

Principled mismatches in the mapping from semantics to prosody

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LAGB 2018 – University of Sheffield
14 September 2018

1 Introduction

1.1 Empirically Motivated Questions

Let's start with a set of observations

- **Observation:** In many languages, semantic focus is signaled through prosodic marking
 - ▶ e.g., amplitude, pitch movement, prosodic phrasing
 - **Observation:** Position of prosodic marking of focus plays a role in indicating what is focused
 - ▶ Compare different meanings available in (1)
 - ▶ (Throughout this talk, the word with prosodic marking of focus is formatted like **THIS**)
- (1) a. Liz'll **CONSÚME** cheese.
→ **Consuming** (not, e.g., creating) is what Liz'll do with cheese.
- b. **LÍZ**'ll consume cheese.
→ **Liz** (not, e.g., Pete) is who will consume cheese.
- **Observation:** Sometimes what has prosodic focus marking does not appear to be what is the semantic focus (= is a 'mismatch')
 - ▶ In Irish, when polarity is under semantic focus, the prosodic marking occurs on the weak subject pronoun
- (2) A: 'nois, bain giota dó 'na bhaile
now take.IMPERV bit of-it home
'Now, head off home.'
- B: Tá **MÉ** a' gabhail 'na bhaile.
be I PROG go home
'I **AM** going home.'
- (Bennett et al. *to appear*:(27))

- ▶ The prosodic focus falls on the subject, which is not under semantic focus
- **Observation:** It is typologically common to find productive mismatches
 - ▶ Today we will present data from Afrikaans, Basque, English, Hungarian, Irish, and Italian

This leads us to two questions

- **Descriptive Question:** How can we characterize the commonalities across these phenomena to connect them?
- **Typological Question:** Why are they so common?

Before we start talking about possible answers, let's look at a theoretically motivated question

1.2 Theoretically Motivated Question

Let us review some rather standard theoretical premises regarding Grammar

- **Premise:** Semantic content need not have any phonological exponents
 - Contemporary syntactic theory recognizes *interpretable silence* of different kinds:
 - Silent (functional) heads, null operators, elided/dropped material, etc.
 - e.g., the polarity head in the Irish example in (2)
 - **Premise:** Focus-alignment constraints influence where prosodic focus marking is realized
 - e.g., in languages that mark focus with stress, it has been proposed that the focus marking must occur within the domain of semantic focus (*Question-Answer Congruence*, cf. Büring 2016)
 - e.g., in (1a), the domain of semantic focus (*consume*) must contain the prosodic focus marking
- (1) a. Liz'll CONSÚME cheese.
 → **Consuming** (not, e.g., creating) is what Liz'll do with cheese.
- And so you can't have the mean of (1a) with focus marking occurring on, e.g., *cheese*
- **Premise:** Minimal-size constraints dictate the types/amount of prosodic structure necessary to support focus marking
 - e.g., 'Focus marking requires a syllable' (English; cf. Liberman and Prince 1977)
 - e.g., 'Focus marking requires a ϕ with two ω s' (Irish; cf. Bennett et al. *to appear*)
 - **Theory-Driven Question:** What happens when a semantically focused element is not prosodically sufficient to support focus marking?
 - This question is one we must address, given a system in which the semantic focus need not map onto an element that can support prosodic focus
 - e.g., when the focused element is a silent operator or silent functional head¹
 - **Analytical Question:** What options do languages have to address this mismatch?
 - What sorts of grammatical operation(s) might a language exploit?
 - This will rely on other aspects of our model of Grammar (*see Appendix*)

1.3 Goals

Goal: probe the hypothesis space, not produce any particular analysis

- We're not aiming to give a correct analysis for any of the particular phenomena we discuss
- That would take a lot of careful work and better understanding of each of these languages/phenomena
 - In particular, because claiming something as a mismatch between semantics and prosody depends on many interdependent factors

Goal: demonstrate that this interface problem should be on our collective research agenda

- Lots of researchers should look into this! (Collaboratively!)
- Anyone working on focus should be aware of the properties these sorts of mismatches
 - Focus semantics and focus prosody should not be expected to always align

¹For ellipsis, this is ruled out a priori by its givenness/identity condition: Merchant (2001).

