Twin Reflexives*

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0. Roadmap

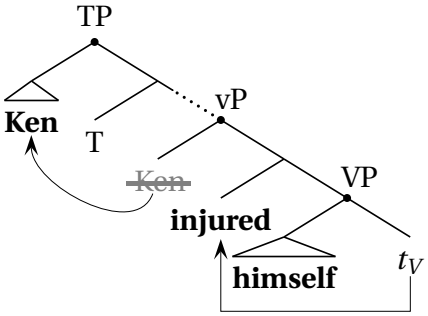
A theory of binding has been **central to our understanding** of hierarchical structure

- ↳ Which makes it somewhat unsettling that we haven't quite figured it out
- ↳ Previous proposals (Chomsky 1981, 1986a, Pollard and Sag 1992, Reinhart and Reuland 1993, Hornstein 2001, among many others) have been largely successful
- ↳ ...But they each make different empirical predictions, and none are entirely correct

Despite any differences between past analyses, one aspect that remains more or less constant in these approaches is that **reflexive pronouns are treated as any other (pronominal) DP**

- ↳ So we would expect the surface structure of "Ken injured himself" to be the same as "Ken injured Bill"

(1) a.



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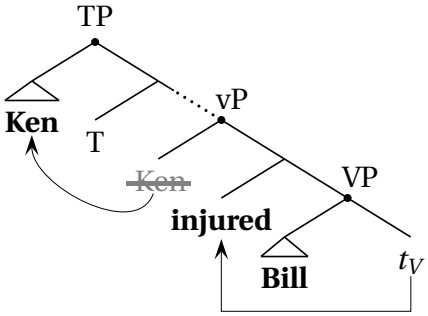


- ↳ This has led to the belief that the syntax of languages like English must be very distinct from languages like French, with regard to reflexivity

(2) Jeanne s' est brûlée. (French)
Jean REFL PFV.AUX.PRS burn.3S.PTCP
'Jean burned herself'

- ↳ I present some **novel data from two distinct prosodic phenomena** in English, which will motivate structural modification to (1a)
  - ↳ Making English only trivially distinct from French

*I would like to thank everyone who has given me their time in helping me work through this problem. Special thanks to my advisors, Dominique Sportiche and Sun-Ah Jun, and to my other committee members, Elsi Kaiser, Hilda Koopman, and Tim Stowell. Further thanks to the audiences of the UCLA syntax/semantics seminar, the UCSC s-circle, WCCFL 29, the Parallel Domains Workshop, ETAP2 and NELS 42, as well as anyone else who has lent their advice, voices, ears, or judgments.

Data from the distribution of phrasal stress and focal accents demonstrates that reflexive anaphors behave as though they are divided into **two**[1] **subclasses**

↳ One of these subclasses exhibits **abnormal prosodic behavior**:[2]

(3) Q: What happened at the party?
A1: Jenna tried to embarrass her *bóss*.
A2: #Jenna tried to embarrass *hersélf*.
A3: Jenna tried to *embárrass* herself. (exceptional phrasal stress)

(4) Q: Who introduced Moira to Charles?
A1: **BÍLL** introduced Moira to Charles.
A2: **CHÁRLES** introduced Moira to Charles.
A3: Charles introduced Moira to **HIMSÉLF**. (exceptional focal accent)

↳ the other of which prosodically **behaves as other DPs**

(5) Q: What happened at the party?
A1: Jenna tried to embarrass herself and her *bóss*.
A2: Jenna tried to embarrass her boss and *hersélf*.
A3: #Jenna tried to embarrass her *bóss* and herself. (# exceptional phrasal stress)

(6) Q: Who did Charles introduce __ to Moira?
A1: Charles introduced **BÍLL** to Moira.
A2: Charles introduced **MÓIRA** to Moira.
A3: #Charles introduced Moira to **HERSÉLF**. (# exceptional focal accent)

↳ Taking seriously this prosodic data, **how must we go about explaining this?**
  ↳ Why do some reflexives 'avoid' phrasal stress while others don't?
  ↳ Why do some reflexives bear an unexpected focal accent while others don't?

↳ There is no *a priori* reason for the prosodic exceptionalities in (3A3) & (4A3) to be related
  ↳ But, as we will see, the data indicate that they are in fact **coextensive**
  ↳ And the shared constraints that derive these phenomena are **syntactic** in nature

Following the **hypothesis that prosody is indicative of syntactic structure** (e.g. Cinque 1993, Selkirk 2011, a.o.), I propose the reflexives in (3) & (4) are **structurally higher** than those in (5) & (6)

↳ The "abnormal" prosodic patterns **are actually the predicted prosodic patterns**, assuming a slightly more refined view of the syntax
  ↳ This follows from **entirely systematic syntax-prosody mapping without stipulations on the behaviors of certain (classes of) words**

↳ Moreover, an analysis like this **correctly predicts syntactic commonalities** with Romance *se*/*si* (cf. Sportiche 2010) and with other languages

[1] Reflexives have been divided into other subclasses, such as the exempt/non-exempt distinction (Pollard and Sag 1992, Reinhart and Reuland 1993, *inter alia*). The theory presented here "cuts the pie" in a different way, (seemingly) orthogonal to other distinctions.

[2] Underline and italics corresponds to new information: H* in MAE_ToBI (Beckman and Hirschberg 1994). Bolded small caps correspond to contrastive foci: L+H* in MAE_ToBI.

↳ Though the reflexive that occurs in (3) & (4) is **segmentally homophonous** with the one that occurs in (5) & (6) in English – they are **in a formal sense distinct**

The rest of this talk will proceed as follows:

§1 a closer look at reflexives-and-phrasal-stress data and a syntactic model of phrasal stress
§2 a structural account for the reflexives-and-phrasal-stress data
§3 a closer look at reflexives-and-focal-accents data and a syntactic model of focal accents
§4 a structural account for the reflexives-and-focal-accents data
§5 further support for this structural account
§6 conclusion

1. Sentential Stress and Reflexives

1.1. Introduction to the Problem

Default Sentential Stress (DSS) is the **Nuclear Stress of a sentence in an out-of-the-blue context**, which can be elicited by questions like *what happened?* (Zubizarreta and Vergnaud 2006)

↳ In many cases, **DSS tends to fall on the rightmost word** of an English sentence:[3]

(7) Q: What happened at work today?
A1: Mark told Maxine about *Sára*.
A2: #Mark told *Maxíne* about Sara.

(8) Q: Tell me something about each of the characters on this show.
A1: Ms. Adler likes *Ráven*.
A2: #Ms. Adler *líkes* Raven.

↳ But **reflexive anaphors of English seem to behave differently**, at first glance:

(9) Q: What happened at work today?
A1: #Mark told Maxine about *himsélf*.
A2: Mark told *Maxíne* about himself.

(10) Q: Tell me something about each of the characters on this show.
A1: #Ms. Adler likes *hersélf*.
A2: Ms. Adler *líkes* herself.

The big question:
What determines this exceptional behavior by reflexives?

Data like (9)–(10) **have been said to be simple exceptions to the calculation of stress** on the part of reflexives (e.g. Bresnan 1971, Kahnemuyipour 2009, or Zubizarreta 1998)

↳ However, these generalizations cannot account for the full range of data

↳ Reflexives **only behave exceptionally in certain syntactic conditions**, implicating a syntactic analysis

[3]Though I discuss only phrasal stress at the sentential level, lower levels of phrasal stress are also relevant, but are set aside in this paper for reasons of space.

1.2. Methods of Data Gathering

To answer this, data was experimentally gathered by having native speakers read short scripts

- ↳ The contexts are set up so that **everything in the test sentence is new information**, in hopes of eliciting broad-focus on the whole sentence (the context for DSS)
- ↳ Participants silently read the entire script first, to fully understand the context, and then read the script aloud (two repetitions)
- ↳ Here is a **sample script with the test sentence is underlined**:

(11) A: What a day! I'm tired.
B: I bet you are! How are you liking your job here at the camp?
A: It's a lot of fun, but the kids are a little rowdy.
B: Yeah. What was all that commotion in the crafts room yesterday?
A: **Moira was gluing Noah to herself**. It was in good fun, though.
B: As long as everyone's having a good time!

- ↳ If the reflexive bears the final pitch accent of the (final) prosodic phrase (iP), it is deemed as bearing the DSS

1.3. New Patterns in the DSS Data

Consider the two minimal triplets below – the reflexive must not bear the DSS, even though an R-expression in the same position must

- ↳ DSS seems to be assigned "exceptionally" in the cases with reflexives:

(12) Q: What happened in the kitchen?
A1: Remy accidentally *búrned* himself. ✓*exceptional DSS*
A2: #Remy accidentally burned *himsélf*. #*normal DSS*
A3: Remy accidentally burned *Maríe*. ✓*normal DSS*

(13) Q: What was all that commotion in the crafts room yesterday?
A1: Moira was gluing *Nóah* to herself. ✓*exceptional DSS*
A2: #Moira was gluing Noah to *hersélf*. #*normal DSS*
A3: Moira was gluing Noah to *Wéndy*. ✓*normal DSS*

The data is more complex than any reflexives-as-exceptions analysis would allow; reflexives' exceptional behavior is **constrained in three ways**:

- ↳ Reflexives behave as R-expressions **when not bound by the subject**

(14) Q: What happened at work today? **Subject Binder**
A1: Mark told *Maxíne* about himself. *exceptional DSS*
A2: #Mark told Maxine about *himsélf*.
A3: Mark told Maxine about *Sára*.

(15) Q: What happened at work today? **Non-Subject Binder**
A1#?Mark told *Maxíne* about herself.
A2: Mark told Maxine about *hersélf*. *normal DSS*
A3: Mark told Maxine about *Sára*.

↳ Reflexives behave as R-expressions **in passives**

(16)
Q: What happened at work today?
A1: #Maxine was *tóld* about herself.
A2: Maxine was told about *hersélf*.
A3: Maxine was told about *Sára*.

Passive Clause, compare (14)
normal DSS

↳ Reflexives behave as R-expressions **when the reflexive is in an island**

(17) Q: Tell me something new. **No Island**
A1: Ms. Adler *líkes* herself. *exceptional DSS*
A2: #Ms. Adler likes *hersélf*.
A3: Ms. Adler likes *Ráven*.

(18)
Q: Tell me something new.
A1: #Ms. Adler likes people *líke* herself.
A2: Ms. Adler likes people like *hersélf*.
A3: Ms. Adler likes people like *Ráven*.

Reduced Relative-Clause Island
normal DSS

(19)
Q: What happened in the kitchen?
A1: #Remy accidentally burned *Maríe* and himself.
A2: Remy accidentally burned Marie and *himsélf*.[4]
A3: Remy accidentally burned Marie and *Wárren*.

Coordinate Structure Island
normal DSS

(20)
Q: What happened in the lobby?
A1: #Lucie counted five tourists *besídes* herself.
A2: Lucie counted five tourists besides *hersélf*.
A3: Lucie counted five tourists besides the American *téachers*.

Adjunct Island
normal DSS

The data in (14)–(20) are **strong evidence against** the claim that anaphoric elements cannot bear DSS (Bresnan 1971), as well as the claim that functional elements can't (Zubizarreta 1998).[5,6]

We now have **two** big questions:
What determines this exceptional behavior by reflexives?
Why is this exceptional DSS behavior constrained as it is?

[4]The DSS falls on the final conjunct in cases like (19A2), even if the conjunct order is switched. The appropriate stress is *Remy accidentally burned himself and **Maríe*** – not *Remy accidentally burned **himsélf** and Marie.*

[5]Alternatively, reflexives are not actually functional elements (in English).

[6]The fact that these generalizations seem to be hitting at some truth is something I do not fully address here. However, perhaps Bresnan's generalization on anaphoric elements can be captured by a depth-of-embedding analysis of phrasal stress (Cinque 1993), given an analysis like Wagner 2006 whereby all given material moves to a higher position in the syntactic structure. (Though some issues remain, e.g. when a non-given reflexive anaphor doesn't bear stress, and when pronouns are in islands don't bear stress [Wagner p.c.]). Zubizaretta's generalization may perhaps be derived if functional elements are not merged as low as has been traditionally thought (see e.g. Sportiche 2005). This analysis of Zubizaretta's generalization has some empirical advantages – namely it predicts that functional elements like Ps will sometimes bear phrasal stress (e.g. in swiping *Who **with**?* and in certain verb-particle constructions *After passing **oút**, John came **tó***).

1.4. Brief Interlude: Unstressed Reflexives ≠ Unstressed Pronouns

It may seem that unstressed reflexives are a sub-case of unstressed pronouns, like (21)

(21) Q: What will happen at the party?
A1: Ken will try to *embárrass* you.
A2: Ken will try to *embárrass* himself.

However, **unstressed reflexives and unstressed pronouns have different distributions**

↳ First, unstressed reflexives occur in places that unstressed pronouns cannot:

(22) Q: Maria showed herself to Bob.
A: No, she showed *Jóhn* herself.

(23) Q: Maria$_j$ showed her$_k$/it to Bob.
A: *No, she$_j$ showed *Jóhn* her$_k$/it.

↳ Moreover, unstressed pronouns occur in places that unstressed reflexives cannot:[7]

(24) Q: What happened in the kitchen?
A1: Remy accidentally burned *Maríe* and me.
A2: #Remy accidentally burned *Maríe* and himself.

Whatever derives pronouns' avoidance of stress **is not entirely the same** as whatever derives reflexives' avoidance of stress

1.5. A Syntactic Model of DSS

In order to understand this DSS data, **we need a model of phrasal stress**

↳ Chomsky and Halle (1968) propose that the appropriate model is based on linear order:[8]

(25) **Nuclear Stress Rule** (English): The rightmost primarily-stressed vowel in a domain receives the highest stress

If we assume the NSR is correct, it must parametrizable as left-/right-most to account for some of the cross-linguistic variation we see

↳ Assuming specifiers can be initial/final, and heads can be initial/final as well...
  ↳ Then we expect eight possible kinds of languages
  ↳ NSR parameter should have no relation to other parameters

	Spec-Initial		**Spec-Final**	
Head-Initial	NSR-L	NSR-R	NSR-L	NSR-R
Head-Final	NSR-L	NSR-R	NSR-L	NSR-R

  ↳ This predicts languages that don't exist (e.g. NSR-L in an SVO language)
  ↳ And fails to predict languages that do (e.g DSS on the O in an SOV language)

[7] It has been proposed that weak pronouns move, deriving their prosodic weakness (Cardinaletti and Starke 1999, Wagner 2006). Given island data like (24A1), this could not predict all cases of stress-avoidance by pronouns.
[8] As such, the NSR model necessitates "rule ordering" such that linearization occurs before stress calculation.

