The Distribution of Focal Stress and the Syntax of Reflexivity

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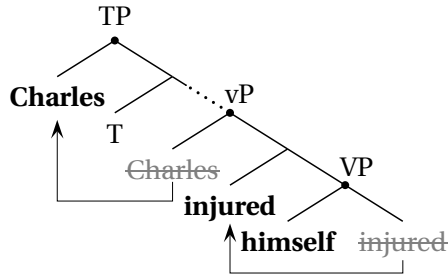
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Abstract

A sentence like *Johnny burned **himself***, with the sole focal stress on the reflexive anaphor, can be felicitously interpreted as a response to a subject-question like ***Who** burned Johnny?*. This is unexpectedly felicitous, given previous accounts of focus in question-answer pairs. Critically, this phenomenon is limited to a subclass of reflexive anaphors. Though commonly accepted theories of focus and reflexivity would not predict this to be possible, by amending the syntactic representation of reflexivity, this phenomenon and its particular constraints are entirely predictable on the basis of normal rules of syntax-prosody mapping. This analysis gains independent support from the distribution of phrasal stress with regard to reflexive anaphors, as well as from the realization of reflexivity of other languages.

1   Introduction

Though existing analyses of reflexive clause are rather varied in their approaches, most assume that the structural position of a reflexive object like *himself* in (1) is the same as other objects, like *Erik* in (2) (cf. Chomsky 1981, 1986, Pollard & Sag 1992, Reinhart & Reuland 1993, Hornstein 2001, *inter alia*):

(1)   a.   Charles injured himself.   (2)   a.   Charles injured Erik.
      b.   b.
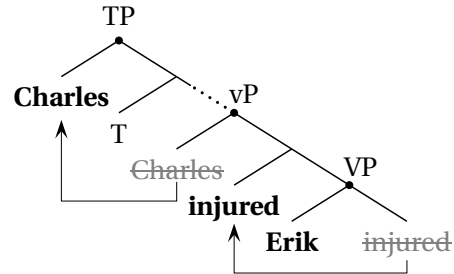
However, I argue that the analysis in (1b) is an oversimplification, by exploring the distribution of contrastive focus accents. Specifically, in a certain focus phenomenon of English, a reflexive *object* can bear the focus prosody while intuitively expressing a *subject*-focus interpretation:

(3)   My sandwich didn't eat <u>ITSELF</u>. ≈ <u>MY SANDWICH</u> didn't eat my sandwich.

The phenomenon exhibited in (3) is what I term Realizing External Argument Focus on a Reflexive (henceforth REAFR).[1] Sentences with REAFR are systematically available as the answer to a *subject*-WH question with a reflexive object. Consider, (4A1) as the answer to (4Q):[2]

(4) Q: Who injured Charles?
     A1: Charles injured **HIMSELF**.   REAFR
     A2: **EMMA** injured Charles.
     A3: **CHARLES** injured Charles.
     A4: #**CHARLES** injured himself.

As indicated by (3), REAFR is not limited to question-answer contexts. However, in the remainder of this paper, I focus on question-answer pairs like (4), as they often offer clearer data reflecting the representational nature of reflexivity. With this data, it is apparent that REAFR is constrained to a subset of reflexives: those that (i) are bound by the subject, (ii) can undergo movement, and (iii) are not in passive clauses. I provide a structural analysis for these facts, which gains support from the distribution of sentential stress accents, as well as from cross-linguistic reflexive syntax.

The paper proceeds as follows. REAFR and the problems it presents are more fully introduced in section 2. Section 3 then steps through analyses that are inadequate to explain REAFR, bringing to light a fuller set of properties that define it. In section 4, I provide an analysis which derives all of these properties of REAFR, and which can derive a broader, seemingly-unrelated set of facts. Finally, I conclude with a summary of the findings and some remarks on further research in section 5.

2   The Phenomenon

A felicitous answer to a question must obey a principle like Question-Answer Congruence (QAC):

(5) **Question-Answer Congruence**: An appropriate answer to a WH-question must be (semantically and prosodically) focused. (Halliday 1967, Rooth 1992, Selkirk 1996, Schwarzschild 1999, a.o.)

