The landscape of semantics-prosody mismatches[*]

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1 Introduction

In many languages, semantic focus is signaled through prosodic marking

- e.g., amplitude, pitch movement, prosodic phrasing...

The position of such prosodic marking is obviously important:

- Compare the two readings in (1), differentiated only by the position of prosodic focus marking (indicated throughout 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.

<u>Observation:</u> Sometimes, prosodic focus marking falls on a position (e.g. a morpheme, a word) that is not part of the constituent under semantic focus.[1]

- 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 (or even a subpart of the focus denotation).

  ▸ We refer to such configurations as *semantics-prosody mismatches*, and note that they pose a prima facie problem for many approaches to focus (especially regarding prosody and semantics-prosody alignment).

Today's goals:

- Show that such mismatches are apparently quite widespread

  ▸ In addition to Irish, we will introduce examples from Afrikaans, Basque, English, Hungarian, and Italian.

- Answer two questions:

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[1]Contrast this with cases where a proper subpart of the semantically-focused constituent bears the prosodic marking, e.g. *Sue read a* ⌐BOOK⌐ in response to a broad focus-eliciting question, e.g. *What happened?*.

- ▸ **Descriptive Question:** What do these cases have in common?

- ▸ **Typological Question:** Why are they so common?

- Argue that these disparate-looking examples are all configurationally similar

  - ▸ They all involve semantic foci which happen to lack phonological content.

  - ▸ In other words, mismatches arise when the semantically-focused constituent is an unsuitable host for prosodic marking.

  - ▸ The grammar is leaky: "this focus stress doesn't actually get interpreted here, but it's close enough."

    - ▪ Important conclusion for the semantics-prosody mapping: sometimes it's not transparent, or even close;

    - ▪ Focus stress need not signal that its host is semantically focused, as long as something nearby is.

- Sketch some analytical options for how such mismatches could be generated in the grammar

  - ▸ Our goal today isn't to commit to any analysis

  - ▸ Rather, we want to add such cases to the research agenda for those working on both s- and p-sides of focus theory.

2   Theoretical Background

Contemporary theories of the syntax-prosody interface generally hold the following:

- 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)

- Focus-alignment constraints influence where prosodic focus marking is realized

  - ▸ e.g., in languages that mark focus with stress, that stress must arise 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 meaning of (1a) with focus marking occurring on, e.g., *cheese*

- 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 ωs' (Irish; cf. Bennett et al. *to appear*)

Considering these together, we are led to some additional pointed questions (to be answered):

- **Theory-Driven Question:** What happens with alignment when a semantically focused element is not prosodically sufficient to support focus marking?

  - ▸ e.g. when the focused element is a silent operator, or silent functional head, etc.

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

First, some case studies exhibiting the generality of the phenomenon.

3   Case studies in semantics-prosody mismatches

3.1   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.IMP 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 complex[2]

- Rules of Irish prosody put the focal stress on the part of the prosodic constituent that the pronoun happens to occupy (the rightmost syllable of the focus-containing ϕ)

  ‣ BIN-FOC: Semantically focused constituents should contain at least two prosodic ωs

  ‣ HD-R: Stress should fall on the rightmost element of a prosodic constituent

    ▪ Thus, the pronoun bears the focal stress not as a pronoun *per se*, but rather just as a segmental piece of the 2-ω 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-ω 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 stress 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**

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[2]This 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.

3.2 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 $\boxed{\text{BA}}$ da etorri.
    Irune AFF has arrived
    '(Actually,) Irune has $\boxed{\text{SO}}$ arrived.'

  B′: $\boxed{\text{IRUNE}}$ da etorri.
    Irune has arrived
    '(Actually,) Irune $\boxed{\text{HAS}}$ arrived.'