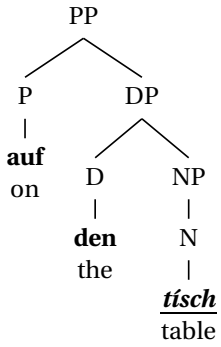
↳ Instead **the object (more embedded than the verb) bears DSS regardless of headedness** (e.g. Donegan and Stampe 1983)

	DSS on Object	**DSS on Verb**
VO-language	✓	×
OV-language	✓	×

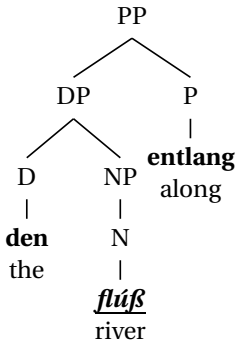
↳ Regardless of whether the specifier is initial or final, and whether the head is initial or final, **the DSS is stable across languages**, always falling on the object in clauses with just a subject, object and verb

↳ Similarly, in PPs, **the complement always bears the stress**, regardless of whether the PP is head-final or head-initial, even **within-language** (e.g. German, Cinque 1993)[9,10]

(27)



(28)



Since the **NSR does not account for the data**, we need another theory of phrasal stress

↳ We need one that **depends on the structure** – I assume a principle like (29), from Cinque 1993:

(29) **Null Theory of Phrasal Stress**: The most deeply embedded[11] constituent in the structure receives the phrasal stress.

↳ (for further work in this vein, see Zubizarreta 1998, Kahnemuyipour 2009, a.o.)

↳ Importantly, **movement can feed prosody in this syntactic model**, as Cinque (1993:251) exemplifies with German Object Shift data:

(30) a. ... daß Bruno oft den Kinderen sein *Géld* gab
... that Bruno often the.DAT children.DAT his money gave

b. ... daß Bruno [sein Geld]$_i$ oft den *Kínderen* t_i gab
... that Bruno his money often the.DAT children.DAT gave
"... that Bruno often gave his money to the children"

[9] (28) provides evidence against a theory in which only prosodic weight governs ability to bear phrasal stress – *entlang* is rather prosodically heavy.

[10] Of course for this question to be relevant, it must be the case that Ps may independently bear DSS in German. Biskup et al. (to appear) shows that Ps can bear DSS in particle Vs:

(26) Er setzt den Wanderer *über*
he set the wanderer across
'He is ferrying over the wanderer.'

[11] The notion of "most deeply embedded" must make reference to the spine – something Cinque achieves with notions of "main" and "minor" paths.

↳ But **not all movements feed prosody** (going back to at least Bresnan 1971) – namely A′-movement does not affect previously calculated stress:[12]

(31) a. Helen left directions for George to *fóllow* (her) (Bresnan's example (6))
b. Helen left *diréctions*$_i$ for George to follow t_i

↳ More specifically, **movement within a phase will feed DSS calculations**, but movement to a phase edge will maintain previously calculated DSS

↳ Correctly predicts that passive/unaccusative subjects bear DSS (Legate 2003)[13,14]

↳ Also makes correct predictions about which post-verbal adverbs bear DSS (Stowell and Ahn *in progress*)

Placement of DSS:
(i) is based on structural depth of embedding, **(ii)** is calculated at fixed intervals, and **(iii)** is fed by A-movement within those intervals

2. Movement, Reflexives, and DSS Avoidance

2.1. Moving Reflexives?

Constituents **inside of syntactic islands** are ineligible for movement operations (Ross 1967)

↳ Recall the data in which the reflexives bear DSS in an island:

(32) a. Ms. Adler likes people like *hersélf* *(18A2), repeated*
b. Remy accidentally burned Marie and *himsélf* *(19A2), repeated*
c. Lucie counted five tourists besides *hersélf* *(20A2), repeated*

↳ *people like X*, *Marie and X*, and *tourists besides X* **independently behave like islands**:

(33) a. *Who does Ms. Adler like people like ____?
b. *Who did Remy accidentally burn Marie and ____?
c. *Who did Lucie count five tourists besides ____?

Notice that there is a correlation between immovability and ability to bear DSS

no syntactic island, no DSS on the reflexive:

(17) Q: Tell me something new.
A1: Ms. Adler likes *Ráven*.
A2: #Ms. Adler likes *hersélf*
A3: Ms. Adler *líkes* herself

syntactic island, DSS borne by the reflexive:

(18) Q: Tell me something new.
A1: Ms. Adler likes people like *Ráven*.
A2: Ms. Adler likes people like *hersélf*
A3: #Ms. Adler likes people *líke* herself

[12] I assume A′-movement to be movement to the edge of a phase (Sportiche 2011). Thus any movement to the edge of the phase, should not feed DSS calculation; and whatever accent it gains within the phase will be maintained.

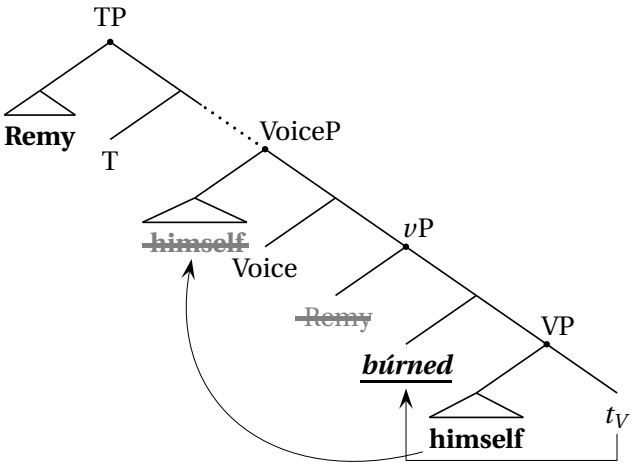
[13] This means that, if "defective phases" exist, they still require movement to their edge. This requires the A′-movement to the edge of the phase can feed the A-movement to subject position; so improper movement (Chomsky 1986b) must not be an operative derivational constraint. See also Sportiche 2011.

[14] That said, passives and unaccusatives don't behave as uniformly as Legate might predict (see, e.g., Büring in press:fn.25). I leave this as an open question.

This **implicates movement** as the cause for "DSS-avoidance"

- ↳ Since object reflexives and R-expression objects in a given sentence bear the same theta role, they must originate in the same position[15] (UTAH; Baker 1988)
- ↳ Since R-expressions will bear DSS, they must sit in the most embedded position
- ↳ When reflexives don't bear DSS, they **must have evacuated that most embedded position**, by movement:[16]

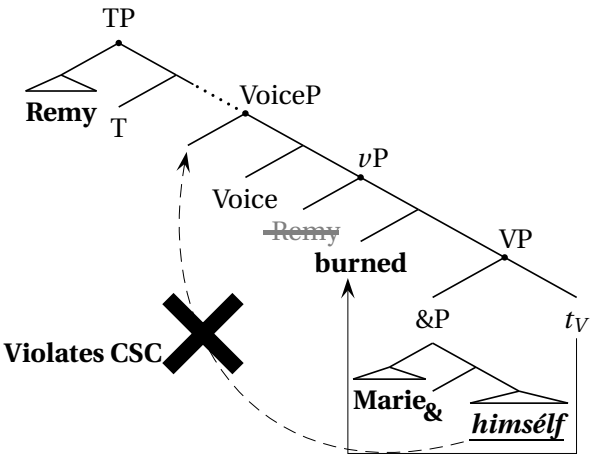
(35)



- ↳ This is movement to VoiceP – we will discuss VoiceP in the next section

When movement is blocked by an island, the reflexive cannot move and will stay in situ; thus (like the R-expression) **it will bear DSS:**

(36)



[15]This assumes that reflexives in a language like English are theta-role-bearing arguments, as is widely assumed (Chomsky 1981, 1986a, Pollard and Sag 1992, Reinhart and Reuland 1993, Hornstein 2001, among many others).

[16]Since reflexive movement feeds DSS calculation, this **must be A-movement**; supported by the fact that, for example, reflexive movement doesn't license parasitic gaps:

(34) a. This is [$_{CP}$ what you kicked ~~what~~ before seeing ~~what~~]
A′-mvt

b. *You [$_{VoiceP}$ ~~yourself~~ kicked yourself before seeing ~~yourself~~]
A-mvt

This movement must take place **in the narrow syntax to feed prosody**[17]

- ↳ If it took place in the interpretative component (at LF), the prosodic component (PF) would not consider the reflexive to have moved

But it **doesn't look like it has left its thematic/case position**, with respect to linearization

- ↳ Thus I argue this movement is "covert overt movement": **spell-out of a lower copy**[18,19]
- ↳ Just like QR, for which this lower-copy spell-out has been proposed (e.g. Bobaljik 2002)

Reflexives that do not bear DSS have A-moved to a higher position

2.2. Giving Reflexivity a Voice

In the structures above, the reflexive moves to a VoiceP – **what is this VoiceP**?

- ↳ Voice^0 is an "argument structure" head (Sailor and Ahn *in progress*)
  - ↳ It takes the complete thematic domain of the predicate as its complement
  - ↳ It acts as the "pivot" which **determines a surface structure of the clausal arguments**
  - ↳ (This is **distinct** existing definitions of VoiceP in the literature; see section 5.3)
- ↳ Thus, languages can make use of at least Active, Passive and Middle Voice heads (e.g. Collins 2005, Ahn and Sailor *to appear*)[20]
  - ↳ This allows identical underlying argument structure for all these grammatical voices
  - ↳ This is highly desirable, given a principle like UTAH

Moreover, **there is another**[21] **Voice head: Reflexive**

- ↳ REFL Voice^0 has the following features:
  - ↳ selects for a transitive vP complement[22]
  - ↳ has an *u*EPP feature that attracts a reflexive anaphor[23]

[17] The movement of the reflexive must target a position within the phase that contains the base thematic/case position. I therefore assume the phase head to be somewhere between T and Voice, and that *v* is not a phase head.

[18] Though I argue this to be the type of movement involved, the analysis does not crucially rely on this. See Appendix A for more discussion.

[19] Linearization and syntax-dependent prosodic calculations are independent operations – having moved (even covertly) in the narrow syntax will feed the prosody. See Appendix A.2.

[20] It is not necessarily the case that every language makes use of every Voice^0 made available by UG. For example, it is not obvious that English employs the anti-passive voice (but cf. Blight's (2004) claim that the anti-passive voice manifests itself in English with unspecified object, conative, and preposition drop alternations).

[21] I do not intend to try to provide an exhaustive list of all Voice heads. It may be desirable to treat a much larger set of surface 'transformations' on the same thematic structure (like passivization) as different Voice^{0}s. In fact, the generalizations in Tucker 2012 suggest that there is also an Ergative Voice^0.

[22] Compare "*John is afraid of Bíll* ' and' "*John is afráid of himself*". This *himself* seems to be moving to a REFL VoiceP, given that it avoids stress (unlike *Bill*). (Thanks to Sandy Chung for bringing this to my attention.) As such, it must be the case that Voice can combine with predicates of other types, such as adjectives (and perhaps prepositions and nouns). See section 5.4 for a brief discussion of VoiceP within the noun phrase.

[23] This raises a question of minimality. Since reflexives can be DOs, IOs, applicatives, etc., how is it that some other DP does not intervene between the VoiceP and the reflexive's base-position? The reasonable answer seems to be that reflexives are not DPs (of the same type) so that other DPs are not interveners for minimality – for example, it might be that these reflexive anaphors are SelfPs. This of course requires that Voice can have specifiers of different phrasal types: it is independently argued (Sailor & Ahn, In Progress) that PASS has a predicate in its specifier and ACT has a DP in its specifier, so the fact that REFL has a different specifier type is not a problem (and may even be predicted).

- ↳ Satisfying this EPP feature can be thought of as the licensing mechanism for the REFL Voice^0
  - ↳ Like the reflexive-marking in Reinhart and Reuland (1993) *et seqq.*
  - ↳ **EXCEPT** this movement is **in the overt syntax** (and there is no need for an extra notion of reflexive-marking)
  - ↳ If reflexive-marking took place post-syntactically at LF, as Reinhart and Reuland propose, prosody would not be fed

- ↳ The treatment of reflexivity as a grammatical voice is not a new one
  - ↳ Philologists and typologists have used terms like 'reflexive voice' for some time
- ↳ The intuition that reflexivity is a grammatical voice likely stems from the fact that **many languages use the same morpheme for other functions that are more prototypically categorized as grammatical voice**
  - ↳ such as the passive, middle and anti-passive voices (e.g. Lidz 1996)
- ↳ Consider the fact that Modern Greek uses the same non-active voice morpheme[24] for middles, passives, and reflexives[25] (Embick 1998, Alexiadou and Doron *to appear*)

(37)

a.	o Janis diava**se** to vivlio the John read.**ACT**.PFV.PST.3S the book *'John read the book'*	Greek Active
b.	afto to vivlio diavaz**ete** efkola this the book read.**NACT**.IPFV.NPST.3S easily *'This book reads easily'*	Greek Middle
c.	afto to vivlio diavast**ike** xtes this the book read.**NACT**.PFV.PST.3S yesterday *'The book was read yesterday'*	Greek Passive
d.	i Maria xteniz**ete** the Maria comb.**NACT**.IPFV.NPST.3S *'Maria combs herself'*	Greek Reflexive

Reflexive clauses are thus **clearly in a non-active voice**

- ↳ ...even though reflexive clauses are *superficially* active in English
- ↳ To resolve this, consider the idea that each grammatical voice is encoded by its own unique Voice^0, but **not every Voice^0 necessarily has its own unique morphological manifestation**
  - ↳ We need such a notion to account for crosslinguistic variation in the morphological realization of the MID Voice^0

[24] The fact that the non-active morpheme has different surface forms in (37b–d) is due to independent factors such as agreement, tense, and aspect.

[25] Non-lexical reflexives require an additional "prefix" of *afto* on the verb. This might in fact be the specifier of the reflexive VoiceP – much in the same way that English REFL attracts an anaphor to its specifier. In addition, Greek can also express reflexivity using the active voice and an anaphoric nominal expression. This is in fact something this analysis predicts, as will be seen in section 5.1.