QAC predicts that (6A1) is the felicitous answer to (6Q) when Ken is the entertainer. However, with the very same situation and question, (7A1) is an infelicitous response – seemingly unpredicted by QAC.

(6) Q: Who entertained Ken?   (7) Q: Who entertained Ken?
     A1: **KEN** entertained Ken.   A1: #**KEN** entertained himself.
     A2: #Ken **ENTERTAINED** Ken.   A2: #Ken **ENTERTAINED** himself.
     A3: #Ken entertained **KEN**.   A3: Ken entertained **HIMSELF**.

Note that (7A3), isolated in (8), is also a felicitous answer to the *object*-question like (9Q). The subject-question answer and object-question answer readings will be referred to as REAFR and object focus read-

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[1]Given modern analyses of argument structure, it may be unclear what is meant by "external argument." I use this term to refer to the argument which becomes the subject in an active transitive clause – in other words, DPs which bear an Agent, Cause or Experiencer theta role.

[2]Throughout this paper, the bolded, underlined small-caps indicate contrastive focus (as opposed to presentational focus), typically realized as a L+H* pitch accent (Pierrehumbert and Hirschberg 1990).

ings, respectively:[3]

(8) REAFR
    Q: Who entertained Ken?
    A: Ken entertained **HIMSELF**.

(9) Object Focus
    Q: Who did Ken entertain?
    A: Ken entertained **HIMSELF**.

The ambiguity of the sort exhibited by the focused reflexives in (8)–(9) is not straightforwardly derivable though QAC, and given standard assumptions about the structure of (8).

Assuming that answers to subject-questions like (8) semantically focus a different constituent than answers to object-questions like (9), how could they both map the prosodic focus onto the reflexive, given QAC?[4] In fact, QAC is representative of a larger truth about linguistic derivations – mismatches between prosodic, syntactic and semantic structures are, under the strongest theories, non-existent. Thus REAFR represents a serious theoretical problem. To address this problem, we must first understand the distribution of the REAFR phenomenon.

3 Inadequate Accounts

In this section, I explore several logically possible explanations for REAFR, finding short-comings with each, and in the process uncovering properties of the REAFR phenomenon.

3.1 Object Focus Account

One possible account of REAFR might appeal to the homophony with object focus constructions. In this way, the structures of (8) and (9) are identical, and the REAFR interpretation is the result of applying some post-syntactic operation –the exact nature of which I leave open to interpretation– to (9). This account would predict that, whenever the object-focus interpretation is unavailable, the REAFR interpretation should also be out. This prediction is not borne out:

(10) a.   Liz's sub didn't eat **ITSELF** – **SOMEONE ELSE** ate it.   REAFR
      b.   #Liz's sub didn't eat **ITSELF** – it ate **SOMETHING ELSE**.   Object Focus

Given this, an account in which REAFR directly relies on object focus is untenable.

3.2 Emphatic Reflexive Account

A perhaps more probable alternative analysis might relate REAFR to Emphatic Reflexives (ERs), which also involve focus (see, e.g., Eckardt 2001, Hole 2002, 2008, Ahn 2010):

(11) Emphatic Reflexives
    a.   Liz **HERSELF** sold the company.
    b.   No one had done their homework **THEMSELVES**.

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[3]On top of a response with REAFR, a subject question like (8) may also be answered with a dual focus prosody: **KEN** entertained **HIMSELF**. This dual focus is <u>not</u> the same as REAFR, as it has a broader distribution. See §3.

[4]In principle, one could argue that REAFR is in fact evidence against principles like QAC. Such a position would be faced with otherwise accounting for all the effects of QAC; I leave this line of argumentation open.

Under this account, REAFR as in (12a) might result from a post-syntactic operation on the ER in (12b):

(12) a. Ken entertained **<u>HIMSELF</u>**.
      b. Ken entertained himself himself.