  ▸ Laka describes an analysis in which *ba* is the realization of an affirmative Pol^0, and it bears focus prominence in the context of (4B)

  ▸ She goes on to describe an allomorph of this Pol^0 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 Pol^0 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)

  ▸ 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 Pol^0 as FOC-marked

3.3 English Reflexive Objects

Manifestations of prosodic focus are well explored in English

- 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 $\boxed{\text{ÓRGANIZER}}$ 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 Liam$_1$ to Kim.
     B: No, he$_1$ assigned $\boxed{\text{HIMSÉLF}}$ to Kim.

In (6), the focused reflexive yields an interpretation of "*when someone assigned Liam to Kim, it was a <u>reflexive</u> '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 Liam$_1$.
     B: #No. He$_1$ was assigned to $\boxed{\text{HIMSÉLF}}$.
     B′: No. $\boxed{\text{HÉ}_1}$ was assigned to $\boxed{\text{HIMSÉLF}}$.

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 Voice^0

- Reflexive Voice^0 is unavailable in (7), because it is in complementary distribution with a passive Voice^0

Semantic focus	Prosodic focus
Voice^0	Object (reflexive)

These effects are modulated by manipulating syntactic variables

- The semantics-prosody mismatch cannot occur in Passive Voice^0

  ‣ (*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)

3.4 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 $\boxed{\text{DEL}}$ capo.
         no is the dog of.the boss
         'No, it is the dog of the boss $\boxed{\text{HIMSELF}}$.'

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

- Speakers uniformly report that it is the <u>identity</u> 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 $\boxed{\text{SELBST}}$ fährt   gerne in die Berge.
        Peter ID^0 drives gladly in the mountains
        'Peter $\boxed{\text{HIMSELF}}$ likes to go to the mountains'   (Eckardt 2001)

    ▸ $\text{ID}(Peter)$ 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 what is under focus is also ID^0, 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! **Taking into consideration our other mismatch examples, we're 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

3.5   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. $\boxed{\text{HET}}$ jy (nou) 'n uitstekende opstel geskryf!
         b.   Het $\boxed{\text{JY}}$ (nou) 'n uitstekende opstel geskryf!
         c.   Het jy   (nou) 'n $\boxed{\text{UITSTEKENDE}}$ 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}	$\left\{ \begin{array}{c} \text{Auxiliary (V1)} \\ \text{Subject} \\ \text{Adjective (gradable)} \end{array} \right\}$

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

3.6 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. BÓY did he look nice today!
  b. Boy did HÉ look nice today!
  c. Boy did he look NÍCE today!
     "He looked especially nice today"

- Like Afrikaans exclamatives (§3.5), (11) remarks at the extent to which some degree (e.g., nice-looking-ness) holds

- The focus marking can occur on the subject, which is not under semantic (exclamative) focus[3]

- As with Afrikaans, we assume such sentences involve a null degree operator (Rett 2008) which is under focus

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[3]Such 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!

▸ Null/silent material is an unsuitable host for a prosodic focus marking (the minimal-size constraint)

▸ This yields a mismatch: the host will have to be something that is outside the semantically focused constituent[4]

Semantic focus	Prosodic focus
OP_{DEG}	$\left\{\begin{array}{c}\text{"Boy"}\\\text{Subject}\end{array}\right\}$

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

3.7   Hungarian Missing Copulas

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

• With predicate PPs, the copula is <u>always</u> overt

• But with predicate nominals, the PRES.3SG copula is obligatorily <u>null</u>

(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.PRES.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]

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[4]It'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 Lundqvist 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.

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

- 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, kato NA Ø.
            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

  ‣ i.e., We have see that focus-alignment constraints can be violated – this Hungarian data exhibits such violations

- In addition, though, this data shows that **general 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 T^0 / copula is found

- This may suggest that Hungarian is employing a strategy that we hypothesized about earlier[6]

  ‣ 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, ...

3.8   Some English Propositional Modifiers and Subordinators (apparentLY!)

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

- In all the English data so far, mismatches otherwise obeyed language-internal prosodic phonology:

  ‣ Focus stress falls on a lexically-stressed syllable, even in mismatch cases.

    ■ This suggests that English vs. Hungarian mismatches are fundamentally different, and

    ■ Suggests that English has just one pathway for dealing with semantically-focused elements that cannot support prosodic focus.