↳ This would present us with a picture like the (massively oversimplified) table below:

	PASS Voice^0	MID Voice^0	REFL Voice^0	ACT Voice^0
English	non-active morph.	active morph.		
Greek	non-active morph.			active morph.
Hebrew	passive morph.	middle morph.		active morph.
Finnish	N/A[26]	middle morph.	reflexive morph.	active morph.

↳ In order to unify the variable morphological voice of reflexive clauses crosslinguistically, we need a REFL Voice^0

↳ This analysis has the added benefit of allowing us to easily capture languages where reflexives have their own verbal (voice) morphology (e.g. Kannada, Finnish)

Reflexive Voice^0 merges with the complete thematic domain of the predicate, and attracts the reflexive anaphor to its specifier

2.3. Voice-Derived Constraints

Feature-driven **movement of the reflexive to VoiceP derives the three constraints on DSS-avoidance** that we have seen: **only when subject-bound, not in passives, and not in islands**

↳ Subject-Orientation, (14)–(15)

↳ The subject-orientation of these stress-avoiding reflexives is related to the structural height of VoiceP

↳ We will return to this with clear a explanation and motivation in section 4

↳ Passive Restriction, (14) & (50)

↳ If REFL is a Voice^0, then the passive restriction falls out because REFL Voice^0 and PASS Voice^0 are in complementary distribution[27]

↳ Since reflexives only move to Spec,VoiceP for reflexive Voice, a passive Voice^0 will essentially "block" this movement

↳ Island-Sensitivity, (17)–(20)

↳ When movement is blocked by an island, the Voice must not be REFL, and the reflexive will stay in situ and it (like the R-expression) will bear DSS

↳ If REFL is merged in Voice, the derivation will crash (38a): the reflexive can't move, and REFL's *u*EPP feature would go unchecked

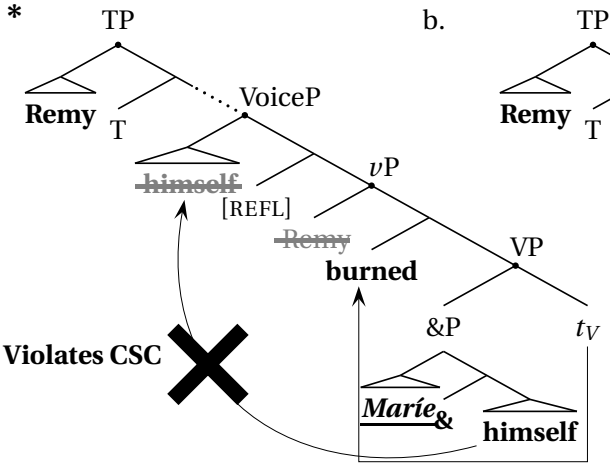
↳ If ACT is merged in Voice, *himself* would have no reason to move[28]

[26] Finnish is said to have a passive – but as the external argument is obligatorily absent such a voice, I assume that this is in fact a middle voice. Without further evidence, I assume Finnish does not make use of the PASS Voice head.

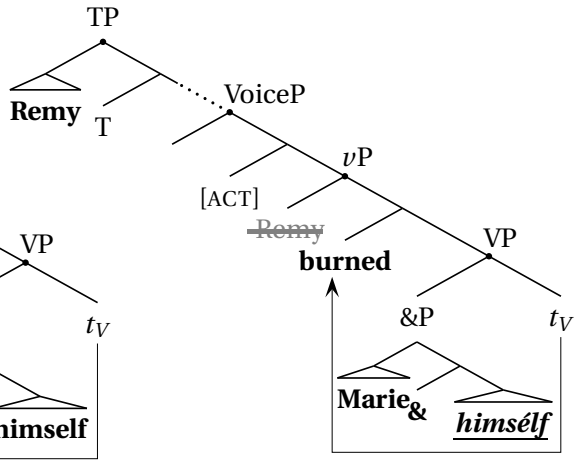
[27] Schäfer (2011) discusses examples that look, in German, like reflexives occurring in the passive voice. The properties of these reflexives need to be investigated vis-a-vis the facts discussed here before we can understand the predictions that this approach has on the data with reflexives in a passive. For example, it is possible that these reflexives in the passive behave like the un-moved reflexive, like we see in the English, *He was introduced to himsélf*.

[28] This requires that there be a second binding mechanism – one that does not involve movement to a reflexive VoiceP. Why it should be that there are two ways of achieving binding is not clear at this point – but this must be the case, given that language after language has two (syntactically conditioned) reflexive forms (§5.1). See §5.6 for a brief discussion of when each binding mechanism is applied.

(38) a. *



b.



↳ The fact that *himself* is licit without REFL Voice^0 in (38b), shows that reflexives can be licensed without REFL Voice – implicating a second binding mechanism

↳ We actually want to have two binding mechanisms, given that many languages lexically distinguish reflexives along the dimensions described for each of these mechanisms

↳ We will return to this in section 5.6 (see also footnote 28)

↳ (This is a positive result, as a sentence like (38b) is not transparently a reflexive clause, in any intuitive sense)

2.4. Interim Summary

What determines this exceptional behavior by reflexives?

↳ Despite first impressions, **reflexives are not prosodically exceptional**

↳ Any analysis that stipulates exceptional status for reflexives is empirically inadequate

Why is this "exceptional" DSS behavior constrained as it is?

↳ **Movement to VoiceP** is required for a reflexive to "avoid" DSS

↳ Thus **structural factors** (such as island-hood and the clause's Voice) and **normal rules of phrasal stress** alone determine the distribution of stress on reflexives

Phrasal stress patterns are a result of entirely systematic mapping from syntax to prosody

↳ Supporting existing research (e.g. Cinque 1993, Zubizarreta 1998, Kahnemuyipour 2009, Kratzer and Selkirk 2007, Selkirk 2011, *inter alia*)

↳ Also supports the proposal that movements within a phase (A-movements) feed DSS prosody (cf. §1.5)

3. Focal Accents and Reflexives

3.1. Introduction to the Problem

It has long been noted that a felicitous answer to a question must obey a principle like Question-Answer Congruence (QAC; Halliday 1967, Rooth 1992, Selkirk 1996, Schwarzschild 1999, a.o.):

(39) **Question-Answer Congruence**: An appropriate answer to a WH-question must be (semantically and prosodically) focused.

↳ QAC can be thought of as a constraint on isomorphism between LF and PF

Consider a non-reflexive slapping event in which Ken was the theme, and Liz was the agent

(40) Q: Who slapped Ken?
A1: **LÍZ** slapped Ken.
A2: #Liz **SLAPPED** Ken.
A3: #Liz slapped **KÉN**.

(41) Q: Who did Liz slapped?
A1: #**LÍZ** slapped Ken.
A2: #Liz **SLAPPED** Ken.
A3: Liz slapped **KÉN**.

↳ QAC straightforwardly derives the prosody in both cases

Now consider a reflexive slapping event in which Ken was both the theme and agent

(42) Q: Who slapped Ken?
A1: **KÉN** slapped Ken.
A2: #Ken **SLAPPED** Ken.
A3: #Ken slapped **KÉN**.

↳ QAC correctly predicts that (43A1) is the felicitous prosody for the response *Ken slapped Ken*

However, with the very same situation and question – **an answer containing a reflexive anaphor behaves differently, prosodically** (as also described and analyzed by Spathas 2010)

(43) Q: Who slapped Ken?
A1: #**KÉN** slapped himself.
A2: #Ken **SLAPPED** himself.
A3: Ken slapped **HIMSÉLF**.

↳ The problem is that **QAC would seem to incorrectly predict (43A1) to be the felicitous response** for the response *Ken slapped himself*

Another way of describing how (43A3) is problematic is that it is ambiguous

↳ It can be an **answer to a *subject* WH-question**, (44Q)
  ↳ I term this Realizing External Argument Focus on a Reflexive (REAFR)[29]

↳ Or it can be an **answer to an *object* WH-question**, (45Q)
  ↳ I will refer to this as the Object Focus interpretation

(44) REAFR
Q: Who ___ slapped Ken?
A: Ken slapped **HIMSÉLF**.

(45) Object Focus
Q: Who did Ken entertain ___?
A: Ken slapped **HIMSÉLF**.

[29] Thanks go to Natasha Abner, for helping me with coming upon this term for the phenomenon.

- ↳ This ambiguity exhibited by the focused reflexives in (44)–(45) is not straightforwardly derivable though QAC
  - ↳ ...given standard assumptions about the structure of reflexive clauses (with the reflexive in its theta/case position)
  - ↳ Assuming that answers to subject-questions like (44) semantically focus a different constituent than answers to object-questions like (45), **how could they both map the prosodic focus onto the reflexive, given QAC?**

The big question:
What allows answers with reflexives to violate QAC?

This REAFR phenomenon is not limited to cases of question-answer pairs

- ↳ Some naturalistic data to:

(46) a. [Kids] practically raise **THEMSÉLVES**, what with the Internet and all.
≈ "**KIDS** raise kids" (Homer Simpson; The Simpsons Ep.233)

b. Josh: You want me to put mustard on it?
Helen: ...It's not gonna put mustard ON ITSELF. (http://goo.gl/V6LaU)
≈ "**THE HOT DOG** isn't gonna put mustard the hot dog"

c. The twin towers didn't blow **THEMSÉLVES** up. (bumper sticker)
≈ "**THE TWIN TOWERS** didn't blow the twin towers up."

- ↳ That said, the question-answer pairs are most helpful in illuminating the representational nature of REAFR, so I will focus primarily on them

3.2. New Patterns in the REAFR Data

Consider the minimal quintuplet below – answers with reflexives require focus on the reflexive

- ↳ Focus seems to be mapped "exceptionally" in the answers containing reflexives

(47) Q: Who lowered Liam into the cave?
A1: **ÉMMA** lowered Liam into the cave.
A2: **LÍAM** lowered Liam into the cave.
A3: #**LÍAM** lowered himself into the cave.
A4: Liam lowered **HIMSÉLF** into the cave. (REAFR)
A5: **LÍAM** lowered **HIMSÉLF** into the cave. (Dual Focus)

- ↳ It is not the case that all answers that describe "reflexive events", like (47A2), behave exceptionally
- ↳ Moreover, **the dual focus answer** in (47A5) has a much broader distribution than REAFR, and thus **will not be considered**
  - ↳ Instead, care must be taken with this data such that there is **only one focal accent in the clause**

The generalization seems to be that reflexives are the key – maybe they are simply exceptional

↳ Maybe because they are an inherently anaphoric category, focusing an anaphor is equivalent to focusing the antecedent?

The data is more complex than any reflexives-as-exceptions analysis would allow

↳ See Appendix C for three inadequate 'exceptional' analyses and how they fail

The REAFR phenomenon is **constrained in the same three ways as DSS-avoidance**:

↳ REAFR prosody is impossible when **not bound by the subject**

(48) Q: Who __ introduced Jack to Elisa? **Subject Binder**
A1: **PETE** introduced Jack to Elisa.
A2: **ELISA** introduced Jack to Elisa.
A3: Elisa introduced Jack to **HERSÉLF**. (REAFR)

(49) Q: Who did Pete introduce __ to Elisa? **Non-Subject Binder**
A1: Pete introduced **JACK** to Elisa.
A2: Pete introduced **ELISA** to Elisa.
A3: #Pete introduced Elisa to **HERSÉLF**. (#REAFR)

↳ REAFR is impossible **in passives**

(50) Q: Who was introduced to Elisa? **Passive Clause**, compare (48)
A1: **JACK** was introduced to Elisa.
A2: **ELISA** was introduced to Elisa.
A3: #Elisa was introduced to **HERSÉLF**. (#REAFR)

↳ REAFR prosody is infelicitous **when the reflexive is in an island**

(51) Q: Who like Ms. Adler? **No Reduced Relative-Clause Island**
A1: **RAVEN** likes Ms. Adler.
A2: **MS. ADLER** likes Ms. Adler.
A3: Ms. Adler likes **HERSÉLF**. (REAFR)

(52) Q: Who like people like Ms. Adler? **Reduced Relative-Clause Island**
A1: **RAVEN** likes people like Ms. Adler.
A2: **MS. ADLER** likes people like Ms. Adler.
A3: #Ms. Adler likes people like **HERSÉLF**. (#REAFR)

(53) Q: Who burned Remy? **No Coordinate Structure Island**
A1: **BOBBY** burned Remy.
A2: **REMY** burned Remy.
A3: Remy burned **HIMSÉLF**. (REAFR)

(54) Q: Who burned Marie and Remy? **Coordinate Structure Island**
A1: **BOBBY** burned Marie and Remy.
A2: **REMY** burned Marie and Remy.
A3: #Remy burned Marie and **HIMSÉLF**. (#REAFR)

(55) Q: Who counted Lucie? **No Adjunct Island**
A1: **ERICA** counted Lucie.
A2: **LUCIE** counted Lucie.
A3: Lucie counted **HERSÉLF**. (#REAFR)

(56) Q: Who counted five tourists besides Lucie? **Adjunct Island**
A1: **ERICA** counted five tourists besides Lucie.
A2: **LUCIE** counted five tourists besides Lucie.
A3: #Lucie counted five tourists besides **HERSÉLF**. (#REAFR)

In addition to those three constraints, REAFR is also infelicitous **when the reflexivity of the clause is discourse-given**[30]

(57) Q: Which guy entertained Ken?
A1: Ken entertained **HIMSÉLF**.
A2: #**KÉN** entertained himself.

(58) Q: Which guy entertained himself?
A1: #Ken entertained **HIMSÉLF**. (Reflexivity as given; #REAFR)
A2: **KÉN** entertained himself.

We now have **two** big questions:
What allows answers with reflexives to violate QAC?
Why is this exceptional REAFR behavior constrained as it is?

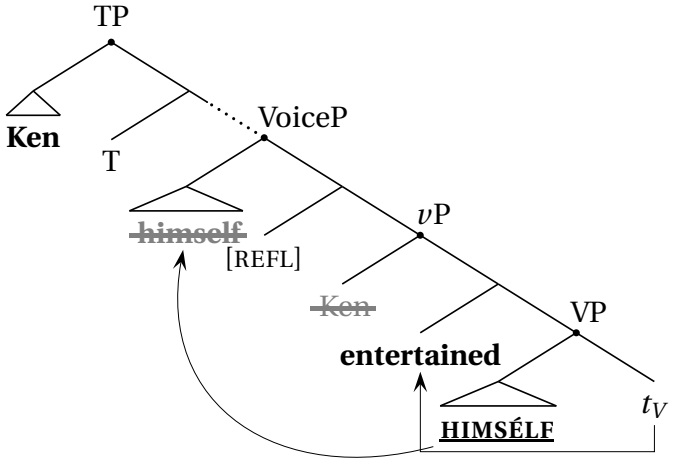
4. Reflexives and Focused Silent Heads

4.1. Constraints, Structural Analysis, and the Semantic Reflexivizer

As for the three syntactic constraints on REAFR...