2 Case studies

We will provide a very surface-y overview of several mismatch-looking phenomena

- These apparent mismatches will all involve **prosodic focus marking on a constituent that is not within the semantically focused constituent**

2.1 Irish Verum/Verb Focus

Bennett et al. (to appear: §4) describe this phenomenon in Irish, in clauses with emphatic polarity and verbal focus.

- In such cases, a discourse-given weak pronoun unexpectedly bears the prosodic focus marking

- (2) A: 'nois, bain giota dó 'na bhaile
 now take.IMPERV bit of-it home
 'Now, head off home.'
 B: Tá MÉ a' gabhail 'na bhaile.
 be I PROG go home
 'I AM going home.'

Bennett et al.: the Irish verb incorporates up through Pol^0 , the head that bears semantic focus here

- The weak pronoun is also incorporated into the verbal complex²
- Rules of Irish prosody put the focal accent on the part of the prosodic word that the pronoun happens to occupy
 - ▶ BIN-FOC: Semantically focused constituents should contain at least two prosodic ω s
 - ▶ HD-R: Stress should fall on the rightmost element of a prosodic constituent
 - Thus, the pronoun bears the focal accent not as a pronoun *per se*, but rather just as a segmental piece of the $2\text{-}\omega$ constituent containing the semantic focus, Pol^0
- Essentially the same effect can be observed when the V^0 itself is semantically focused

- (3) A: Cuir síos é.
 send down it
 'Drive it down.'
 B: Ní rachaidh SÉ síos.
 NEG.FIN go.FUT it down
 'It won't GO down.'

- ▶ For this, Bennett et al. extend their analysis for Pol^0 -focus, which is also a head in the same verbal-complex
 - So focus marking lands on the rightmost element of the $2\text{-}\omega$ constituent containing Pol^0

This is summarized below:

Semantic focus	Prosodic focus
Pol^0 / V^0	Subject pronoun

What's focused in Irish (Pol^0, V^0) doesn't have enough prosodic structure to support focus-marking

- So general aspects of Irish prosodic phonology kick in, and place the accent in a phonological phrase (V-complex) that contains the semantic focus (Pol^0, V^0)

In this way, **prosodic phonology (operating on morphosyntactic output) can yield a semantics-prosody mismatch**

²This isn't head incorporation, but prosodic incorporation. This distinction is crucial for Bennett et al., as it means the pronoun isn't incorporated until after the verbal complex is built, explaining both its linear order and its prosodic properties. This component of their proposal strikes us as ripe for reanalysis, but we leave this aside here.

2.2 Basque Verum Focus

Basque exhibits a nearly identical phenomenon involving a semantics-prosody mismatch:

- It also arises in contexts with emphatic polarity (*retorts*: Sailor 2014), and the wayward focal prominence is realized on the given subject.
- However, unlike Irish, the focal prominence in Basque can appear on a full DP subject (I. Laka, p.c.; ex. adapted from Laka 1990:86, 105):

- (4) A: Irune ez da etorri.
 Irune NEG has arrived
 ‘Irune has not arrived.’
- B: Irune BA da etorri.
 Irune AFF has arrived
 ‘(Actually,) Irune has SO arrived.’
- B’: IRUNE da etorri.
 Irune has arrived
 ‘(Actually,) Irune HAS arrived.’

► Laka describes an analysis in which *ba* is the realization of an affirmative Pol⁰, and it bears focus prominence in the context of (4B)

► She goes on to describe an allomorph of this Pol⁰ that is silent; when it is silent, the subject bears focus prominence in the context of (4B')

Like Irish, **mismatch arises when there is not enough prosodic structure to support prosodic focus marking**

- In (4B'), the silent Pol⁰ cannot support prosodic focus marking

Semantic focus	Prosodic focus
Pol ⁰	Subject (DP or pronoun)

An unresolved question: why the subject (and not the aux or V)?