However, in some varieties of English, focal stress can fall on a syllable that is not lexically stressed.[7]

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[6]To be clear, we do not take this to mean all languages employ the same strategy. In fact, as we will see in §3.8, it must be that individual languages don't always employ the same strategy.

[7]See Armstrong and Schwenter (2016) for some similar data and for other comments.

- This violates the otherwise adhered-to property that focus stress respects the position of lexical stress.

(16)   Context: *Lynda and Janelle are on the train, and stopped on the tracks*
    J: I think we will be late
    L: pròbab LÝ /próbably

(17)   Context: *No one knows for sure whether Jill's grant will be funded, but everyone thinks it should be.*
    A: I think Jill's grant will be funded
    S: hòpeful LÝ /hópefully

(18)   Context: *Kris and Shane look out the window and see lots of puddles and a wet sidewalk.*
    K: it must have rained
    S: appàrent LÝ /appárently

(19)   Context: *Hank and Elena's grandfather usually brings his special Christmas cookies when he visits during the holidays.*
    H: I bet grandpa will bring his cookies tomorrow
    E: mày BÉ /máybe

- The bearer of stress need not be an adverb, nor be the word that encodes any scalar epistemic meaning:

(20)   Context: *Kris and Shane look out the window and see lots of puddles and a wet sidewalk.*
    K: it must have rained
    S: (it) mùst HÁVE /(it) múst have

(21)   Context: *Molly and Rita are deciding between taking the train and taking the bus from the airport. When they get to the transportation center, a sign says "Trains out of service".*
    M: we'll have to take the bus
    R: (I) guèss SÓ /(I) guéss so

We observe that this final-syllable stress pattern is <u>only</u> available when there is a <u>reduced (proform) or unpronounced proposition</u> that is modified/subordinated

(22)   Context: *Kris and Shane look out the window and see lots of puddles and a wet sidewalk.*
    K: it must have rained
    a.   S: appàrent LÝ
    b.   S: appàrently SÓ
    c.   *S: appàrent LÝ it rained
    d.   #S: appàrently it RÁINED

(23)   Context: *Lynda and Janelle are on the train, and stopped on the tracks*
    J: I think we will be late
    a.   L: pròbab LÝ
    b.   L: pròbably SÓ
    c.   *L: we pròbab LÝ will be late
    d.   #L: we pròbably will be LÁTE

- Note the appropriate position of focus stress in the same context, when there is no elided/pro-form clause:

(22)   e.   S: appàrently it DÍD (rain)

(23)   e.   L: we pròbably WÍLL be (late)

    ▸ What bears focus stress in these contexts (and when the clause is more fully pronounced) is the same element that would support verum/polarity focus for English.

        ■ (cf. Irish polarity focus §3.1, Basque polarity focus §3.2, and their English equivalents)

    ▸ No final-syllable focus pattern is possible when some piece of the proposition's "middlefield" is pronounced

        ■ Compare (22c–d) with (22e)

        ■ Suggesting that what licenses this is an unpronounced element in the middlefield of the clause.

- These syntactic facts strongly suggest the following two conclusions:

    ▸ **Syntax plays a key role in yielding focus mismatches** of this type, and

    ▸ This phenomenon might have derivational similarities to polarity/verum focus mismatches.

What is missing is a complete understanding of what is under semantic focus.

- The semantic/pragmatic contribution of this final-syllable focus remains to be properly characterized.

  ▸ Armstrong and Schwenter (2016) gathered experimental data on this phenomenon and found that this mismatch is only possible with certain propsoitional modifiers/subordinators[8] epistemic meaning

    ▪ They find that these can often occur with mirative/sourcehood readings like "I hadn't thought of that" or "good point"

  ▸ However, these are not always the readings found with this focus stress placement

    ▪ There appear to be interactions with choice of intonational tune (Ahn and Jeong, in prep)

For now we can conclude:

Semantic focus	Prosodic focus
A middlefield head (?)	Final syllable (?)