↳ Since they are the same as the constraints on DSS, we have good motivation to appeal to **the very same structure** that derived those constraints:

(59)



[30] Considered alone, this data may inspire a purely pragmatic analysis of reflexivity. I do not dispute the importance of the pragmatic nature of these data – in fact it plays a large part in the analysis I propose – but without at additional set of syntactic constraints, all other effects are lost.

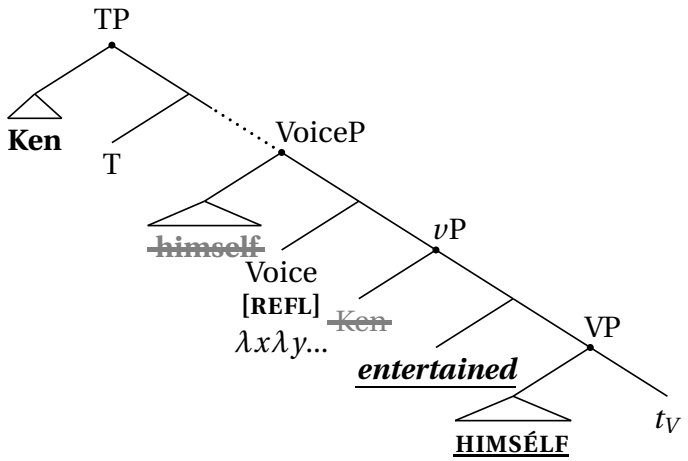
As for the constraint against reflexivity being given...

- ↳ Recall that REAFR requires the reflexivity of the clause to be **new information**
- ↳ This tells us that reflexivity is focused (see Spathas 2010 for more arguments in favor of this)
- ↳ **The reflexive anaphor is not the locus of the reflexive interpretation** (contra Spathas' analysis of the facts)
  - ↳ I argue that the reflexive interpretation comes from the REFL Voice^0
  - ↳ Specifically: REFL Voice^0 is the syntactic atom that introduces the semantic reflexivizing function
- ↳ Thus reflexivity being focused entails that the REFL Voice^0 is focused

What are the consequences of having reflexivity being instantiated by REFL?

- ↳ The REFL Voice^0 is responsible for the **compositional interpretation of reflexive clauses**
  - ↳ An oversimplification of its denotation may be something like $\lambda x \lambda y.\text{Ident}(x)(y)$
  - ↳ Where Ident co-identifies its two arguments
- ↳ Given the structural height of VoiceP, **the two co-identified arguments will always be the reflexive and the clausal subject**
  - ↳ **The reflexive to saturate REFL's first lambda**, with normal rules of semantic composition, since the REFL Voice^0 syntactically requires an anaphor to move to VoiceP
  - ↳ REFL's second argument will always be the external argument subject, again based normal rules of semantic composition:

(60)



- ↳ The **subject-orientation** of these REAFR reflexives is **derived based on the structural height of the Voice^0**
  - ↳ The second argument of the reflexivizing function will only ever be the external argument subject
- ↳ Under this analysis, DSS-avoiding and REAFR reflexives share the same syntax
  - ↳ Thus the same reasoning will apply in **deriving subject-orientation of the DSS-avoiding reflexives**

Voice-related reflexives are predicted to be subject-oriented, given the height of the reflexivizing function (REFL Voice^0) and normal rules composition

4.2. Focusing Silent Material

In this analysis, the English REFL Voice^0, which is semantically focused in REAFR, is ***silent***

↳ A logical question: **How do we realize the focus of a silent head?**

Focus-marked silent heads ⇒ pitch accent on the specifier

↳ Laka (1990) argues for this explicitly, with polarity focus data:

(61) a. [ΣP **IRUNE** Σ_{Foc} [da etorri]]
IRUNE AFF_{Foc} has arrived
'Irune **DÍD** *arrive'*

b. [ΣP Irune **BA**$_{Foc}$ [da etorri]]
Irune **SÓ**$_{Foc}$ has arrived
'Irune did **SÓ** *arrive'*

↳ Polarity focus in Basque is borne by the specifier of ΣP, when Σ is silent, but by Σ when it's overt

↳ English emphatic polarity provides further support for this, due to *too* and *not* being in Spec,ΣP (e.g. Sailor 2011)[31]

(62) a. Sally did [ΣP **TÓO** Σ_{Foc} [vP burn me]]
b. Sally did [ΣP **NÓT** Σ_{Foc} [vP burn me]]

↳ Even though *too* and *not* bear the polarity focus, they themselves are not the polarity head

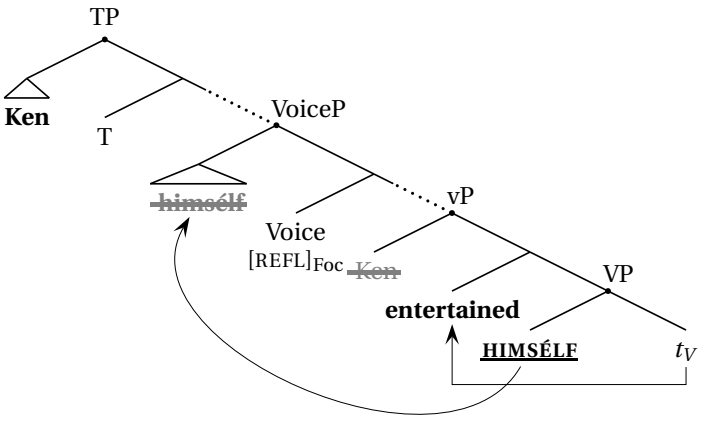
↳ Ahn (2010) also finds evidence for this, from emphatic reflexives:

(63) a. No student did it [ID_{Foc} **HIMSÉLF**].
b. Jack [ID_{Foc} **HIMSÉLF**] arrived.

↳ Emphatic Reflexives are arguments of a silent Focus-marked functional head, ID, so the reflexive anaphor bears the focus pitch accent

So, the Focus-marked silent REFL Voice^0 in (64) **yields focus on its specifier**: the reflexive

(64)



[31] Furthermore, any theory that might put do-support *do* and other V-to-T material in the specifier of ΣP (perhaps those that have abandoned head-movement) would provide even further support for this head-to-specifier focus transference.

- ↳ REAFR is **not a counterexample** to Question-Answer Congruence
  - ↳ It's the mechanical reflex to a problem of focusing silent things
  - ↳ This argumentation supports the idea that **QAC is inviolable**, and any apparent violations of it should be pursued as requiring a better understanding of the syntactic/semantic structure
- ↳ See Appendix C for arguments that alternative analyses fail[32]

The fact that semantically focused silent head yields a prosodically focused specifier, coupled with the fact that certain reflexives move to VoiceP, derives REAFR prosody

[32]It seems that a probe-goal analysis of the focus-feature-transmission that happens in 64 would be successful for the REAFR data. Under this system, the island effects we saw we be derived by the island being impenetrable by the probe. While this would be a potential solution for REAFR, it would miss the generalization that REAFR and DSS-avoidance are limited in the same ways.

4.3. Interim Summary

What allows answers with reflexives to violate QAC?

- ↳ Despite first impressions, **reflexives do not violate QAC**
- ↳ Any analysis that argues reflexives to be exceptions across-the-board is empirically inadequate

Why is this "exceptional" DSS behavior constrained as it is?

- ↳ **Movement to VoiceP** is required for the reflexive to be able to bear the semantic focus associated to REFL
- ↳ Thus **structural factors** (such as island-hood and the clause's Voice) and **normal rules of phrasal stress** alone determine the distribution of stress on reflexives

To allow the two distinct semantic structures to map onto the same prosodic structure while preserving QAC, **I have argued for a new syntactic structure**

- ↳ ...assuming existing rules on syntax-prosody mapping for focus
- ↳ (Un)surprisingly, this new structure will be the same as the one just motivated to account for DSS

Beyond capturing the distribution of REAFR, this reflexivity-in-the-Voice^0 analysis **derives subject-orientation of reflexives**

- ↳ Thus capturing a wide range of cross-linguistic data that a valency-reducing operation on the lexical verb (Partee and Bach 1980, Keenan 1988, Szabolcsi 1992, Schlenker 2005, Spathas 2010, a.o.) cannot capture[33]
  - ↳ A lexical valency reducing operation, REFL, should be able to take a three-place predicate, $P(x, y, z)$, and reflexivize it in one of three ways:
    - ↳ $\text{REFL(P)} = \begin{cases} P(x, x, z) \\ P(x, y, x) \\ P(x, y, y) \end{cases}$
  - ↳ This should, without further stipulation, predict $P(x, y, y)$ to behave as the other two
    - ↳ As DSS and REAFR show for English, this is not the case
    - ↳ This is also not the case for a wide variety of data, cross-linguistically

[33] Moreover, such an operation relies on a notion of "predicate" that is more-or-less abandoned under a neo-Davidsonian syntax/semantics.

5. Consequences of REFL Voice

5.1. Crosslinguistic Manifestations

Across languages we see that **reflexivity comes in two forms**[34]

(65) e.g. French *se* and *lui-même*, Italian *si* and *se stesso*, Finnish *-UtU-* and *itse-ään*, Swahili *ji-* and *mw-enyewe*, Greek *afto-* and *ton eafto tu*, Malagasy *tena* and *ny ten-any*, Korean *caki* and *cakicisin*, Dutch *zich* and *zichzelf*, etc. etc.

↳ If some reflexives are selected by REFL Voice, we might expect multiple morpho-lexical forms
  ↳ Just like the morpho-lexical forms (case) of pronominals in English depends on which functional element selects for it

↳ The reflexive anaphor that occurs with ACT Voice might have a different lexical shape
  ↳ We thus expect each type of reflexive to line up with properties related to Voice

In fact, we do find **Voice-dependent reflexive forms**

↳ In Greek, the anaphor *afto* occurs with non-active Voice but *ton eafto tu* occurs with the active Voice

(66) a. **afto**-katastraf**ome** Non-Active Voice
self- destroy.**NACT**.IPFV.NPST.1S

b. katastref**o** **ton eafto mu** Active Voice
destroy.**ACT**.IPFV.NPST.1S the self my
"I destroy myself"

↳ In Finnish, no overt anaphor co-occurs with reflexive Voice morphology, but *itse-ään* occurs with the active Voice

(67) a. Jussi puolusta-**utu** -i Non-Active Voice
Jussi defend -**REFL**-PAST

b. Jussi puolust**i** **itse**-**ään** Active Voice
Jussi defend.**ACT**.PAST.3S **self**-**3.GEN**
"Jussi defended himself."

Moreover, most (all?) languages make a distinction between **subject-bound and non-subject-bound reflexives**

(68) e.g. **Czech** (Slavic; Toman 1991), **Dutch** (Germanic; Koster 1987), **Hixkaryana** (Carib; Derbyshire 1985), **Italian** (Romance; Burzio 1986), **Japanese** (Altaic; Katada 1991), **Kannada** (Dravidian; Lidz 2001), **Norwegian** (Scandinavian; Safir 2004), **Russian Sign Language** and **Sign Language of the Netherlands** (Signing; Kimmelman 2009), **Tsez** (Caucasian; Polinsky and Comrie 2003)

↳ This is predicted, because...
  ↳ REFL Voice is what derives subject-orientation, and
  ↳ there are environments where a REFL Voice is impossible, but an anaphor is needed

[34] Some of these pairs are morpho-syntactically related. For a possible compositional analysis of those involving intensifiers, see Bergeton 2004.

↳ English can now happily join the ranks of all these languages

↳ **We just had to look closer at the data to see it**

Finally, **the constraints proposed here** for English Voice-related reflexives have been ***independently motivated*** **for Romance** (Kayne 1975, Burzio 1986, Sportiche 2010)

(69)

	REFL-related *himself*	French *se*
a. Can be Direct Object	✓	✓
b. Can be (Prepositional) Indirect Object	✓	✓
c. Can be generated in an island	×	×
d. Can have a non-subject antecedent	×	×
e. Can occur in passives	×	×

↳ See Appendix B for data, discussion and a Romance-type derivation

5.2. Strict Interpretation of Reflexives under Ellipsis

If REFL is indeed a non-active Voice, then we should expect to find REFL patterning with other non-active Voices

↳ **The distribution of active voice in ellipsis sites is constrained when the antecedent clause is in the passive voice**

↳ Voice^0 not be elided (Merchant 2007, Tanaka 2011), and

↳ The coherence relationship between the two clauses is not that of Resemblance (Kehler 2002)

(70) ??The problem was solved by John, and then Bill did. (Kehler 2002:62)

↳ **If reflexive is a non-active voice, we should expect similar constraints to be at play**

↳ What would it mean to have an active voice in the ellipsis site when the antecedent clause is in the reflexive voice?

↳ Strict interpretation: X verbed X; Y [~~verbed X~~]

↳ Strict interpretation should be limited by the constrains on ellipsis-size and coherence relations – and it is:

(71) Henry $\emptyset_{\text{REFL}}$ defended himself, and then Anne did too.

⇒Anne $\emptyset_{\text{REFL}}$ defended herself. ✓*Sloppy*

⇏Anne $\emptyset_{\text{ACT}}$ defended Henry. *?? Strict*

↳ See Ahn 2011b and Appendix D.2 for details

5.3. VoiceP and External Arguments

In several papers on the subject of grammatical voice, Voice^0 is claimed to introduce external arguments (syntactically and semantically)

↳ Kratzer 1996, Alexiadou et al. 2006, Harley 2007, Pylkkänen 2008, Lohndal 2011, Ahn and Sailor *to appear*, among many others[35]

[35] Many others have assumed that the projection that determines grammatical voice and introduces external argument are the same, without calling that projection VoiceP (often calling it either *v*P, following Chomsky 1995).