If this were the case REAFR should be constrained in the ways that ERs, which fall into two subclasses, are constrained. The first ER-type is a subject-oriented verbal-adjunct (^{vp}ER) meaning something like "without help", which is limited to cases where their antecedent bears an Agent theta role (Ahn 2010):

(13) a. No doctor can cure you ^{vp}himself.   Agent antecedent; ^{vp}ER
      b. #No medicine can cure you ^{vp}itself.   Cause antecedent; #^{vp}ER
      c. #No student lives here ^{vp}himself.   Experiencer antecedent; #^{vp}ER

However, REAFR is compatible with any type of external argument – Agents, Causes and Experiencers:

(14) Q: Who was talking to Emma?
      A: Emma was talking to **<u>HERSELF</u>**.   Agent antecedent; REAFR

(15) Q: What cools graphene transistors?
      A: Due to their inherent properties, they cool **<u>THEMSELVES</u>**.   Cause antecedent; REAFR

(16) Q: Who likes the loudest boy?
      A: The loudest boy likes **<u>HIMSELF</u>**.   Experiencer antecedent; REAFR

Since REAFR is possible when ^{vp}ERs are not, directly relating the two would be problematic.

Perhaps REAFR depends on the second kind of ER, a DP-adjunct (^{dp}ER) meaning something like "**<u>X</u>**, not Y". ^{dp}ERs are limited to cases where their antecedent is a DP of type $\langle e \rangle$, ruling out quantified expression antecedents and non-specific indefinite antecedents (Ahn 2010).

(17) a. Every mother washed Billy ^{dp}himself. $\langle e \rangle$ antecedent; ^{dp}ER
      b. #Every mother washed every baby boy ^{dp}himself. $\langle et,t \rangle$ antecedent; #^{dp}ER
      c. Nice girls would want to marry the president ^{dp}himself. $\langle e \rangle$ antecedent; ^{dp}ER
      d. #Nice girls would want to marry a schizophrenic ^{dp}himself. $\langle e,t \rangle$ antecedent; #^{dp}ER

However, REAFR is compatible with a DP antecedent of type $\langle e,t \rangle$ or $\langle et,t \rangle$:[5]

(18) Q: Who washed every baby boy?
      A: Every baby boy washed **<u>HIMSELF</u>**. $\langle et,t \rangle$ antecedent; REAFR

(19) Q: Who would want to marry a schizophrenic?
      A: A schizophrenic would want to marry **<u>HIMSELF</u>**. $\langle e,t \rangle$ antecedent; REAFR

Since REAFR is felicitous when ^{dp}ERs would not be, it distributes more broadly than either kind of Emphatic Reflexive. Thus, doubt is cast on any analysis that derivationally relates REAFR to ERs.[6]

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[5]It can't be that a ^{dp}ER could not be adjoined to a silent pronoun in (18-19), as ^{dp}ERs are additionally highly degraded when attached to non-nominative pronouns (Lasnik and Sobin 2000):

  i. *?Charles gave {me ^{dp}myself/you ^{dp}yourself/him ^{dp}himself/himself ^{dp}himself} the reward.

[6]Additionally, REAFR reflexives must occur between the verb and its particle (*The coffee won't warm <**<u>ITSELF</u>**> up <#**<u>ITSELF</u>**>*), but ERs must occur outside of them (*John warmed it <*himself> up <himself>*).

3.3   Anaphor-Antecedent Relationship Account

Another account may propose that, since reflexive anaphors are inherently referentially dependant, focusing the reflexive can in turn focus its antecedent. Under this analysis, focusing <u>any</u> reflexive should be able focus any antecedent, regardless of structural and interpretational factors.

Before we come to the ways in which this analysis fails, we must first revisit the definition of REAFR. In clauses with REAFR like (20A1), the reflexive bears focus prosody. Additionally, there is a separate felicitous response whereby the DP that antecedes the reflexive *and* the reflexive <u>both</u> bear focus prosody –a "dual focus" utterance– like (20A2).

(20)   Q: Who ____ introduced Angie to Ken?
       A1:   Ken introduced Angie to **HIMSELF**.   REAFR
       A2:   **KEN** introduced Angie to **HIMSELF**.   Dual Focus

Since these two patterns might have different properties (they do), we must be careful that there is *only one* focus accent when testing the limits of REAFR.