- We do not have enough information to decide (cf. §1.3)
 - Hypothesis: Focus is a floating prosodic marker of stress, and it docks to its left during the phonological computation (cf. Sailor 2014)
 - Perhaps because of how the floating stress is prosodically phrased, perhaps because it is an enclitic, ...
 - Hypothesis: A focused silent head can transfer its syntactic ‘FOC’ marking to its specifier, during the morphophonological computation (cf. Ahn 2015)
 - Prosody sees the Spec,PolP as FOC-marked, and Semantics sees Pol⁰ as FOC-marked

2.3 English Reflexive Objects

English manifestations of prosodic focus are well explored

- Generalization: Prosodic marking of focus occurs inside the semantically focused constituent
 - On the element with the highest level of stress (as determined by a lexical/phrasal stress rules; e.g., Jackendoff 1972)
- (5) A: The recent hire assigned Liam to Kim.
 B: No, the project ÓRGANIZER assigned Liam to Kim.
- The semantically focused constituent is *the project organizer* and the prosodic marking of focus falls within it, on the first syllable of *organizer*

Focused reflexive objects appear to violate this generalization, however (Ahn 2015)

- When a reflexive anaphor is focused, it yields an interpretation of focused reflexivity
 - i.e., focus is on the fact that there is co-identity of the predicate's two arguments

- (6) A: The recent hire assigned Liam₁ to Kim.
 B: No, he₁ assigned HIMSÉLF to Kim.

In (6), the focused reflexive yields an interpretation of “*when someone assigned Liam to Kim, it was a reflexive ‘assigning’ event*”.

- Syntax constrains where this type of reflexive-focus interpretation is available.
- For example, such clauses cannot be passive:

- (7) A: Kim was assigned to Liam₁.
 B: #No. He₁ was assigned to HIMSÉLF.
 B': No. HÉ₁ was assigned to HIMSÉLF.

The semantic focus in (6) can't be the content of the reflexive anaphor itself, otherwise (7B) would be good.

- Ahn posits a focused silent reflexivizing Voice⁰
- Reflexive Voice⁰ is unavailable in (7), because it is in complementary distribution with a passive Voice⁰

Semantic focus	Prosodic focus
Voice ⁰	Object (reflexive)

These effects are modulated by manipulating syntactic variables

- The semantics-prosody mismatch cannot occur in Passive Voice⁰
 - (See Ahn (2015) for manipulation of other syntactic variables, and worked-out derivations)
- **It is a strong case for analyses in which mismatches hinge on syntactic structures**
- In particular: when such structures contain a constituent that (i) is under semantic focus and (ii) is prosodically insufficient to host focus prosody (because, e.g., it is silent)

2.4 Italian Nominal Identity

In Standard Italian, semantics-prosody mismatches can be found within the nominal domain.

- Corrective focus on the identity of a nominal (see Siemund 2000 on *centrality effects*) can be realized prosodically on the determiner (or the P+D complex):

- (8) A: Questo è il cane del figlio del capo.
 this is the dog of.the son of.the boss
 ‘This is the dog of the son of the boss.’
 B: No, è il cane DEL capo.
 no is the dog of.the boss
 ‘No, it is the dog of the boss HIMSELF.’

This has similarities to the English reflexive example in (6), but in the nominal domain:

- Speakers uniformly report that it is the identity of the NP (versus plausible discourse alternatives) that bears the semantic focus, not the NP's denotation.
- Yet, the prosodic focus making falls on an element which is totally discourse-given: *del* ‘of.the’.

In Germanic languages, similar contexts have been analyzed as focused identity functions

- That is, for (9), Eckardt analyzes *selbst* as an identity function:

(9) Peter SELBST fährt gerne in die Berge.
 Peter ID drives gladly in the mountains
 ‘Peter HIMSELF likes to go to the mountains’

(Eckardt 2001)

- ▶ ID(*Peter*) simply returns *Peter*
- ▶ Focusing ID brings up “conceptually accessible set of functions” (e.g., MOTHER-OF, DOG-OF)

One analysis of data like (8) might be that that is under focus is also ID⁰, but it is silent in Italian

Semantic focus	Prosodic focus
ID ⁰ (?)	D ⁰ (or D ⁰ +P ⁰)

- This analysis is much less substantiated, and requires deep investigation of (at least):
 - ▶ (i) Italian nominal structure, (ii) the focus semantics of (8), and (iii) details of Italian prosodic phonology (with special regard to focus)
- But! **Taken into consideration our other mismatch examples, we were able to construct a simple hypothesis of how to approach the data**
 - ▶ Look for semantic functions that lack the prosodic structure necessary to support focus marking

2.5 Afrikaans Exclamatives

Additional examples of semantics-prosody mismatches can be found in Afrikaans, for example in its verb-initial polar exclamatives (see Biberauer 2010).