As reflexivity is also a Voice-phenomenon,[36] any framework under which the introduction of external arguments is also determined by the Voice^0 would have to assume that the denotation of the REFL Voice is a conjunction of sorts

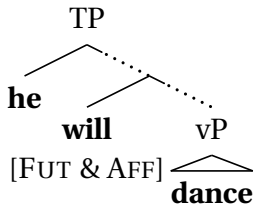
↳ As in the highly simplified denotation in (72), which assumes that reflexivity is encoded through some kind of identity function (see §4.1)[37]

(72) $[\![\text{REFL}]\!] = \lambda x \lambda y.\text{ExtArg}(x) \,\&\, \text{Ident}(x)(y)$

Before arguing against (72), consider a separate example of conjunction and the interpretation of focus in English, with the modal auxiliary *will*

↳ It has been claimed that a modal like *will* encodes (at least) the meanings of both future (FUT) and affirmative polarity (AFF), as a sort of conjunction (see e.g. Klein 1998), like in (73):

(73)



↳ Now consider the fact that *will* can bear focus prosody when either of the conjuncts that it represents are focused:

(74) A: He won't dance.
B: You mean, he **WÍLL** dance. (FUT & AFF_{Foc})

(75) A: He danced.
B: You mean, he **WÍLL** dance. (FUT_{Foc} & AFF)

↳ Thus a single word that represents a semantic conjunction should be able to bear focus prosody when either of its conjuncts is semantically focused

By this logic, a conjunctive analysis of Voice^0 as in (72) would predict homogeneous placement of prosodic focus, regardless of which of REFL's conjuncts is focused

↳ Whether the semantic focus is the *ExtArg(x)* conjunct or the *Ident(x)(y)* conjunct
  ↳ In the same way as *will* in (74)–(75)

↳ And since REFL is silent, its specifier would bear focus prosody in either case

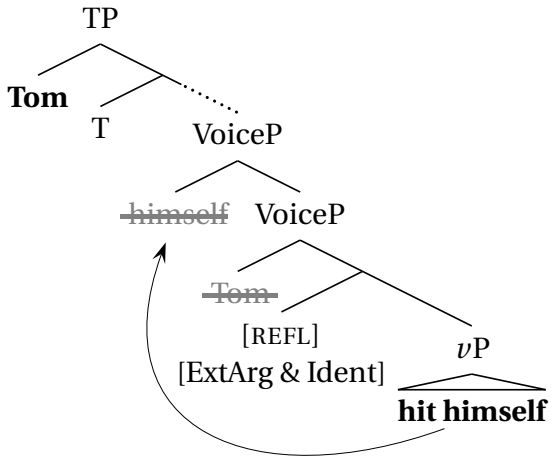
↳ But this account encounters its first problem: what is the (relevant) specifier?
  ↳ Given this conjunctive analysis, one might expect Voice to have multiple specifiers to

[36] Recall the following three motivations for this claim. First, reflexive and passive clauses are in complementary distribution (we saw this with DSS and REAFR data, as well as with Romance data). Second, other languages more clearly demonstrate a connection between grammatical voice and reflexivity (we saw an example from Greek). Third, the constraints on active/passive Voice-mismatch under ellipsis are identical to those which restrict strict interpretation (active/reflexive Voice mismatch).

[37] The representation in (72) falsely assumes that all external arguments are introduced in the same way. See Pesetsky 1995, Ahn 2011a for reasons that this is not possible.

satisfy both of functions that comprise it, as in (76):[38]

(76)



↳ Let us assume that the head-to-specifier focus-transference mechanism targets the first specifier – this predicts both (77) & (78) to be grammatical/felicitous

(77) A: Who hit Tom?
B: #**TÓM** hit himself. (ExtArg & $\text{Ident}_{\text{Foc}}$)

(78) A: Who hit himself?
B: **TÓM** hit himself. ($\text{ExtArg}_{\text{Foc}}$ & Ident)

↳ The silent Voice head introduces the external argument, and when it is focused, it causes the prosodic focus to be realized on the first specifier – the external argument, *Tom*

↳ This is a correct prediction for (78), but **not for (77)**

↳ Alternatively, focus-transference could target the second specifier – this predicts both (79) & (80) to be grammatical/felicitous

(79) A: Who hit Tom?
B: Tom hit **HIMSÉLF**. (ExtArg & $\text{Ident}_{\text{Foc}}$)

(80) A: Who hit himself?
B: #Tom hit **HIMSÉLF**. ($\text{ExtArg}_{\text{Foc}}$ & Ident)

↳ The silent Voice head introduces the external argument, and when it is focused, it causes the prosodic focus to be realized on the second specifier – the reflexive, *himself*

↳ This is a correct prediction for (79), but **not for (80)**

Thus a conjunctive account of the REFL Voice^0 cannot simultaneously predict REAFR as well as normal external argument focus in a reflexive clause

↳ For this reason, I argue that it can not be the case that external arguments are introduced by the same head that attracts a reflexive anaphor to its specifier

↳ Instead, **VoiceP** (the projection which controls the clause's grammatical voice) **must be outside of the thematic domain**[39]

[38] I assume a merge-over-move constraint, which would mean that Voice merges the external argument as its first specifier before attracting the moved reflexive. It may also be the case that the reflexive is the first specifier (perhaps because of 'tucking in') – problems similar to those that arise with (76) still arise when the specifier order is different.

[39] Even if the grammatical voice of a clause and the introduction of external arguments can be conclusively shown to

5.4. Voice inside NPs?

Next, it must be the case that what seem to be **simple NPs behave like full clauses** (at least sometimes)

In cases like (81), it seems that a DSS-avoiding reflexive or DSS-bearing reflexive can be employed

↳ This pitch accent placement difference corresponds to an interpretational difference

(81) Marie found some notes to herself.

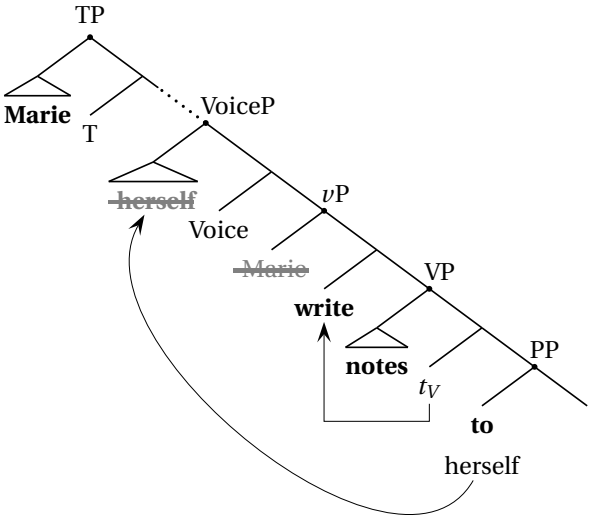
a. Marie found some *nótes* to herself. ⇒ Marie wrote the notes.
b. Marie found some notes to *hersélf*. ⇒ ?? wrote the notes.

Perhaps what this indicates is that, at least in cases like (81a), what looks like an NP is somehow like a relative clause with a silent predicate[40]

↳ That is, we would like to relate the structure of the bracketed NP in (82) to the clausal structure in (83)[41]

(82) Marie found some [$_{NP}$ *nótes* to herself]

(83)



This leaves open the question of the derivation for (81b)

↳ Perhaps it is the more standard story of an NP in which 'notes' takes a PP complement

↳ In such a story, without the REFL Voice, *herself* would be the most embedded element, just as other objects of a PP complements

In other words, **the string in (81) is structurally ambiguous**

↳ the NP is clause-like in structure, corresponding to the interpretation/prosody in (81a)

↳ the NP is an N with a PP complement, corresponding to the interpretation/prosody in (81b)

be controlled by the same functional head in the structure, this analysis of REAFR can still hold. See Appendix E.

[40] This is very similar to proposals that assert that all NPs are clausal (Bach 1968, Campbell 1996, Koopman 2003, 2005, among others).

[41] It can't be the case that the TP in (83) is embedded in the NP, since a relative clause with this much structure would predict adverbial (and not adjectival) modifiers and other clausal properties (e.g. ACC/NOM case). It thus seems that (82) is like a clause that has been nominalized low, akin to "of-ing" nominalizations (Abney 1987). Additionally, lack of TP would correctly predict that reflexive clitics of the Romance type, which (must) move to the IP/TP region, should not be derivable inside of DPs.

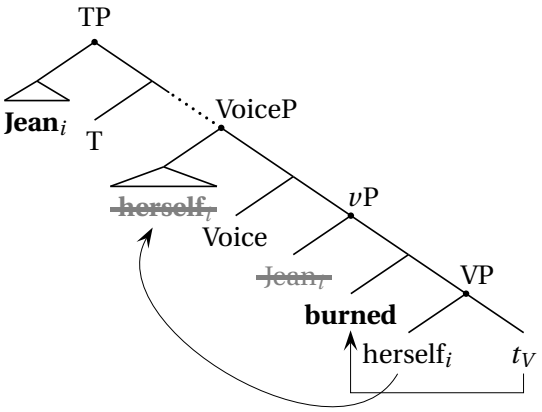
5.5. Movement to VoiceP doesn't create binding violations

The final consequence that I discuss here is that it must be the case that **not all movements feed binding**

A reflexive in VoiceP ends up c-commanding a coindexed DP lower in the structure

- ↳ That is, if binding conditions are checked at every point in the derivation, the higher copy of *herself*$_i$ would bind (the lower copy of) *Jean*$_i$ in (84)
- ↳ But I am arguing that (84) is grammatical, so there must not be a condition C violation

(84)



Moreover, this is **not the only time** a reflexive doesn't create a condition C effect

- ↳ Also in raising over an experiencer:[42]

  (85) a. It seems to him$_i$ that John$_{j/*i}$ is taller.
  b. It seems to [every girl]$_i$ that John is taller than her$_i$ father.
  c. John seems to [every girl]$_i$ ~~John$_j$~~ to be taller than her$_i$ father.

  - ↳ It must be the case that the experiencer c-commands into the lower clause, given the Condition C effect in (85a), as well as the pronominal binding in (85b) and (85c)

- ↳ But then, a reflexive experiencer, like in (86), should c-command into the lower clause

  (86) John$_j$ seems to himself$_j$ ~~John$_j$~~ to be taller.

  - ↳ Note that there is no condition C violation in (86)

- ↳ We might expected a condition C violation in (86) if binding is evaluated at every merge
- ↳ namely at this point:

  (87) [$_{T'}$ seems to himself$_j$ [$_{TP}$ John$_j$ to be taller]]

Solution: **Binding Principles need not be checked before the last A-movement**

- ↳ Sportiche 2011 argues for this to account for the Van Riemsdijk/Williams paradox (a.k.a. "LeBeaux Effects", "Anti-Reconstruction effects")
- ↳ Checking of Principle C can be delayed until *John* has raised (A-moved) to its case position (the matrix Spec,TP)

[42] This is also in the same spirit as movement of clitics or weak pronominals, which also do not introduce condition B/C violations. Assuming that this clitic/pronominal movement is phrasal movement, it is not clear to me why this should be.

5.6. As Much Voice As Possible

Another consequence of this theory is that the grammar must somehow "decide" between two competing possible derivations

There are **two binding mechanisms** – **one that involves movement** (reflexive Voice) and **one that does not** (perhaps Principle A [Chomsky 1981, *et seqq.*]) – and the latter is an elsewhere case

- ↳ Why should the more constrained option – reflexive Voice – ever be used?
- ↳ Why should reflexives ever move?

To ask a more concrete question, why are (88) & (89) unavailable in out-of-the-blue contexts?

(88) #John $\emptyset_{ACT}$ [$_{vP}$ kicked *himsélf*] (# focus-neutral reading, ✓contrastive focus on refl.)

(89) * Jeanne $\emptyset_{ACT}$ a blessé elle-même (French)
Jean PFV.AUX.PRS injure.PTCP herself
Intended: "Jean injured herself"

- ↳ Without the reflexive Voice, *himself* has no reason to move in (88) and *elle-même* should be the appropriate reflexive anaphor in (89)
- ↳ As for the licensing of the reflexives without REFL, they can still be bound via the non-movement binding mechanism
  - ↳ Regardless of whether that would be via Principle A or Coargument Binding

Perhaps the answer is like Grodzinsky and Reinhart (1993)'s Rule I (also as Büring (2005)'s Coreference Rule), which limits the distribution of (accidental) coreference:

(90) Rule I α cannot corefer with β if an indistinguishable interpretation can be generated by replacing α with a bound variable, γ, bound by β.

- ↳ As a consequence of this rule, bound variables should be used as much as possible.
- ↳ To extend this to the current problem, I propose a modification to this rule:

(91) Rule I′
- i) α cannot corefer with β if an indistinguishable interpretation can be generated by replacing α with a bound variable, γ, bound by β.
- ii) γ must be bound via REFL Voice^0, wherever possible.[43]

This raises the question: **why Rule I′?**

- ↳ This seems to be part of a larger pattern in syntax with movement operations:

(93) **The more constrained derivation is utilized as much as possible.**

- ↳ See also: weak/strong pronoun alternation (Cardinaletti and Starke 1999), object-shift-dependent specificity (Germanic, Adger 1994; Tagalog, Rackowski and Richards 2005), possessor raising (e.g. Nez Perce, Deal 2011; Hebrew and Romance, Landau 1999), move-

[43] It would seem to be desirable to reduce part (i) of Rule I′ to being a consequence of part (ii), since REFL Voice^0 forces a bound-variable interpretation, as mentioned in §5.2. However, such an analysis faces some empirical issues, since it seems that bound variable interpretations can arise without REFL:
(91) Dr. Freud told Dora about herself before he did [~~-tell~~] Little Hans [~~-about himself~~].

ment for focus (Zulu, Halpert 2011; Hungarian, Szendrői 2003), etc.[44]

↳ Perhaps this is done to minimize vagueness/maximize pragmatic cooperation

↳ "If you didn't use the more constrained derivation, you must have had a (structural/ interpretational) reason not to"

6. Conclusion

6.1. Take-Away Message

English distinguishes subject-oriented reflexives from non-subject-oriented reflexives

↳ Like many (all?) other languages

↳ Thus it is not surprising that well-established constraints on Romance's subject-oriented *se*/*si* overlap with prosodically exceptional reflexives

↳ It's just happens to be that the subject-oriented reflexive and the non-subject-oriented reflexive are **segmentally identical twins** in English

↳ Strong hypothesis: other languages that putatively don't have subject-oriented reflexivity need only be more closely investigated to uncover it

The "exceptional" prosodic behaviors of reflexives are constrained

↳ Those behaviors are not simply properties of reflexives, anaphors, or functional elements

They derive entirely predictably, given principles of syntax-prosody mapping

↳ Syntactic depth of embedding ⇒ phrasal stress

↳ A semantically focused silent head ⇒ a prosodically focused specifier

In other words, **reflexives are not exceptions to rules of syntax-prosody mapping**

↳ But their "exceptional" behavior can inform our syntactic structure

↳ All the phenomena analyzed here are **derived by a single movement operation** to a reflexive VoiceP

In this way, these prosodic phenomena **benefit the language-learner**

↳ **Reflexives' prosodic exceptionality is not a hindrance** for the acquisition of English (as an "exceptional" account might predict)

↳ In fact, there are **cues in the signal** that inform the learner of the nature of the complex, hidden structure of English reflexivity

[44] Preminger 2011 discusses object shift for specificity as always involving a single grammatical function, which desires movement as much as possible but which does not crash the derivation if movement does not occur. The same logic might extend to possessor raising and movement for focus, and possibly even English reflexive anaphors: do the extra movement as much as possible, but if not the operation that would motivate movement doesn't care if the movement fails. However, more would have to be said for phenomena in which different lexical items are used for moved and unmoved forms – for example, some languages like French may use different lexical items for both weak/strong pronouns (*me*/*moi*) and subject-oriented/non-subject-oriented anaphors (*se*/*lui-même*) . In such cases, Preminger's account would require the grammar would have to have an additional set of rules that dictates the choice lexical item, independent of the licensing operations. Alternatively, as I present here, it may be that there are two grammatical operations, each selecting different lexical items.