The first way in which an anaphor-antecedent based account fails is that, if the antecedent of the reflexive is not an external argument, REAFR prosody is impossible:

(21)   Q: Who did Angie introduce ____ to Ken?
       A1:   #Angie introduced Ken to **HIMSELF**.   REAFR
       A2:   Angie introduced **KEN** to **HIMSELF**.   Dual Focus

Compare the minimal pairs of (20) and (21). The dual focus response is felicitous regardless of the antecedent's thematic role, but the REAFR response requires the antecedent be the external argument. This indicates that the dual focus prosody is a separate phenomenon, and also that thematic role of the antecedent is crucial in licensing REAFR prosody.

Moreover, having an external argument antecedent isn't sufficient – external argument antecedents in passive clauses do not license REAFR prosody:[7]

(22)   Q: Who was Angie introduced to Ken by ____?
       A1:   #Angie was introduced by Ken to **HIMSELF**.   REAFR
       A2:   Angie was introduced by **KEN** to **HIMSELF**.   Dual Focus

This indicates that the syntactic structure in which the reflexive appears, which is arguably the only differentiating factor between (22) and (20), affects the availability of REAFR beyond what an account based on the anaphor-antecedent relationship account could account for.[8]

Thrid, there are clauses meeting the previous two constraints which still disallow REAFR prosody. Namely, when the reflexive is in a syntactic island, as in (23)–(24), REAFR prosody is infelicitous.

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[7]The anaphor is grammatical in (21A2), so (21A1) is not ungrammatical for binding reasons.

[8]This restriction on active clauses can be interpreted to as a restriction on surface subjecthood. Along with the "external argument" restriction, it would seem that REAFR is restricted to clauses where its antecedent is both the *surface and deep subject*. This correctly predicts that REAFR prosody is unavailable on experiencer reflexives in raising clauses. See Ahn (in progress).

(23) Q: Who entertained Liz and Ken?
      A1: #Ken entertained Liz and **HIMSELF**.   REAFR
      A2: **KEN** entertained Liz and **HIMSELF**.   Dual Focus

(24) Q: Who entertained people like Ken?
      A1: #Ken entertained people like **HIMSELF**.   REAFR
      A2: **KEN** entertained people like **HIMSELF**.   Dual Focus

None of the alternative accounts presented thus far can capture this sensitivity to islands, which are taken to be purely syntactic phenomena.

Finally, when the reflexivity of a clause is already established in the discourse, REAFR is infelicitous.

(25) Q: Which guy entertained himself?
      A1: #Ken entertained **HIMSELF**.   REAFR
      A2: **KEN** entertained himself.

If focus on an anaphor can yield focus on its antecedent, there is no way to rule out (25A1).[9]

3.4   Summary

The ways in which these alternative accounts have failed provide important information about the linguistic environments under which REAFR is licensed. Consider the summary of restrictions below:

(26) Restrictions on REAFR
      i.   The antecedent must be an external argument of the clause.
      ii.   The clause cannot be in the passive voice.
      iii.   The reflexive in a REAFR clause cannot originate in an island.
   iv.   The reflexivity of a REAFR clause cannot be given information.

Of note, (26i–iii) are syntactic restrictions: the first two related to grammatical notions like subjecthood and clausal voice, and the third perhaps surprisingly implicating movement on the part of the reflexive. Any non-syntactic account is faced with the difficult task of explaining away these syntactic properties. Finally, since (26iv) relates to focus interpretation, the structural account to be proposed ought to be able to interface with the prosodic and semantic locus of focus.

4   Subject-Oriented Reflexives in English

To account for all the properties of REAFR, including its distributional constraints in (26) and its focus prosody, I propose the following structure for the reflexive clauses that allow for REAFR.[10]

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[9]This data might, on its own, inspire an account that is purely pragmatic in nature. Specifically, it could be imagined that the WH phrase is, under normal circumstances, sufficiently domain-restricted, so that other participants in the event are ruled out as likely answers. Though correct in spirit, a solely pragmatic account can not straightforwardly capture the syntactic restrictions on REAFR exhibited in (21)–(24).