- The prosodic focus marking may be realized in one of (at least) three positions in these examples, crucially with no semantic difference among them (T. Biberauer, p.c.):
- (10) a. HET jy (nou) ’n uitstekende opstel geskryf!
 b. Het JY (nou) ’n uitstekende opstel geskryf!
 c. Het jy (nou) ’n UITSTEKENDE opstel geskryf!
 have you now an excellent essay written
 ‘What an amazing essay you’ve written!’

Since the meaning is constant, with many possible surface forms, **these mismatches should not be thought of as ‘idiomatic’ stress patterns**

- Rather, they appear to be actively formed in the derivation

To understand the derivation, we should first point out that exclamatives express surprise at the extent of some degree

- Rett (2008) argues that this involves a degree operator, which is null in polar exclamatives such as (10)
 - ▶ It originates clause-internally (local to e.g. a gradable adjective)
 - ▶ It syntactically moves to the left periphery (e.g., Spec,CP)
- Given the semantics of these exclamatives, which all remark on the degree of excellence, it is plausible that this null operator is under semantic focus
 - ▶ In this way, there is a constant LF representation (focus on the degree operator), with multiple possible associated PF forms

Semantic focus	Prosodic focus
OP _{DEG}	{ Auxiliary (V1) Subject Adjective (gradable) }

We have some tentative suggestions for how to arrive at multiple surface forms

- Perhaps prosodic phonology produces multiple optimal candidates
 - ▶ Although this seems less likely, as it is not clear how (prosodic) phonology would isolate the attested forms apart from the unattested ones
 - ▶ (It isn't clear which phonological primitives could be used to yield the pattern above)
- Perhaps this has to do with structural positions of the OP_{DEG}
 - ▶ Perhaps this is like quantification at a distance
 - ▶ Perhaps the copy reduction process can Spell Out OP_{DEG} in multiple positions

2.6 English Exclamatives

Similar to Afrikaans exclamatives, the subject of a clause can bear focus stress in polar exclamatives

(11) *[I know John regularly looks nice, but I just saw him, and...]*

- a. BOY did he look nice!
- b. Boy did HE look nice!
 “He looks especially nice today”

- Like Afrikaans exclamatives (§2.5), (11) remarks at the extent to which some degree holds
 - ▶ Here: nice-lookingness
- The focus marking can occur on the subject, which is not under semantic (exclamative) focus³
- As with Afrikaans, we assume such sentences involve a null degree operator (Rett 2008) which is under focus
 - ▶ Null/silent material is an unsuitable host for a prosodic focus marking
 - By violating the minimal-size constraint
 - ▶ This yields a mismatch case, since the host will have to be something that is outside the semantically focused constituent⁴

<u>Semantic focus</u>	<u>Prosodic focus</u>
OP_{DEG}	{ “Boy” } { Subject }

The similarities between Afrikaans and English exclamatives suggest that the **semantics-prosody mismatches come about through syntactic derivations**

- Afrikaans and English are remarkably similar in the syntax of their inversion exclamatives

³Such examples would not constitute semantics-prosody mismatches if the subject were in fact the semantic focus, i.e. if (11b) were expressing surprise at the fact that it's John of all people who look nice. Aside from the fact that context rules this out in (11b), this reading isn't actually provided by the semantics of exclamatives, which are built on gradable properties, not individuals (again, see Rett 2008). If we try to construct an unambiguous exclamative about individuals rather than degrees, the result is ill-formed:

- (i) You of all people should know the answer to this.
- (ii) #Boy should YOU of all people know the answer to this!