6.2. Formal Properties

Reflexives A-move

- ↳ only A-movement feeds DSS-calculations (§1.5)
- ↳ reflexive elements phonologically behave as if they are higher in the structure
  - ↳ DSS-avoidance in English (§2.1)
  - ↳ linearization in French (Appendix B)

The movement is related to grammatical voice

- ↳ Many languages overtly show that reflexivity is a non-active voice (§2.2)
- ↳ The passive voice blocks the introduction of voice-related reflexives
  - ↳ DSS-avoiding reflexives (§1.3)
  - ↳ REAFR-capable reflexives (§44)
  - ↳ *se*/*si* in Romance (Appendix B)
- ↳ Parallels between the possibility of active/passive Voice-mismatch and active/reflexive Voice-mismatch (strict interpretation) under ellipsis (§5.2)

Reflexive movement is done as much as possible (§5.6)

- ↳ DSS-avoidance as much as possible in English
- ↳ *se*/*si* as much as possible in Romance

REFL is the semantic reflexivizer (§4.1)

- ↳ The interpretation of REAFR is that of focused reflexivity (cf. Spathas 2010)

Voice^0 doesn't introduce external arguments (§5.3)

- ↳ The impossibility of REAFR prosody for just any focused external argument

6.3. Further Directions

This data is largely focused on anaphors in argument positions of transitives and ditransitives in English

- ↳ By investigating these "simple" cases, we've established how reflexives and prosody can provide diagnostics for the syntactic structure
- ↳ **What are the results of applying those diagnostics to a larger range of data?**
  - ↳ e.g. exempt reflexives, proxy-readings, reflexives in non-verbal predicates, inherent reflexives, "fake" reflexives, etc. etc.

The REFL Voice hypothesis makes a strong cross-linguistic prediction

- ↳ "True" reflexivity will share the same core set of syntactic constraints proposed here[45]
  - ↳ i.e. subject-orientation, absence from passives, and island sensitivity
- ↳ Is this the picture that emerges, across languages?

[45] Of course, it is possible that, for example, the EPP feature of the REFL Voice is not instantiated in every language. This might be the kind of variation we expect to find in the same way that we find some variation in what is called "passive voice." However if this movement to REFL VoiceP is done to "reflexive mark" the predicate, and reflexive-marking reflexive predicates is necessary across languages (Reinhart & Reuland), it is predicted that we would not find this kind of variation. (Though perhaps other variation is still possible.)

What about reciprocals? **Is there a reciprocal Voice?**

- ↳ To the extent that reciprocals and reflexives are formally distinguishable (see Cable 2011)
  - ↳ It seems likely that there is a RECIP Voice^0 given that some languages (e.g. Bantu languages) have distinct verbal morphology for reciprocals and reflexives
- ↳ The data ought to be closely investigated with regard to the diagnostics for reflexive Voice discussed here

What is the semantic contribution of the reflexive anaphor?

- ↳ Is it constant for both Voice-related and non-Voice-related reflexives?
- ↳ Does that extend into the interpretation of Emphatic Reflexives?
  - ↳ It seems it ought to, given cross-linguistic tendency to use the same lexical item for both reflexivity and ERs (Gast and Siemund 2006)
- ↳ What semantic contribution does it have in cases like '*behave (oneself)*' and '*perjure *(oneself)*'?
  - ↳ It seems that it is related to agency, when optional
  - ↳ What is the link between agency and reflexivity, and how does that connect with ERs?

Since depth of embedding alone determines phrasal stress, without stipulations on word class, **what can we learn by investigating**...

- ↳ ... other "stress-avoiding" elements
  - ↳ e.g. Ps, pronouns and given things
  - ↳ Expectation: there should be syntactic environments that will trigger these "stress-avoiding" elements to in fact bear stress
  - ↳ See Wagner 2006 for examples of this with pronouns and given things meeting things expectation
- ↳ ... the prosody of other moving elements
  - ↳ e.g. WH-phrases, QR'd constituents
  - ↳ QR has been shown to clearly interact with prosody in Japanese (Hirotani 2004, Ishihara 2005)

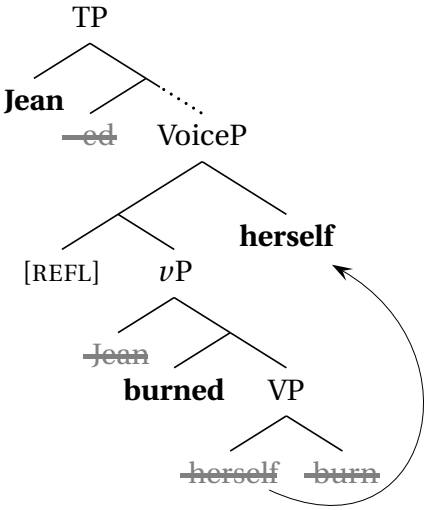
Appendices

A. Types of Movement

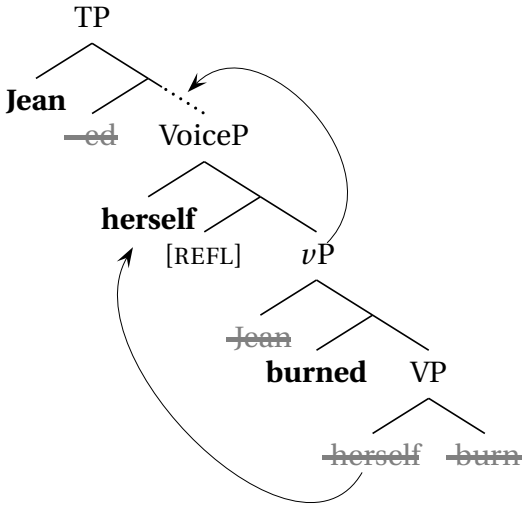
A.1. Choosing the Appropriate Derivation

Movement to VoiceP could be thought of in at least four ways:

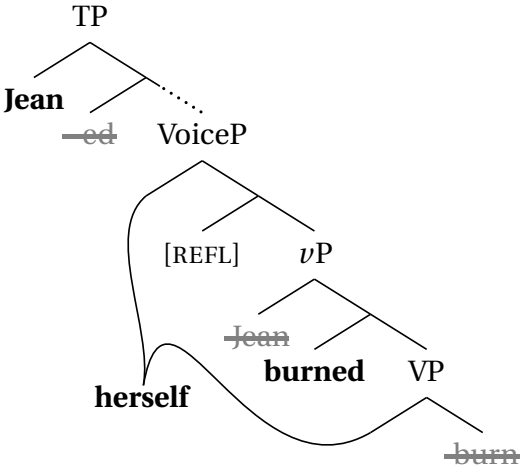
(94) a. Rightward Movement



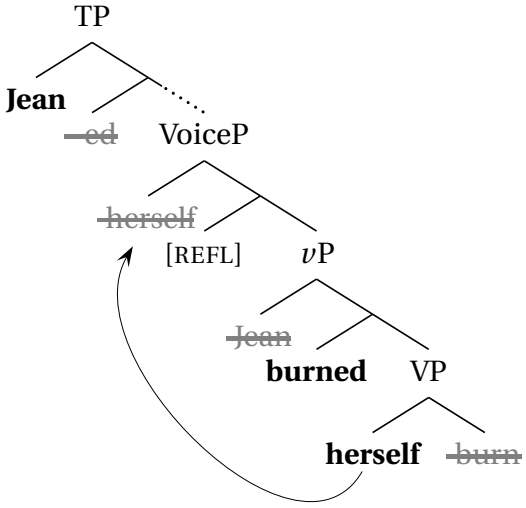
b. Remnant Movement



c. Multidominance



d. Spell-Out of a Lower Copy



- ↳ All of these derivations will yield the same prosodic effect: **the anaphor is considered no longer considered to be the most deeply embedded**
  - ↳ Because the grammar considers the anaphor to either be absent from the most embedded position (possible in (94a-b))
  - ↳ OR because the grammar considers the anaphor to be in two places, and therefore not the most deeply embedded
- ↳ English word order really makes it look like reflexives have not moved beyond the normal object position:

(95) a. Wesley looked Liz up on Google often.
b. Wesley looked himself up on Google often.

(96) a. Jack gave Liz a raise at the end of the year.
b. Jack gave himself a raise at the end of the year.

↳ Nothing can intervene between the verb and the anaphors in (95b) and (96b) – thus behaving like any other object, in terms of linearization

↳ The anaphors can bear REAFR focus, another property relegated to anaphors that move to VoiceP (Ahn 2011c):

(97) Q: Who looked Wesley up on Google often?
A: Wesley looked **HIMSÉLF** up on Google often.

(98) Q: Who gave Jack a raise at the end of the year?
A: Jack gave **HIMSÉLF** a raise at the end of the year.

↳ I thus assume a derivation like (94c) or (94d)

↳ But nothing explicitly rules out (94a) or (94b)

↳ There may be subsequent movements that will yield the appropriate word order and prosodic facts

A.2. More on Covert Overt Movement

The way to associate the anaphor with Voice **can't** be covert movement to VoiceP or probe-goal with Voice^0

↳ **Prosody would not be fed** by these non-overt-movement analyses

If it is the "covert overt movement" as in (94d), this movement will take place in the narrow syntax, without affecting word order[46]

↳ Why would this overt (narrow syntactic) movement be covert (not affect word order)?

↳ perhaps it's that this reflexive movement cannot be spelled out since it violates a previously established linearization (Cyclic Linearization, Fox and Pesetsky 2005)

↳ To comply with the conflicting demands of "move" and "don't create a new linearization", **the tail of the movement chain is spelled out**[47]

↳ similar to the phonological theory of QR, as in Groat and O'Neil (1996), Fox and Nissenbaum (1999), Bobaljik (2002)

↳ This will still derive the prosodic properties we've seen

↳ the reflexive is not most embedded; it's in two places ⇒ **DSS properties**

↳ the reflexive is in the specifier of REFL Voice ⇒ **REAFR properties** (Ahn 2011c)

[46] This discussion could be extended to a discussion of a multidominance approach, as well.

[47] Alternatively, perhaps it's that there are multiple levels of structure, which want to be as isomorphic as possible (Shape Conservation, Williams 2003). In this system, perhaps reflexive-movement is only done in prosodic structure (and not surface structure) minimizing shape distortion between surface structure and, for example, theta and case structures.

Covert overt movement could derive prosody in other domains

- ↳ Quantifier/negation scope also has visible effect on the prosody without change in the word order
  - ↳ Hirotani (2004) proposes that the scope of any element should not extend beyond the prosodic phrase containing it
    - ↳ Given isomorphism between syntactic and prosodic phrasing (Selkirk 2011), Hirotani's proposal can be accounted for by an covert-overt movement analysis of QR
- ↳ Givenness has been argued to require movement that feeds prosody
  - ↳ Wagner 2006 shows rather convincingly that movement happens even in English, despite the fact that Given material doesn't seem to always move (unlike many languages which require movement for Topicality, e.g. German, Japanese)
  - ↳ Thus, perhaps **this movement is covert overt movement**
- ↳ Similarly, Focus involves overt movement in many languages (e.g. Hungarian, Zulu)[48]
  - ↳ To account for the fact that movement seems not to be occurring in English(in terms of linear order), maybe **this, too, is covert overt movement**

In other words, there seems to be **a family of movements that are done whose derivations proceed like this** in English

- ↳ Focus, Givenness, QR, and Reflexive movements all feed the prosody without affecting word-order
  - ↳ If we assume that prosodic information encodes structural relationships only from syntax and phonology (i.e. not any post-syntactic semantic representation; e.g. Selkirk 2011), there needs to be a syntactic account for this
  - ↳ Perhaps is QR, like the semanticists have always told us, but QR is always in the narrow syntax, allowing it to feed prosody

As **a consequence of covert overt movement**, PF-theories of islands (e.g. Merchant 2001, Fox and Lasnik 2003) face problems[49]

- ↳ Imagine that the a reflexive moved to Spec,VoiceP from inside an adjunct island. This would result in the (infelicitous) prosody of (99):

  (99) # Lucie [$_{\text{VoiceP}}$ ~~herself~~ counted five tourists ***besídes*** herself].

- ↳ In other words, this movement is island-sensitive, even though you spell-out the tail of the chain
  - ↳ There is no gap/trace/unpronounced-copy within the island; therefore, there should be no violation of a PF-theory of islands
  - ↳ Thus, a PF-theory of islands would incorrectly predict that (99) to be grammatical – putting into question whether such a theory of islands is appropriate

[48] Wagner would treat this sort of phenomena also as the result of movement as the result of something else being Given. I remain agnostic as to this – either way, what appears to be displacement of Focused things would be derived by overt movement, which may be covert (in English).

[49] Thanks to Norbert Hornstein, for bringing this to my attention.