This phenomenon involves focus marking within a word that doesn't directly encode the meaning that is under focus

- This is like what we saw earlier in English, with data from reflexives and exclamatives

- However, this phenomenon is different: focus marking can surface on lexically/phrasally unstressed syllables

- This means that **a single language may have more than one strategy for managing mismatches**

  ▸ Which of course means that we should expect (some) cross-linguistic variation in this domain as well.

4   The Landscape of Sematics-Prosody Mismatches

4.1   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 <u>syntactic</u> content under semantic focus is too small (e.g., because it is segment-less)

- The grammar needs a strategy for resolving this crisis, and stress displacement is evidently one such strategy.

- It also arises when syntactic content does have segments, in case the segments don't constitute <u>enough</u> 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).

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[8]In particular, they found this final-stress to be incompatible with some adverbials that indicate an end-point on an epistemic scale:

(i)   A: Those people are for sure from Texas.
   a.   B: appàrent LÝ /appárently
   b.   B: ??dèfinite LÝ /définitely

However, ongoing work (Ahn and Jeong, in prep) finds that there are contexts that permit *obvious* LÝ , which (at least at first analysis) is an adverbial expressing an end-point of the epistemic scale. Deeper investigations on which expressions can participate in this type of mismatch will be important for complete understanding of the phenomenon.

4.2   Questions Answered

Descriptive Question: What do these cases have in common?

- <u>All</u> 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

4.3   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

<u>Some generalizations we uncovered</u> (all review)

- Prosodic phonology (operating on morphosyntactic output) can yield a semantics-prosody mismatch
- Mismatches arise 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
- General rules of prosodic phonology can also be violated in semantics-prosody mismatches
- A single language may have more than one strategy for managing mismatches

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).

4.4 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?

  - <u>Challenging</u> in the face of some superficial diversity (e.g. simple prominence vs. lexical stress-shifting)

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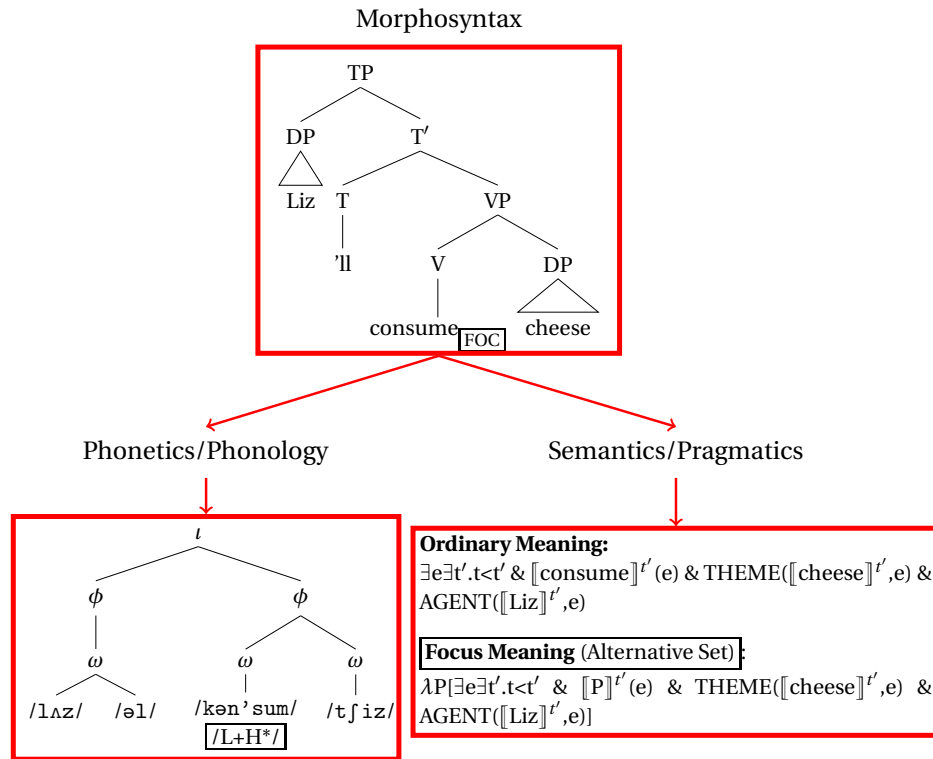
- We adhere to a (Minimalist) model in which syntax mediates the prosody-semantics connection (cf. Chomsky 1995)