[10]This movement of the reflexive is portrayed as movement that spells out a lower copy of the chain (e.g. Bobaljik 2002). That is, the grammar considers the anaphor to be both in VoiceP and in its theta-position; however, it is ultimately linearized in its theta-position (perhaps for reasons of cyclic-linearization [Fox and Pesetsky 2005] or shape conservation [Williams 2003]). For further motivations for movement of this type in the narrow syntax, as well as for possible other derivations, see Ahn (2011a, *in progress*).

(27)
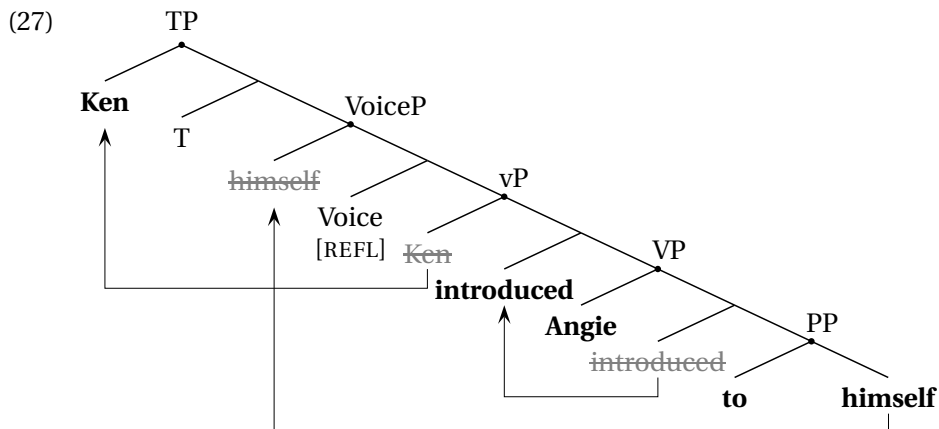
At the heart of this analysis is the movement of the reflexive anaphor to VoiceP – so it is crucial that "VoiceP" has an explicit definition. I take Voice[0] to be an "argument structure" head which merges with a complete theta-domain,[11] and which acts as a "pivot" around which the clause's surface structure is determined. That is to say, its syntactic features determine, among other things, the word orders we find in different grammatical voices (cf. Sailor and Ahn 2010). This allows a single universal argument structure to underlie all grammatical voices –e.g. active, passive (Collins 2005), and middle (Ahn and Sailor *to appear*)– thereby maintaining compositional syntax in any voice, following UTAH (Baker 1988).

In addition to Active, Passive and Middle Voice[0]s, I argue for the existence of a Reflexive Voice[0], REFL. Syntactically, REFL selects for a transitive vP complement, and has a uEPP feature that attracts reflexive anaphor to its specifier. Since the reflexive anaphor is base-generated in its argument structure position so that it can receive proper thematic interpretation, it must reach the specifier of VoiceP via movement, as shown in (27).[12]

Semantically, the REFL Voice[0] is a function that creates the reflexive interpretation, with the external argument as being the antecedent. Namely, I argue that REFL takes two arguments, and specifies that the two must be co-indexed; those two arguments being the reflexive anaphor in its specifier position, and the external argument subject. Since the reflexive moves to Spec,VoiceP, this will always be the first argument; and due to the structural height of Voice, the Spec,TP will always be the second argument.[13] Due to consideration of space, I leave further details aside here.

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[11] In this way, this usage of Voice is rather different from that of Kratzer (1996), Alexiadou et al. (2006), or even Ahn and Sailor (To appear) – all of whom employ VoiceP to introduce the external argument.

[12] This movement is very similar to the reflexive-marking movement done in Reinhart and Reuland 1993, and can be thought of similarly, as licensing reflexivity (i.e. the REFL Voice[0]). However, one point of difference is that the movement motivated here takes place in the *narrow syntax*. A second is that Reinhart and Reuland rely on the notion of "reflexive-marking a predicate", but it is not clear how this works under an analysis in which the external argument of a clause is not introduced by the lexical verb (Chomsky 1995, Kratzer 1996, von Stechow 1996, Alexiadou et al. 2006, among *many* others). If there is no predicate that introduces both the subject and the object, there can be no predicate that requires reflexive-marking to indicate that two of its arguments are coreferent.