⁴It's clear that this can't simply be a surface phonological phenomenon, as the nature of the subject (e.g. its semantic content / syntactic status) is relevant. For example, expletive subjects cannot bear the prosodic focus marking (thanks to Bjørn Lundquist for pointing this out):

- (i) ??Boy is IT a nice day!
- (ii) ??Boy are THERE a lot of people here!

Superficially, this looks like evidence against a semantics-prosody mismatch: if the prosodic focus marking is interpreted in-situ, and the subject has no semantic content, then it would yield the above unacceptability. Despite this, though, we can rule out the possibility that the subject is the semantic focus: see fn. 3.

2.7 Hungarian Missing Copulas

In Hungarian clauses with non-verbal predicates, the copula appears in a post-predicate position

- With predicate PPs, the copula is always overt
- But with predicate nominals, the PRES.3SG copula is obligatorily null

- (12) a. Az öccse egy katoná-val van.
 the younger.brother.3SG.POSS a soldier-INSTR be.PRES.3SG
 ‘His younger brother is (living) with a soldier.’
 b. Az öccse katona (*van).
 the younger.brother.3SG.POSS soldier (*be.PAST.3SG)
 ‘His younger brother is a soldier.’

Now consider corrective focus contexts, when the semantic focus falls on the tense specification (T^0)

- With predicate PPs, the prosodic focus marking shows up where we’d expect, i.e. on the copula expressing tense:

- (13) A: Az öccse egy katoná-val volt?
 the younger.brother.3SG.POSS a soldier-INSTR be.PAST.3SG
 ‘His younger brother was (living) with a soldier?’
 B: Nem, egy katoná-val VAN.
 no a soldier-INSTR be.PRES.3SG
 ‘No, he IS (living) with a soldier.’
 (14) A: Az lányod Leiden-ben volt?
 the daughter.3SG.POSS Leiden.in be.PAST.3SG
 ‘Your daughter was in Leiden?’
 B: Nem, Leiden-ben VAN.
 no Leiden-INESS be.PRES.3SG
 ‘No, she IS in Leiden.’

But with predicate nominals, we see a semantics-prosody mismatch arise.⁵

- This arises in exactly the circumstance we’ve now come to expect:
 - ▶ Semantic focus on tense cannot be expressed by in-situ prosodic prominence:
 - ▶ The PRES.3SG copula is null with predicate nominals, as in (12b).

- (15) A: Az öccse katona volt?
 the younger.brother.3SG.POSS soldier be.PAST.3SG
 ‘His younger brother was a soldier?’
 B: Nem, katoNA \emptyset .
 no soldier be.PRES.3SG
 ‘No, he IS a soldier.’
 B’: *Nem, katona VAN.
 No soldier be.PRES.3SG

In these cases, the focus is exceptionally marked as stress on the final syllable of the predicate (Kenesei et al. 1998:430)

Semantic focus	Prosodic focus
T^0	Predicate nominal

This is especially notable, as Hungarian is famously rigidly stress initial, word-internally (Kenesei et al. 1998:453)

- Up to this point, all the data we have seen has involved prosodic focus marking that is exceptional, from a semantic perspective

⁵Thanks to Anikó Lipták for bringing this phenomenon to our attention and for providing data, and to András Bárány for additional discussion.

- Focus-alignment constraints can be violated (Hungarian data exhibits such a violation)
- In addition, though, this data shows that **rules of prosodic phonology can also be violated in semantics-prosody mismatches**

Notably, the exceptionally stressed syllable is at the right edge of the word

- The same side of the word where an overt T⁰ / copula is found
- This may suggest that Hungarian is employing an analysis that we hypothesized about earlier⁶
 - Hypothesis: Focus is a floating prosodic marker of stress, and it docks to its left during the phonological computation (cf. Sailor 2014)
 - Perhaps because of how the floating stress is prosodically phrased, perhaps because it is an enclitic, ...