(24)   Y-Model of Grammar
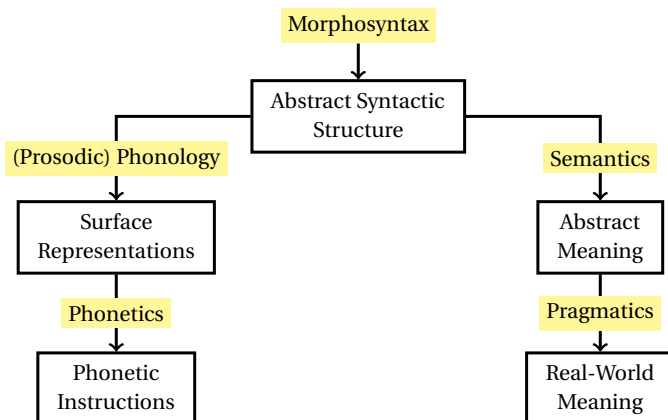
- ‣ In this model, there is no direct semantics-prosody interface, *per se*

- ‣ 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)
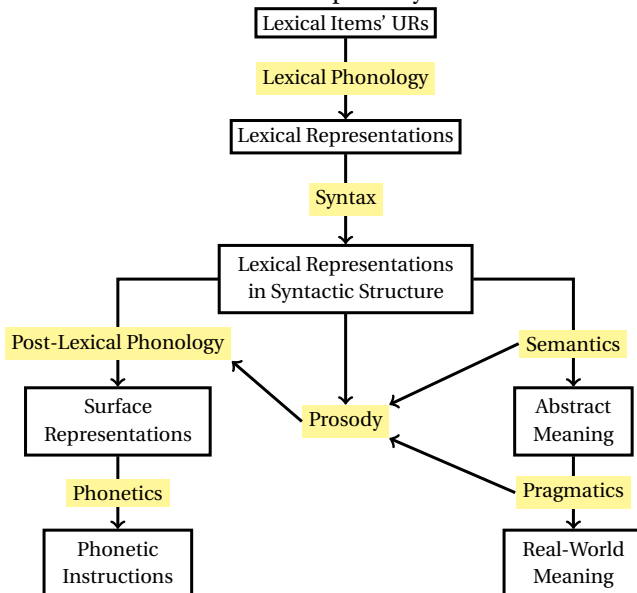
Morphosyntax

TP
DP   T′
Liz   T   VP
'll   V   DP
consume FOC   cheese

Phonetics/Phonology   Semantics/Pragmatics

ι
ϕ ϕ
ω ω ω
/lʌz/   /əl/   /kən'sum/   /tʃiz/
/L+H*/

Ordinary Meaning:
$\exists e \exists t'.t<t'$ & $[\![\text{consume}]\!]^{t'}(e)$ & $\text{THEME}([\![\text{cheese}]\!]^{t'},e)$ & $\text{AGENT}([\![\text{Liz}]\!]^{t'},e)$

Focus Meaning (Alternative Set) :
$\lambda P[\exists e \exists t'.t<t'$ & $[\![P]\!]^{t'}(e)$ & $\text{THEME}([\![\text{cheese}]\!]^{t'},e)$ & $\text{AGENT}([\![\text{Liz}]\!]^{t'},e)]$

- ‣ 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

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

Lexical Items' URs
Lexical Phonology
Lexical Representations
Syntax
Lexical Representations in Syntactic Structure
Post-Lexical Phonology   Semantics
Surface Representations   Abstract Meaning
Prosody
Phonetics   Pragmatics
Phonetic Instructions   Real-World Meaning

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 (25) 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