[13] In fact, the subject probably composes with REFL much lower, before it leaves the phase. See Ahn *in progress* for a full semantic derivation involving a REFL Voice[0].

4.1   Deriving REAFR Properties

This movement to the REFL VoiceP derives a host of properties for English reflexives, including those which we have seen regarding REAFR. Working backwards through the constraints on REAFR, let us consider the constraint in (26iv). When the reflexivity is given information, as in (25), REAFR prosody is infelicitous. This is due to the fact that REAFR is actually a manifestation of *reflexivity* being focused (cf. Spathas 2010). Since reflexivity is embodied in the REFL Voice^0, we should want a representation like (28), where REFL is focus-marked:

(28)   [$_{TP}$ Ken [$_{VoiceP}$ REFL$_{Foc}$ [$_{vP}$ introduce Angie to] himself]]

This being the structure, the next question is: why does the anaphor bear the focus accent? In order to answer that, we must address the question of what happens when silent elements are focus marked. Laka (1990) argues that in this sort of situation, focus prosody is borne by the silent head's specifier. As evidence, she prodvides polarity focus (a focus marked Σ) from Basque; focus is borne by the specifier of ΣP when Σ is silent, but by Σ when it's overt:

(29)   <u>Basque Polarity Focus</u>

a.	**IRUNE**	Ø$_{Foc}$	da	etorri	b.	Irune	**BA**$_{Foc}$	da	etorri
	IRUNE	Σ$_{Foc}$	has	arrived		Irune	Σ$_{Foc}$	has	arrived
	'Irune **DID** *arrive'*					*'Irune did* **SO** *arrive'*

Similarly, Ahn (2010) finds that in languages like English, the reflexive in an ER is focused by focusing a silent head, ID:

(30)   a.   No student did it [ID$_{Foc}$ **HIMSELF**].
       b.   Jack [ID$_{Foc}$ **HIMSELF**] arrived.

With the silent REFL focused in (28), we now correctly predict that the reflexive in the specifier of VoiceP is what will bear focus prosody.[14,15]

     Restriction (26iii) derives straightforwardly from the fact that REAFR requires the anaphor to be in Spec,VoiceP. If the anaphor is merged in an island, it cannot move to Spec,VoiceP to satisfy REFL's *u*EPP feature.[16] As a consequence, a derivation in which there is REFL Voice and an anaphor in an island will crash. Instead, such sentences must <u>not</u> involve REFL Voice,[17]. Conversely, since REAFR can only arise with the anaphor in Spec,VoiceP, anaphors in islands cannot bear REAFR prosody.

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[14]Focusing an argument generally allows you to focus the XP in which it appears, as in VP-focus being borne by the object (Selkirk 1996). However, only the Voice^0, not the entire VoiceP, is focused in (28). Thus it is unlikely that this is a case like object focus yielding VP-focus.

[15]See Spathas 2010 for an alternative account, which relies on anaphors like *himself* being the reflexivizing function. However, such an account is unable to derive (26i–ii). Moreover, Spathas' treatment of reflexivity faces independent problems, not limited to ECM verbs with reflexive objects not being semantically reflexive (Reinhart and Reuland 1993) and the interpretation of sentences like *Only John shaves himself* (Sportiche 2011).

[16]Supporting evidence for this movement will be discussed in Section 4.2. However, why movement to VoiceP must take place at all is less clear – one possibility is that there is a syntactic condition whereby <u>all</u> Voice^{0}s need to be licensed by merging something in their specifier positions (Sailor and Ahn 2010).

[17]For further evidence to this effect, see Ahn (2011b).

As previously discussed, Active, Passive, Middle and Reflexive all instantiate the same head. Thus, they are straightforwardly predicted to be in complementary distribution – a single clause cannot invoke Reflexive and Passive Voice[0]s at the same time. Since REAFR depends on REFL, simple complementary distribution derives (26ii)'s restriction against REAFR in passive clauses.