B. More Romance Data/Analysis

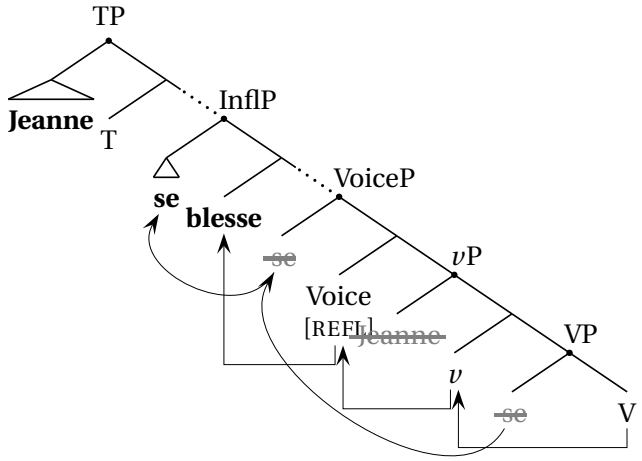
Sportiche (2010) motivates the need for phrasal movement of *se*, not unlike the movement of *himself* argued for here

↳ I have adopted his structure into one more like the one proposed here

French demonstrates the need for slightly more structure (for language-specific properties)

↳ assuming the verb moves beyond VoiceP (to, for example, Infl), the clitic must move beyond the specifier of VoiceP[50]

(100)



↳ Note that aside from the independent differences of V-to-I and clitic-climbing, the structure at VoiceP for French is identical to the English structure argued for here

Due to the derivational similarities, the patterns shared by English and French are predicted:[51]

(101) a.

Can occur...	REFL-related *himself*	French *se*
a. ...as a Direct Object	✓	✓
b. ...as an Indirect Object	✓	✓
c. ...in an island	×	×
d. ...with a non-subject antecedent	×	×
e. ...in a passive	×	×

b.

Can occur...	non-REFL-related *himself*	French *lui-même*
a. ...as a Direct Object	×	×
b. ...as an Indirect Object	×	×
c. ...in an island	✓	✓
d. ...with a non-subject antecedent	✓	✓
e. ...in a passive	✓	✓

↳ These properties are discussed for French (in part) by Burzio 1986 and Sportiche 2010

↳ Data exemplifying these constraints are given below:

[50] Alternatively, the verb may not move beyond Voice and the *se* may not either, if remnant movement of VoiceP is employed rather than separate movements of the verb and its clitics. In fact, this would seem preferable, so that the subject could be the closest DP for movement to subject (assuming that *se* and other clitics are interveners of the relevant type).

[51] French disallows *se* in some places that English allows the DSS-avoiding *himself*: e.g. when the anaphor is the object of certain (strong) prepositions. This is likely due to French disallowing P-stranding (unlike English).

Islands

Subject-oriented reflexive clitics in Romance languages island-bound

↳ Coordinate Structure Island

(102) Intended: "Jean injured Scott and herself"

a. ?Jeanne a blessé Scott et elle-même.
Jean PFV.AUX.PRS injure.3S.PTCP Scott and himself

b. *Jeanne s' est blessé(e) Scott et elle-même.
Jean SE PFV.AUX.PRS injure.3S.PTCP Scott and himself

c. *Jeanne s' est blessé(e) Scott et.
Jean SE PFV.AUX.PRS injure.3S.PTCP Scott and

d. *Jeanne a/est blessé(e) Marie et se/soi.
Jean PFV.AUX.PRS injure.3S.PTCP Scott and SE

↳ Adjunct Island

(103) Intended: "Lucie counted five tourists besides herself."

a. Lucie a compté cinq touristes en dehors d'
Lucie PFV.AUX.PRS count.3S.PTCP five tourists in outside of
elle-même.
herself

b. *Lucie s' est compté(e) cinq touristes en dehors d'
Lucie SE PFV.AUX.PRS count.3S.PTCP five tourists in outside of
elle-même.
herself

c. *Lucie s' est compté(e) cinq touristes en dehors.
Lucie SE PFV.AUX.PRS count.3S.PTCP five tourists in outside

d. *Lucie a/est compté(e) cinq touristes en dehors de se/soi.
Lucie PFV.AUX.PRS count.3S.PTCP five tourists in outside of SE

↳ Reduced Relative Clause Island

(104) Intended: "Ms. Adler likes intelligent people who are like herself."

a. Mlle. Adler aime les gens intelligents comme elle-même.
Ms. Adler like.3S.PRS the people smart like herself

b. *Mlle. Adler s' aime les gens intelligents comme elle-même.
Ms. Adler SE like3S.PRS the people smart like herself

c. *Mlle. Adler s' aime les gens intelligents comme.
Ms. Adler SE like3S.PRS the people smart like

d. *Mlle. Adler aime les gens intelligents comme se/soi.
Ms. Adler like3S.PRS the people smart like SE

Passive Clauses

Romance se/si cannot occur in passive clauses

↳ They cannot take a passive subject as their antecedent

(105) a. Jean sera décrit à lui-même par sa femme (Kayne 1975:375)
John will.be described to himself by his wife

b. *Jean se sera décrit par sa femme
John SE will.be described by his wife
"John will be described to himself by his wife"

↳ The by-phrase DP is also out as their antecedent, **despite being a D-structure subject**:

(106) a. Marie sera présenté à lui-même$_k$ par Jean$_k$ (Sportiche 2010)
Marie will.be introduced to himself by John

b. *Marie se$_j$ sera présenté t_j par Jean$_k$ ($j = k$)
Marie SE will.be introduced by John
"Marie will be introduced by John to himself."

Non-Subject Antecedents

Romance *se*/*si* can be indirect objects:

(107) a. Jean présente Pierre à Marie
John introduces Peter to Mary
"John is introducing Peter to Mary."

b. Jean$_k$ se$_j$ présente Pierre t_j ($j = k$)
John SE introduces Peter
"John$_1$ is introducing Peter to himself$_1$."

But just like the moving reflexives English, Romance *se*/*si* is out with a non-subject antecedent

↳ Sportiche points this out for French *se*, with data like (108):

(108) *Jean se$_j$ présente les enfants$_k$ t_j ($j = k$) (Sportiche 2010)
John SE introduces the children
Intended: "John is introducing the children to themselves."

↳ Kayne has also pointed this out, noting that non-subject antecedents require *lui-même*:

(109) a. La psychiatrie a révélé Jean à lui-même. (Kayne 1975:371)
The psychiatry has revealed John to himself.

b. *La psychiatrie s' est révélé Jean.
The psychiatry SE is revealed John.
"Psychiatry has revealed John to himself"

↳ Burzio points this out for Italian, noting that non-subject antecedents require *se stesso*:

(110) a. Questa situazione metterà Giovanni contro **se stesso** (Burzio 1986:430)
this situation put-will Giovanni against himself

b. *Questa situazione **si** metterà Giovanni contro
this situation SI put-will Giovanni against
"This situation will put Giovanni against himself"

C. Inadequate Analyses for REAFR

C.1. Bad Alternative 1: REAFR is predicated on object focus

General idea: The structure and interpretation of (111A1) is a kind of a transformation on the more straightforward (111A2)

(111) Johnny burned **HIMSÉLF**.

Q1: Who did Johnny burn?
A1: Johnny burned **HIMSÉLF**. (Obj.Foc.)
Q2: Who burned Johnny?
A2: Johnny burned **HIMSÉLF**. (Subj.Foc.)

Consequence: If the object focus interpretation is out, the REAFR interpretation should also be out

Doesn't work:

↳ Object focus interpretation is out, but REAFR works in (112)

(112) a. Liz's sub didn't eat **ITSÉLF** – **SOMEONE ÉLSE** ate it. (REAFR)
b. #Liz's sub didn't eat **ITSÉLF** – it ate **SOMETHING ÉLSE**. (Obj.Foc.)

C.2. Bad Alternative #2: REAFR is predicated on Emphatic Reflexives

General idea: Emphatic reflexives are another instance of focused reflexive pronouns – maybe (113a) is derived by a transformation on (113b)

(113) a. John hit **HIMSÉLF**.
b. John hit himself himself.

Consequence: The independently known constraints on Emphatic Reflexives (Ahn 2010) should also constrain when you can get REAFR

Doesn't work:

↳ ^{vp}Emphatic Reflexives modify predicates to add a meaning close to "without help"

↳ ^{vp}ERs are limited to cases where their antecedent is an Agent:

(114) a. Which nurse cured you ^{vp}herself? *Agent*
b. #Which medicine cured you ^{vp}itself? *Cause*
c. #Which student likes linguistics ^{vp}himself? *Experiencer*

↳ However, REAFR is compatible with any type of external argument

↳ Agents, Experiencers and Causes are all OK:

(115) Q: Who was talking to Emma? (Agent Question)
A: Emma was talking to **HERSÉLF**. (REAFR)

(116) Q: What cools graphene transistors? (Cause Question)
A: Due to their inherent properties, they cool **THEMSÉLVES**. (REAFR)

(117) Q: Who likes the loudest boy? (Experiencer Question)
A: The loudest boy likes **HIMSÉLF**. (REAFR)

↳ ^{dp}Emphatic Reflexives modify DPs to add a meaning close to "**X**, not Y"
↳ ^{dp}ERs are limited to cases where their antecedent is a type-⟨e⟩ DP

(118) a. #Every mother washed every baby boy ^{dp}himself. (Quantified Phrase)
b. #Nice girls would want to marry a schizophrenic ^{dp}himself. (Non-spec. Indef.)

↳ However, REAFR is compatible with any type of DP

(119) Q: Who washed every baby boy?
A: Every baby boy washed **HIMSÉLF**. (Quantified Phrase)

(120) Q: Who would want to marry a schizophrenic?
A: A schizophrenic would want to marry **HIMSÉLF**. (Non-spec. Indef.)

↳ Furthermore, a ^{dp}ER could not be adjoined to a silent pronoun in (119)–(120), as ^{dp}ERs are additionally highly degraded when attached to (non-nominative) pronouns (Lasnik and Sobin 2000):

(121) *?Charles gave {you ^{dp}yourself/him ^{dp}himself/himself ^{dp}himself} the reward.

↳ REAFR has a **broader distribution** than either Emphatic Reflexive would allow

C.3. Bad Alternative #3: Focused reflexives can focus antecedents

General Idea: Because of coreference, focusing reflexives is like focusing the antecedent directly

Consequence: The external-argument-hood of the antecedent, the Voice of the clause, and the reflexive's structural origin shouldn't matter

Doesn't work:

↳ Dual focus is ***required*** for non-external-argument antecedents (unlike with REAFR)

(122) Q: Who did Angie introduce __ to Ken?
A1: #Angie introduced Ken to **HIMSÉLF**. (Deacc.Antecedent)
A2: Angie introduced **KÉN** to **HIMSÉLF**. (Dual Focus)

(123) Q: Which student seems to Ken to be sick?
A1: #Ken seems to **HIMSÉLF** to be sick. (Deacc.Antecedent)
A2: **KÉN** seems to **HIMSÉLF** to be sick. (Dual Focus)

↳ Reflexives **must have an external argument antecedent** to allow REAFR

↳ Moreover, having an external argument antecedent isn't sufficient – passive clause external arguments don't allow REAFR:

(124) Who was Angie introduced to __ by Ken?
Q: #Angie was introduced to Ken by **HIMSÉLF**. (REAFR)

(125) Who was Angie introduced by __ to Ken?
Q: #Angie was introduced by Ken to **HIMSÉLF**. (REAFR)

↳ Like French *se* (Sportiche 2010) and Shona *zvi-* (Storoshenko 2009)

↳ **Passive voice disrupts REAFR** 's necessary syntax

↳ Reflexives separated from antecedents by islands are incompatible with REAFR:

(126) Q: Who was talking to Emma?
A: Emma was talking to **HERSÉLF**. (REAFR)

(127) Q: Who was talking to [Sebastian and Emma]?
A: #Emma was talking to [Sebastian and **HERSÉLF**]. (REAFR)

(128) Q: Who counted five tourists [besides Lucie]?
A: #Lucie counted five tourists [besides **HERSÉLF**]. (REAFR)

↳ **We need a movement analysis** for the reflexives in REAFR

D. Strict and Sloppy Readings

D.1. Identity Background Check

Any theory of ellipsis operates on eliding certain material by finding an appropriately[52] ***identical antecedent***

↳ There is evidence that this identity is partially computed...

↳ ...semantically (e.g. Fiengo and May 1994, Merchant 2001)

↳ ...syntactically (e.g. Chung et al. 1995, Merchant 2007, Chung 2011), **and**

↳ ...pragmatically (e.g. Kehler 2002, Hardt and Romero 2004)

Merchant (2007): the **Voice^{0}s must be identical when Voice^0 is within the ellipsis site**

↳ Sluicing (129a) and Gapping (129b), unlike VPE, elide Voice^0 and disallow active/passive mismatch

↳ Merchant's conclusion: Voice^0 must survive ellipsis in VPE

Kehler (2002): **voice must be identical when the two clauses are parallel and coordinated**

↳ Voice-mismatch across antecedent/ellipsis clauses under a Resemblance relation (129c) is impossible

↳ Voice-mismatch is fine when the clauses are under any other Coherence relation, as in (129d)

These constraints **predict the (un)acceptability of passive/active mismatches** below:

(129) a. They told me Lea was hugged today, but they didn't tell me **by who(m)** [~~was she be hugged~~].
*They told me Lea was hugged today, but they didn't tell me **who** [~~hugged her~~].

b. Lea was hugged today by Tim, and **Chris** [~~was hugged~~] **by Jane**.
*Lea was hugged today by Tim, and **Jane** [~~hugged~~] **Chris**.

c. Lea was hugged today by Tim, and **no one else was** [~~hugged~~]?Lea was hugged today by Tim, and **no one else did** [~~hug her~~].

[52] The antecedent for Sluicing, Gapping, and VP-ellipsis must be linguistic, but at the same time, some anaphoric processes do not require a linguistic antecedent (Hankamer and Sag 1976). I only concern myself with processes that require linguistic antecedents here.

d. Lea was hugged today by Tim, even though **no one else was** [~~hugged~~].
Lea was hugged today by Tim, even though **no one else did** [~~hug her~~].

