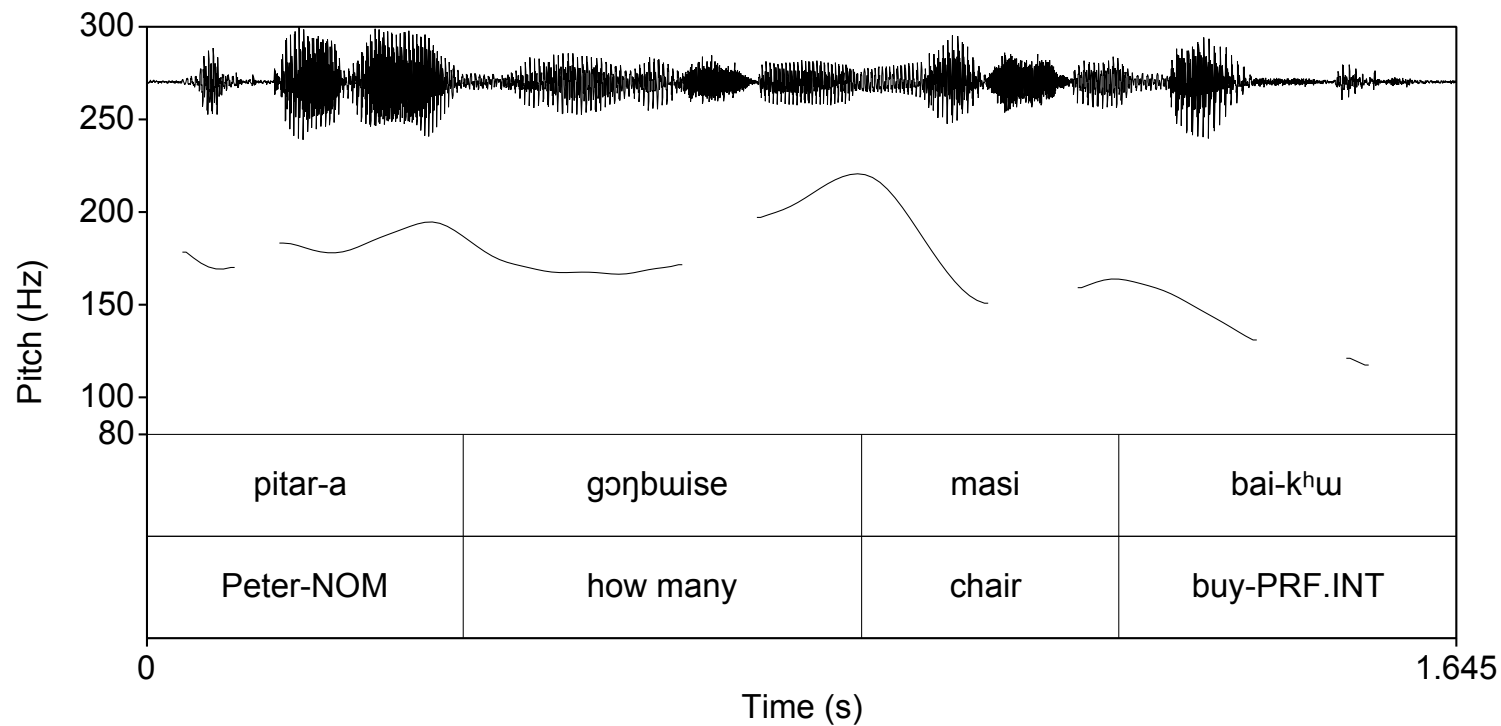
Tibeto-Burman: Bodo

Bodo (Bodo-Garo, Brahmaputran), a Tibeto-Burman language has both hierarchy-inverting and hierarchy-preserving split constructions, however confining splits to direct objects (like many other languages).

In the examples, the hierarchy-preserving splits are grammatical only when the right part is placed into a postverbal position. In fact, the focal quantifier/numeral is the only preverbal element in these examples, giving Bodo the appearance of a verb-second language (but in these contexts only).

Intonation resembles the one we saw for Indo-Aryan and Dravidian languages
Phrasing does not change much, but register changes are pervasive.