2.8 (American) English Epistemic Expressions

The Hungarian data we just observed tells us that, in cases of mismatch, focus marking may result in violations of language-internal prosodic phonology

- In all the English data we have observed to this point, the mismatches otherwise adhered to the language-internal prosodic phonology
 - Suggesting that English and Hungarian are different
 - Suggesting that English might be uniform in how it responds to cases where the prosodic structure of what is focused is too small

In spoken American English, sometimes stress falls on a syllable that is not lexically stressed (see Armstrong and Schwenter 2016)

- Violating the otherwise adhered-to property that focus stress does not affect the location of lexical stress⁷

(16) A: Looks like José's got a new girlfriend. (17) A: Those people must be from Texas.
 B: Ap[PAR]ently/Apparent[LY] B: [PRO]bably/Probab[LY]

- Armstrong and Schwenter gathered experimental data on this phenomenon and found that this mismatch is only possible with mid-scalar⁸ epistemic meaning
 - Alongside some kind of mirative/sourcehood meanings like “I hadn't thought of that” or “good point”
- The bearer of stress need not be an adverb, nor be the word that encodes any scalar epistemic meaning:

(18) A: Is this where we're sitting?
 B: I [GUESS] so/I guess [SO]

They do not provide a detailed semantic analysis, nor does there seem to be any constraints on the types of words that bear prosodic focus

- For now, we will hypothesize the following:

Semantic focus	Prosodic focus
Mood ⁰ (?)	Final syllable (?)

⁶To be clear, we do not take this to mean all languages employ the same analysis. In fact, as we will see in §2.8, it must be that single languages don't always employ the same analysis.

⁷All data on this topic is pulled from Armstrong and Schwenter 2016.

⁸This is incompatible with end-points on the epistemic scale:

(i) A: Those people are for sure from Texas.
 B: [DE]finitely/??Definite[LY]

This data requires some mechanisms for realizing focus marking on a word that doesn't directly encode the epistemic meaning

- This is like what we saw earlier in English, with data from reflexives and exclaimatives
- However, this phenomenon is different: focus marking can surface on lexically unstressed syllables
- This means that **a single language need not employ the same operations to manage mismatches, across the board**
 - Which of course means that we should expect (some) cross-linguistic variation in managing semantics-prosody mismatches as well

3 Analytical Outlook and Conclusions

3.1 Most Broadly

We've shown diverse examples of languages tolerating "misplaced" prosodic focus marking

- "Misplaced" meaning violating some other (surface) generalizations about the language
 - These prosodic markers of focus may wind up on discourse-given expressions, but this doesn't yield an interpretive problem
 - They may even wind up in positions that appear to violate other robust facts about a language's prosodic phonology, but this does make it a bad surface form

This systematically arises when segment-less syntactic content falls under semantic focus

- The grammar needs a strategy for resolving this crisis, and accent displacement is evidently one such strategy.
- It also arises when syntactic content does have segments, in case the segments don't constitute enough structure to support prosodic focus marking

This should be on the research agenda for anyone concerned with how LF and PF interact

- And the extent to which the relevant components are represented earlier, directly in the syntax (e.g. with Focus positions/features).

3.2 Questions Answered

Descriptive Question: How can we characterize the commonalities across these phenomena to connect them?

- All of these cases involve a focused semantic element which lacks sufficient phonological content to support prosodic focus marking
 - e.g., the focused semantic constituent lacks any segmental correspondent in the phonology (e.g., is 'silent')

Typological Question: Why are they so common?

- These are common because of these structures are regularly produced by the Grammar

Theory-Driven Question: What happens when silent material is semantically focused?

- The grammar employs some mechanism for resolving the conflicting demands of focus-alignment constraints and minimal-size constraints

Analytical Question: What options do languages have to address this mismatch?