Voice^0-mismatch between the antecedent and ellipsis clauses cannot occur when:
(i) Voice^0 is elided (e.g. in Sluicing or Gapping), or (ii) the clauses are in a Resemblance relation

D.2. (Some) Strict readings as Voice Mismatch

Reflexive arguments can yield strict readings under ellipsis (contra, e.g., Williams 1977, Partee and Bach 1981, Bouchard 1984, Lebeaux 1985, Kitagawa 1991)

↳ ...but only **sometimes** (e.g. Fox 1993, Fiengo and May 1994, Hestvik 1995, Kehler 2002)

A strict reading with REFL-reflexives is available **whenever Voice mismatch is possible**, (130):

(130) **Strict**/**Sloppy**, REFL Voice antecedent

a. They told me *Lea$_j$* [hugged herself$_j$ today], but they didn't tell me *who else$_k$* [~~hugged themselves$_k$ today~~].
*They told me *Lea$_j$* [hugged herself$_j$ today], but they didn't tell me *who else$_k$* [~~hugged her$_j$ today~~].

b. *Lea$_j$* [hugged herself$_j$] *today*, and *Jane$_k$* [~~hugged herself$_k$~~] *yesterday*.
**Lea$_j$* [hugged herself$_j$] *today*, and *Jane$_k$* [~~hugged her$_j$~~] *yesterday*.

c. *Lea$_j$* [hugged herself$_j$ today], and *Jane$_k$* did [~~hug herself$_k$ today~~] too.
*?*Lea$_j$* [hugged herself$_j$ today], and *Jane$_k$* did [~~hug her$_j$ today~~] too.

d. *Lea$_j$* [hugged herself$_j$ today], because *Jane$_k$* did [~~hug herself$_k$ today~~] too.
Lea$_j$ [hugged herself$_j$ today], because *Jane$_k$* did [~~hug her$_j$ today~~] too.

↳ (130a,b) disallow strict reading, because sluicing and gapping elide Voice^0

↳ (130c) disallows a strict reading, because Resemblance requires Voice^{0}s to match

↳ This is **entirely parallel to active/passive mismatch** (un)grammaticality in (129)

Strict and sloppy readings are **both available with non-REFL reflexives** in the antecedent

(131) **Strict**/**Sloppy**, REFL Voice antecedent

a. They told me *Lea$_j$* [hugged people like herself$_j$ today], but they didn't tell me *who else$_k$* [~~hugged people like themselves$_k$ today~~].
They told me *Lea$_j$* [hugged people like herself$_j$ today], but they didn't tell me *who else$_k$* [~~hugged people like her$_j$ today~~].

b. *Lea$_j$* [hugged people like herself$_j$] *today*, and *Jane$_k$* [~~hugged people like herself$_k$~~] *yesterday*.
Lea$_j$ [hugged people like herself$_j$] *today*, and *Jane$_k$* [~~hugged people like her$_j$~~] *yesterday*.

c. *Lea$_j$* [hugged people like herself$_j$ today], and *Jane$_k$* did [~~hug people like herself$_k$ today~~] too.
Lea$_j$ [hugged people like herself$_j$ today], and *Jane$_k$* did [~~hug people like her$_j$ today~~] too.

d. *Lea$_j$* [hugged people like herself$_j$ today], because *Jane$_k$* did [~~hug herself$_k$ today~~] too.
Lea$_j$ [hugged people like herself$_j$ today], because *Jane$_k$* did [~~hug her$_j$ today~~] too.

Strict readings pattern like ACT/PASS Voice^0-mismatch
with regard to Sluicing/Gapping/VP-Ellipsis, as well as Coherence relations

strict readings are possible in cases like (130)–(131), with non-REFL reflexives, **inasmuch as vehicle change is grammatical (Fiengo and May 1994)** [53]

- ↳ **vehicle change** allows for the following: "in a reconstruction, a nominal can take any syntactic form so long as its indexical structure (type and value) is unchanged" (F&M 1994:218)
  - ↳ e.g. "himself" in the antecedent **may license ellipsis of** "him" in the ellipsis site
  - ↳ and "his" may license ellipsis of "their"
- ↳ The form that these anaphors/pronouns have is the form that they've had since insertion
  - ↳ It's **not the case** that vehicle change literally changes a reflexive anaphor into a non-reflexive pronoun
  - ↳ Nor should it be possible to change a reflexive **verbal affix** into a non-reflexive **pronoun**

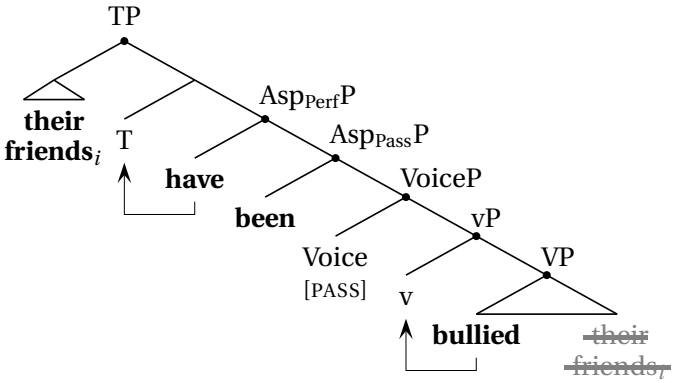
D.3. Size of Ellipsis Sites

Ellipsis sites can expand – for the same ellipsis operation – under identity[54]

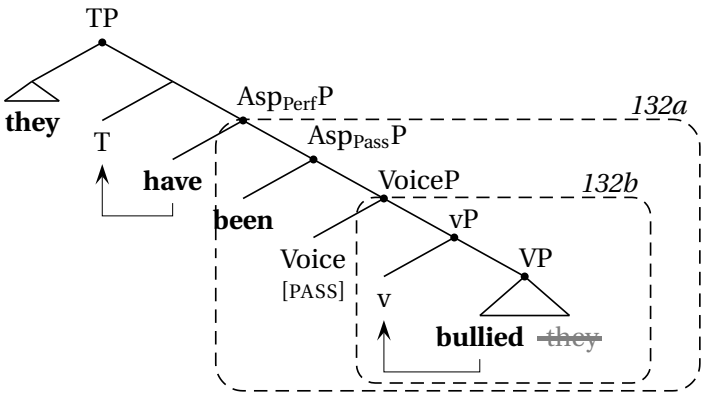
(132) a. Their friends have been $\emptyset_{\text{Pass}}$ bullied and they have [~~been $\emptyset_{\text{Pass}}$ bullied~~] too. (http://goo.gl/LsmK7)

b. Their friends have been $\emptyset_{\text{Pass}}$ bullied and they have been $\emptyset_{\text{Pass}}$ [~~bullied~~] too.

(133) a.



b.



Merchant (2007) predicts (132b) as the VP-ellipsis site

- ↳ This is what allows Voice-mismatch – Voice^0 isn't actually elided

[53] There seems to be speaker-variation as to when vehicle change can apply.
[54] Here the example is with auxiliaries; similar data can be found with adverbials.

But he doesn't discuss what happens in Voice-match contexts

↳ as 132a exhibits, when identity holds, you can expand the VP-ellipsis domain

but you cannot elide more, in mismatch cases

(134) a. *Joe was $\emptyset_{ACT}$ cleaning the stove, because the fridge had [~~been $\emptyset_{PASS}$ cleaned~~], already.

b. Joe was $\emptyset_{ACT}$ cleaning the stove, because the fridge had been $\emptyset_{PASS}$ [~~cleaned~~], already.

Ellipsis-sites seem to be able to grow, to allow 132a
but only when this doesn't create problems for identity

D.4. Deriving Strict and Sloppy

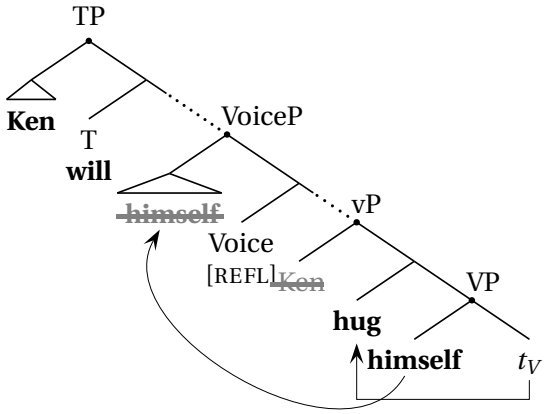
Exploiting this, **sloppy readings are the reflex of eliding more** than strict readings

↳ which necessarily elide less structure (to avoid Voice mismatch in the ellipsis domain)

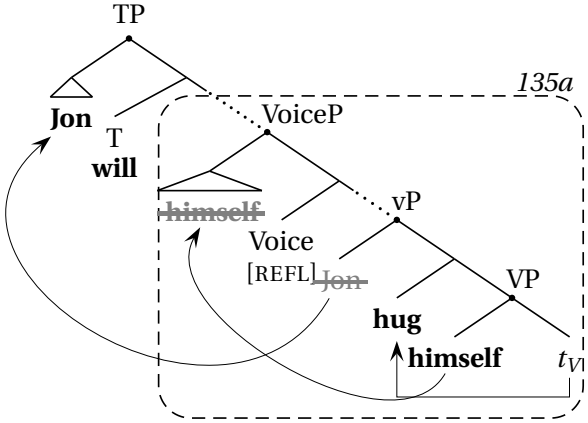
(135) a. Ken$_k$ will hug himself$_k$. Then Jon$_j$ will [~~hug himself$_j$~~]. (sloppy)

b. Ken$_k$ will hug himself$_k$. Then Jon$_j$ will [~~hug him$_k$~~]. (strict)

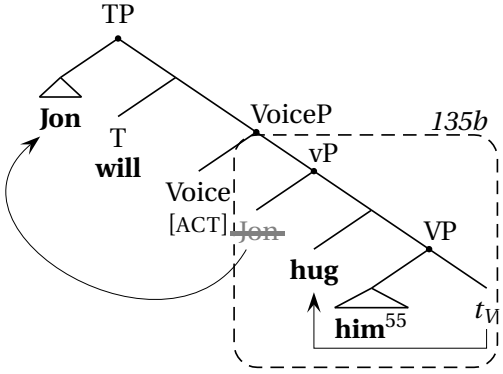
(136) a.



b. Sloppy reading; Larger VPE



c. Strict reading; Smaller VPE



[55]Assuming that weak pronouns move, it must be that they move to a position below Voice since the complement of Voice^0 is what's elided (it is a mismatch case). Under an analysis like Cardinaletti and Starke (1999), movement of this type is intertwined with discourse-anaphoric properties of weak pronouns (and this pronoun **must** have an anaphoric dependency, in strict reading). It is not clear that this will help to derive any of the relevant facts here, but should perhaps be kept in mind.

- ↳ **larger ellipsis necessitates a sloppy reading**, since VoiceP is elided (and whenever Voice^0 is elided, voice-match is required)
- ↳ in this way, ellipsis in a strict reading **must not include Voice^0**
  - ↳ vehicle change allows for "hug him" in (136c) to have an antecedent as "hug himself"
  - ↳ correctly predicts that sloppy interpretations (which have no reason to be blocked in (136c)) are always available whenever strict interpretations are, but not vice-versa

Sloppy reading may elide VoiceP, but strict reading must not elide Voice^0

D.5. Further Support: Strict/Sloppy Readings in Finnish

Finnish also has two reflexivization strategies:

- ↳ a verbal affix *-UtU-* (its exact form depends on vowel harmony)
- ↳ a reflexive pronoun, which is of the form *itse*-N

(137) a. Jussi puolusti itse -ään
Jussi defend.PAST.3SG self -3.GEN

b. Jussi puolusta -utu -i
Jussi defend -REFL -PAST
'Jussi defended himself.'

As noted by (Sells et al. 1987:178, fn.9), the *-UtU-* and *itse*-N reflexives behave differently with regard to availability of strict readings[56]

Under ellipsis, the DP *itse*-N can freely have a **sloppy** or **strict** reading, like English non-REFL reflexives:

(138) Jussi puolusti itse -ään paremmin kuin Pekka
Jussi.NOM defend.PAST.3SG self -3SG.GEN better than Pekka.NOM
John$_j$ defends himself$_j$ better than Peter$_k$ does [~~defend himself$_k$/him$_k$~~].

- ↳ strict reading available
- ↳ because this contains a pronoun, "vehicle change" can take place

But, if the antecedent contains *-UtU-, there* **cannot** be a **strict** reading, like English REFL reflexives:

(139) Jussi puolusta -utu -i paremmin kuin Pekka
Jussi.NOM defend -REFL -PAST better than Pekka.NOM
*John$_j$ defends himself$_j$ better than Peter$_k$ does [~~defend himself$_k$/*him$_k$~~].*

- ↳ perhaps *-UtU-* is the REFL Voice head
  - ↳ this should be tested further
- ↳ if so, no Voice-mismatch (= strict reading) is possible, since it is elided in (139)

Finnish overtly shows when REFL Voice^0 is present; strict isn't possible when REFL Voice elides

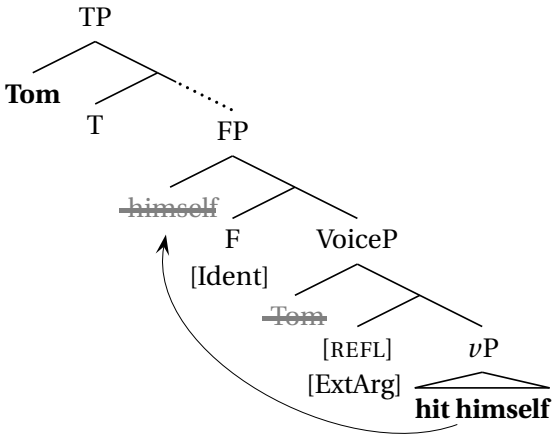
[56] Special thanks to Elsi Kaiser, for these Finnish judgments.

E. More on VoiceP and External Arguments

Even if Voice^0 can be conclusively shown to be the introducer of external arguments, this general analysis of REAFR presented here would still hold

- ↳ Since a conjunctive analysis is untenable, as we just saw, a REFL Voice^0 could not instantiate the reflexivizing function, as its duty is to license the external argument
- ↳ Instead, there would be a second projection that is the locus of the reflexivizing function, to which the reflexive anaphor moves – call it FP
  - ↳ To create the dependence between FP and REFL Voice, they would have to be in a selectional relationship
- ↳ That is, we split the *ExtArg* and *Ident* functions across two projections (like in the rest of this paper), but Voice^0 instantiates *ExtArg*, not *Ident* (unlike in the rest of this paper)[57,58]

(140)



Under this analysis, the REAFR prosody/constraints would still arise because the reflexivizing function would be encoded in F^0

- ↳ Since F^0 is silent, the focus would be realized on its specifier, the reflexive anaphor that has moved to that position

[57] Essentially, this analysis recognizes that there is thematic domain and the reflexivizing function is outside of that domain – deciding which projection to label "VoiceP" is more-or-less arbitrary (apart from trying to unify the locus of grammatical voice in the structure). This is reminiscent of the way Sailor and Ahn 2010 deals with passives, whereby the head which attracts a verbal projection is outside of the external-argument-introducing Voice.

[58] This treatment of FP would still follow if F were merged below the external-argument-introducing Voice. However, I do not flesh this argument out in detail, as it would seem to run against a theoretical desideratum that the theta domain not contain any non-theta-related positions.

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