Bodo

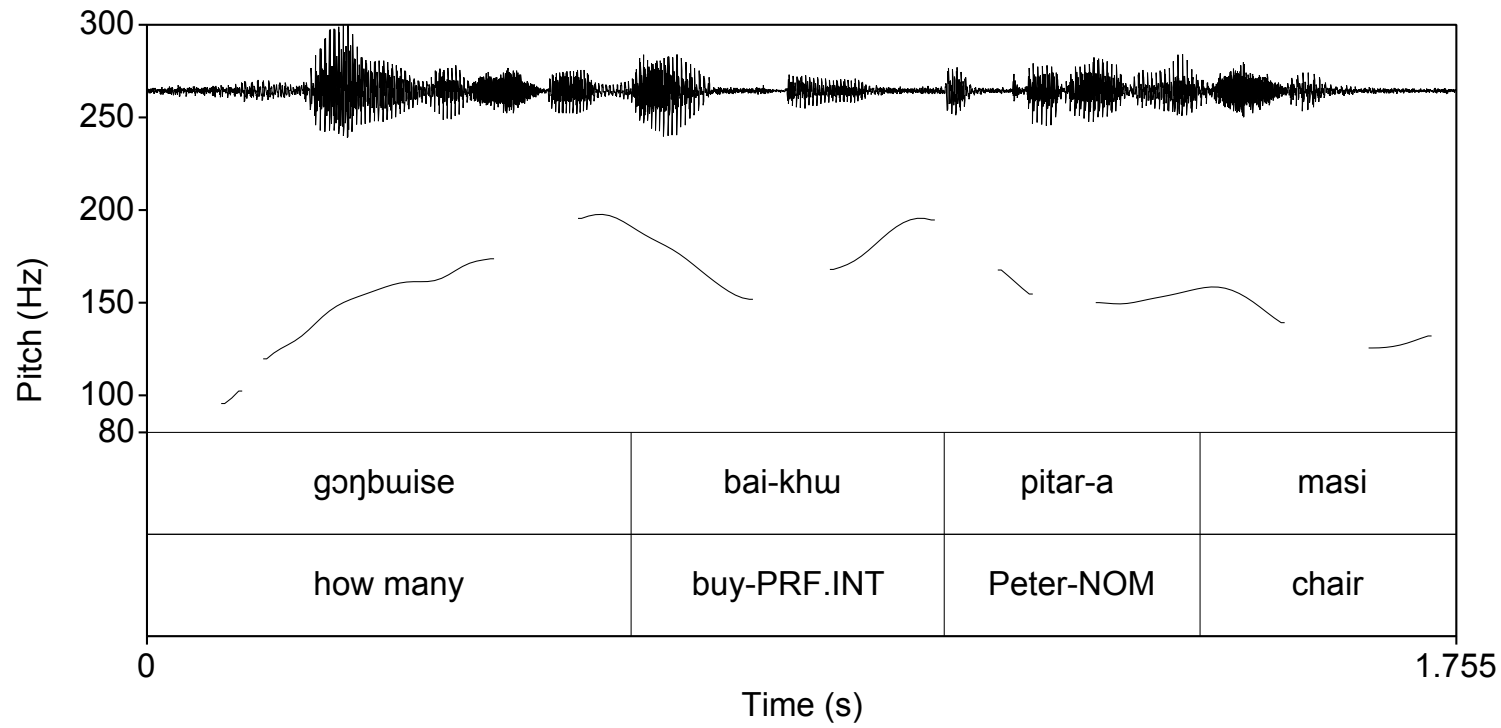


Canonical word order

(pitar-a)_φ (**ḡḡḡbwise**)_φ (**masi**)_φ (bai-k^hʷ)_φ

Peter-NOM how.many chair buy-PRF.INT

Bodo



Split construction:

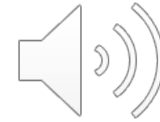
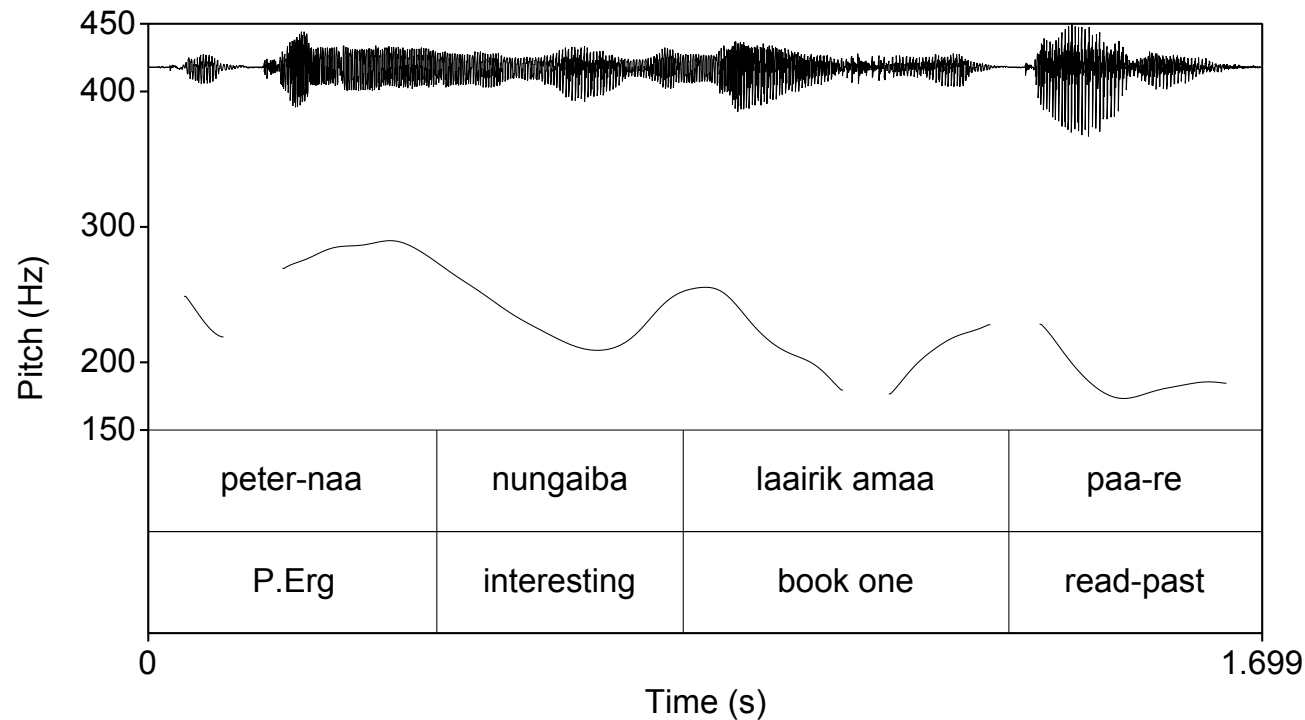
(gɔŋbwise)_ϕ (bai-khu)_ϕ (pitar-a)_ϕ (masi)_ϕ