- The data suggest that there are at least two different sorts of solutions
 - Ones that lead to violations of focus-alignment constraints
 - Ones that additionally lead to violations of more general constraints of prosodic phonology

3.3 The Hypothesis Space / Generalizations

Punchier question in retrospect:

- **What can Grammar do when prosodically silent/too-small things are focused?**

Instead of asserting particular analyses to answer that question, we have aimed to probe the hypothesis space for how semantics-prosody mismatches are generated

- We did so by considering what we could minimally conclude from our dataset and the literature

Some generalizations we uncovered (all review)

- Prosodic phonology (operating on morphosyntactic output) can yield a semantics-prosody mismatch
- Mismatch arises when there is not enough prosodic structure to support prosodic focus marking
- Mismatches hinge on syntactic structures
- We can investigate new phenomena with now work on them
- mismatches should not be thought of as 'idiomatic' stress patterns
- similarities between Afrikaans and English exclamatives suggest that the semantics-prosody mismatches come about through syntactic derivations
- rules of prosodic phonology can also be violated in semantics-prosody mismatches
- a single language need not employ the same operations to manage mismatches, across the board

We should like to know what is compatible with existing research on semantics/syntax/prosody in these languages

- And also what new conclusions these sorts of phenomena might lead us to

If you're wondering where the heady analysis is, the answer is "give us a grant and we'll let you know in a year or two".

- The scale of this project is big. To make progress, there is a lot we must understand (§1.3)

3.4 Open Questions

A few of the big open questions that arise just out of what we've presented today:

- What are the prospects for a unified analysis of this phenomenon?
 - Challenging in the face of some superficial diversity (e.g. simple prominence vs. lexical stress-shifting)
 - Desirable on grounds of parsimony, and on how we think the architecture of grammar works:
 - The syntax generates the structures that effectively mediate between PF and LF, so it must constrain the options.
- Do we see semantics-prosody mismatches in non-focus contexts? Or is this just a focus phenomenon?
 - That is, where some other type of meaningful prosodic unit gets expressed in a position distinct from its semantic interpretation?
- What dictates whether a language will invoke an insertion-type strategy vs. a displacement-type strategy?
 - Does this correlate with any other grammatical conditions (e.g. blocking: cf. tense-lowering vs. *do*-support in English)?

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APPENDIX

A Requirements for Full Analysis of ‘Mismatches’

An (incomplete) list of what is required to fully analyze these “semantics-prosody mismatches”

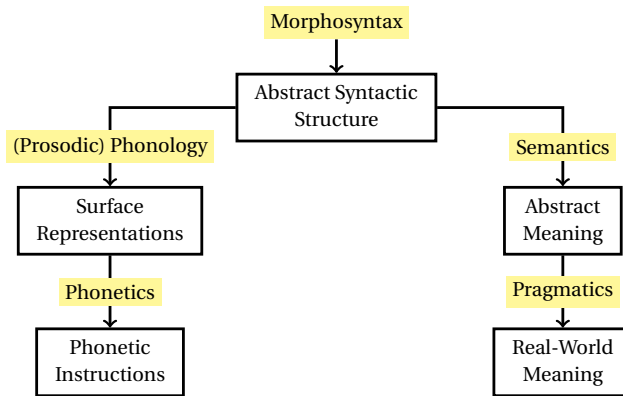
- Lots of language-internal investigation
 - ▶ Robust descriptions of the data patterns and their internal properties
- Clear understanding of the language’s prosodic characteristics
 - ▶ what prosodic structures are used
 - ▶ how prosodic structures are built
 - ▶ which prosodic devices are used to mark focus (if any)
- Clear understanding of what precisely is under semantic focus
 - ▶ how do those semantic pieces manifest in the syntax
 - ▶ how do those syntactic pieces manifest as prosodic structure
- Models of...
 - ▶ the syntax
 - ▶ prosodic phonology
 - ▶ language acquisition
 - ▶ Grammatical architecture and interfaces