Finally, though the precise logical form of REFL is outside of the scope of this paper,[18] if it takes two arguments and coidentifies them, the first argument will be the anaphor that sits in its specifier, due to normal rules of semantic composition. The second of the two arguments will be the external argument subject, since that will always be the next DP the REFL, due to the height of REFL Voice[0]. In this way, the subject-orientation of the reflexive in REAFR, (26i), is the result of simple mechanics.

Thus a REFL Voice[0] that is the locus of reflexivity derives all properties in (26), as well as deriving why the reflexive bears focus prosody in REAFR clauses.

4.2   Extension: Phrasal Stress

It has been shown that, crosslinguistically, phrasal stress is assigned to the most deeply embedded element in the structure (Cinque 1993, *et seqq.*). Following this, the syntax of REFL derives the fact that reflexives often "avoid" phrasal stress:[19]

(31)   Q: What happened at work?
       A1: Ken [$_{VoiceP}$ $\emptyset_{act}$ [$_{vP}$ introduced Angie to ***Liz***]].
       A2: Ken [$_{VoiceP}$ $\emptyset_{refl}$ [$_{vP}$ introduced ***Angie*** to] himself].

Since *himself* moves to VoiceP, it is not the most embedded element, and avoids the phrasal stress.[20] This correctly predicts that the avoidance of stress by reflexives is sensitive to the properties in (26i–iii).

(32)   Q: What happened after the accident?
       A1: Ken introduced ***Angie*** to himself.   Subject Oriented, Not in Passive, Outside Island
       A2: Ken introduced Angie to ***herself***.   Non-Subject Oriented
       A3: Angie was introduced to ***herself***.   In Passive Clause
       A4: Ken introduced Angie to two people besides ***himself***.   In Adjunct Island

See Ahn (2011a, *in progress*) for more discussion of these facts and the details of how syntactic movement feeds prosody in these cases.

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[18]It is quite clear that the traditional "valency-reducing" function is insufficient. Specifically, if a simple valency-reducing function yields reflexivity, any two arguments could be co-identified. For example, in a ditransitive, the function could co-identify the two objects – leaving the subject-orientation effects found with REAFR (as well as phrasal stress, §4.2) unexplained.

[19]This correctly predicts that reflexives' avoidance of stress is not the same as pronouns':

i.   a.   Remy accidentally burned Marie and ***himself***.

       b.   Remy accidentally burned ***Marie*** and me.

[20]This begs the question of why *to* does not bear an accent. It may follow from a principle that function words are invisible to stress calculation (e.g. Zubizarreta 1998). Alternatively, it may have to do with where *to* is merged – for example, Sportiche 2005 hints that weak prepositions like *to* are rather high in the structure.

5   Conclusion

In this paper, I have presented evidence that the REAFR phenomenon is not a violation of QAC or any other constraints on isomorphism between syntax, semantics and prosody. In this approach, a reflexive Voice[0], REFL, is the semantic reflexivizer, and attracts a reflexive anaphor to its specifier. In cases of REAFR, REFL is semantically focused; but as a silent head, the focus prosody is borne by its specifier, the reflexive anaphor.

As a result of this Voice-mediated approach to binding, the seemingly exceptional qualities of REAFR, and all of the constraints on its occurrence, are the expected results of independently motivated structural mechanisms. Moreover, as briefly mentioned in §4.2, when reflexives do (or do not) bear phrasal stress falls out from this analysis.

Finally, English reflexivity is sensitive to the subject-hood of its antecedent, just as reflexives are in a great number of languages, a short sample of which is given below:[21]

(33)   **Czech** (Slavic; Toman 1991), **Dutch** (Germanic; Koster 1987), **Hixkaryana** (Carib; Derbyshire 1985), **Norwegian** (Scandinavian; Safir 2004), **Russian Sign Language** (Signing; Kimmelman 2009), **Tsez** (Caucasian; Polinsky and Comrie 2003)

The strong hypothesis that this suggests is that subject-orientation is a universal property of reflexivity. Thus subject-orientation would need to be at the core of the binding theory, and languages whose reflexives do not readily exhibit properties of subject-orientation, such as English, would only need more careful investigation into the data to reveal it.

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[21] See Ahn *in progress* for a derivation for some of these and other languages, using Reflexive Voice[0].

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