how many buy-PRF.INT Peter-NOM chair

Meithei

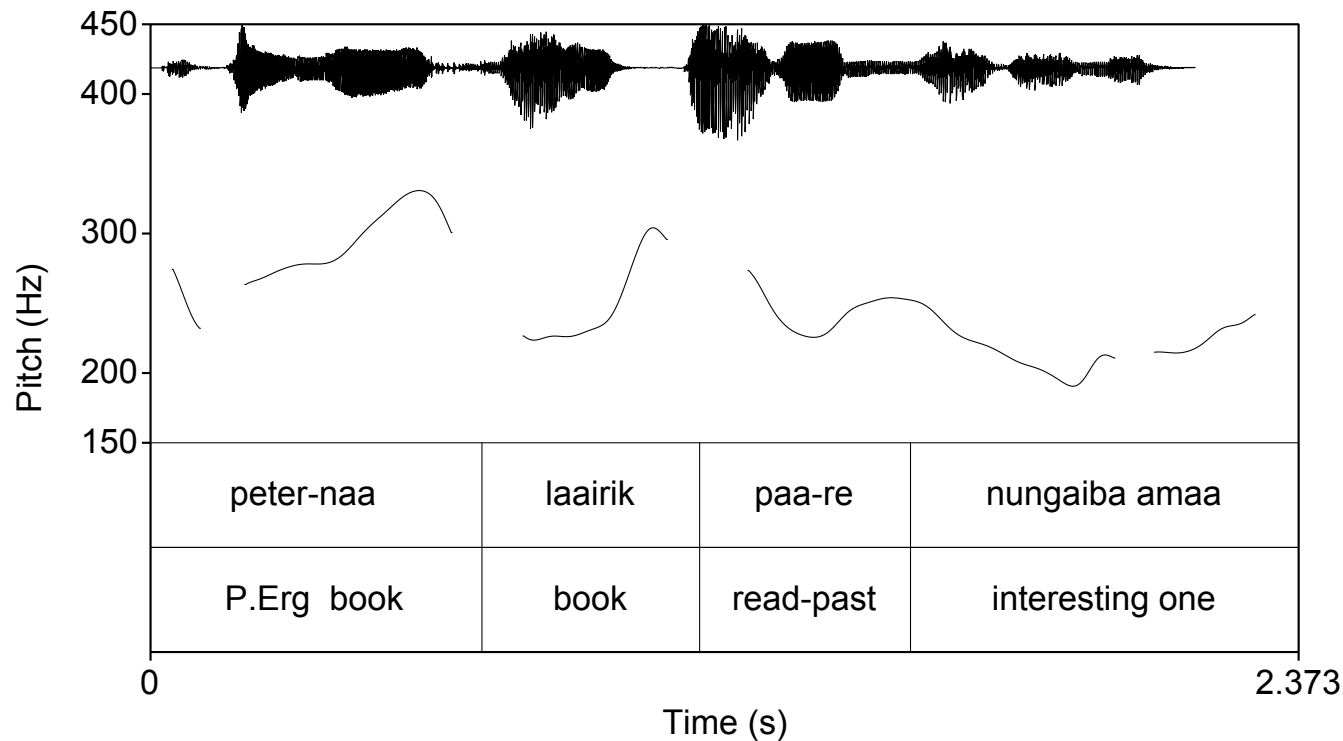
Meithei (Manipuri), another Tibeto-Burman language, is also very permissive: it has both hierarchy-inverting and hierarchy-preserving split constructions.

Meithei



(peter-naa)_φ (**nungaiba**)_φ (**laairik amaa**)_φ (paa-re)_φ
 Peter-Erg interesting book one read-past
 'Peter read an interesting book.'

Meithei: inverting



(peter-naa)_φ (**laairik**)_φ (paa-re)_φ (**nungaiba amaa**)_φ
 Peter-Erg book read.past interesting one
 'Peter read an interesting book.'

Meithei

Chelliah (1997: 120) observes that postverbal elements are given information.

Predicate focus is a pragmatic condition that favours the presence of postverbal material. In spite of the 'afterthought' nature of the right split part in pragmatic terms, it must be integrated quite firmly into the clause proper, because the construction is confined to direct objects in both Bodo and Meithei - neither subjects nor indirect objects can be split up.

Apart from pronominal subjects, the left part of the discontinuous NP is the only element preceding the verb in our data.

An analysis in terms of a leftward movement of the relevant part of the DP combined with the preposing of the verb is more plausible than the assumption of several instances of rightward movement of the given material.

Indian languages

Indian languages behave differently from the European languages, at least as far as the syntactic division between hierarchy-inverting and hierarchy-preserving on the one hand, and the prosodic division between non-cohesive and cohesive patterns on the other hand, are concerned.

Absence of a clear difference between inverting and preserving patterns together with their prosodic inertness as far as the difference between cohesive and non-cohesive is concerned.

The effect of information structure has not been tested on these data.

If this can be confirmed, this is significant as a step toward answering the question whether we find a correlation between syntax and prosody.

Conclusion

In Germanic and Slavic languages, we found two syntactic patterns and two prosodic patterns and we found syntactic effects correlating with them in Slavic languages. The two prosodic patterns are not equivalent. They express two different syntactic configurations.

The first one (two p-phrases): two autonomous NPs with a predication relationship (Fanselow 1988, Ott 2011)

The second one: A single NP, with two parts minimally separated from each other. The prosodic structure is minimally different from the continuous version (single accent, single ϕ -phrase).

In Indian languages, we also found quite a large distribution of SNPs but we argue that the syntactic corresponding pattern is different.

Prosodic structure is thus decisive to complement syntax and information structure.

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