B The Model We Assume

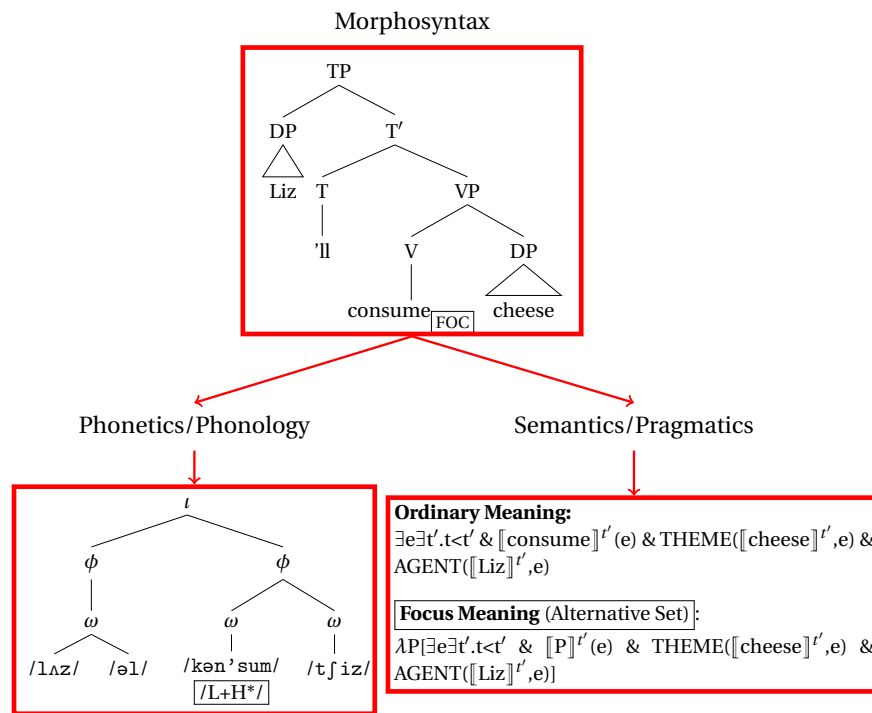
As this paper concerns the relationship between semantics and prosody, we need to lay out our commitments about the interface architecture

- We adhere to a (Minimalist) model in which syntax mediates the prosody-semantics connection (cf. Chomsky 1995)

(19) Y-Model of Grammar



- ▶ In this model, there is no direct semantics-prosody interface, *per se*
- ▶ Instead, it's that morphosyntactic information underwrites both prosody and semantics
- More concretely, this means, for prosody to expone a semantic notion like focus, **it must be that syntax mediates the semantics-prosody connection**, and focus is marked in the syntax (cf. Jackendoff 1972, Selkirk 1984)

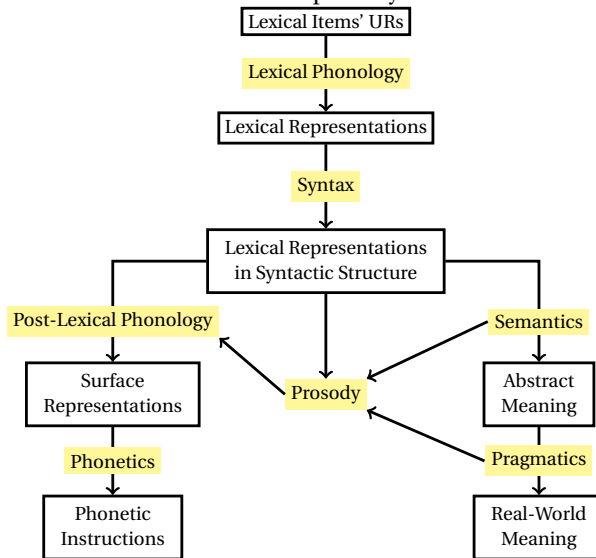


- ▶ This highlights that semantics and prosody essentially operate over the same domain, **because that domain is marked as focused in the syntax**

This model constrains the types of hypotheses one can entertain, providing more testable predictions

C Alternative Grammatical Model

(20) Model of Grammar in which prosody has direct access to more grammatical information



This sort of model is (implicitly) invoked by many working on prosodic interfaces, from the perspective of prosodic phonology

- This can be seen in certain works on how to model prosody on the basis of discourse structure, speaker beliefs, focus/topic, etc.
- A model like (20) can certainly be used to derive all these effects, since semantics, pragmatics, and syntax all feed into the prosodic computation

With this sort of model, semantics-prosody mismatches may be seen as true mismatches between components that directly interface with one another

- i.e., prosody can create a mismatch from semantic structures, on the basis of pragmatic/syntactic/prosodic features
- In this way, there are many fewer predictions on where to find mismatches (or how to derive them), as compared to the Y-model adopted in this work