Universality and Subject-Oriented Reflexivity*

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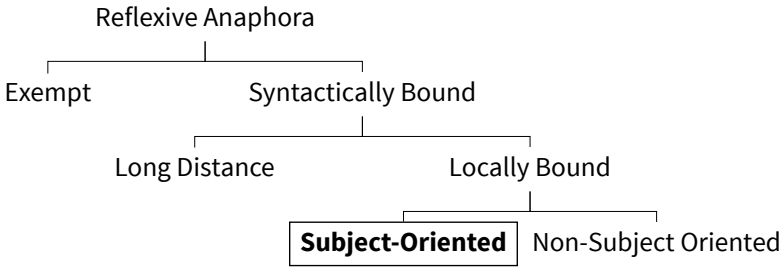
1. Introduction

There are many types of reflexive anaphors, and they can be subcategorized in many ways, e.g.:[1]

(1)



- This talk will focus on the boxed type above, where the reflexivity is clause-bound, with the local subject as antecedent: **Local Subject-Oriented Reflexivity** (**LSOR**)

↳ For example, Shona (Bantu) employs the *zvi* morpheme as an LSOR marker:

(2) Mufaro a- ka- zvi- bik -ir -a mbudzi Storoshenko 2009:(23)
Mufaro.1 SUBJ.1-PST-**LSOR**-cook-APPL-FV goat.9
'Mufaro$_i$ cooked the goat$_j$ for himself$_{i/*j}$.'

↳ As an LSOR marker, *zvi* must be bound by the (local) subject (*Mufaro*)
↳ (It cannot be bound by the direct object, *mbudzi*)

NAÏVE PUZZLE

What allows *subjects* to license LSOR?

- At the same time, **not all subjects can license LSOR**
  ↳ Notably passive/raised subjects cannot license LSOR (e.g. Burzio 1986, Kayne 1975, Lidz 1996, Rizzi 1986, Sportiche 2010, Storoshenko 2009)

INFORMED PUZZLE

Why can *only some subjects* license LSOR?

- Even to the extent that these puzzles have been noticed, little attention has been paid to them in the binding literature
  ↳ The solution I propose not only solves these puzzles, but can also distinguish LSOR from non-LSOR without stipulation

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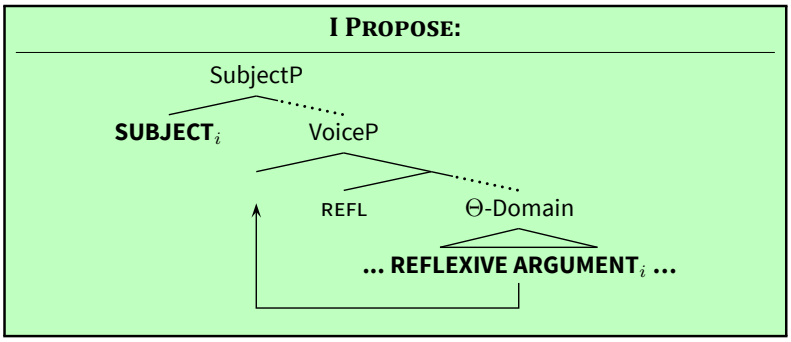
[1]This ontology, inspired in part by Sportiche 2012, is mostly meant to be descriptive, and it is almost certainly incomplete. There are different types of long-distance reflexives, and there are different types of exempt anaphors, possibly including (the different types of) logophors.

- In this talk, **I propose a novel solution, which has two main components**:
  - ↳ **a semantic reflexivizer** (associated with a unique grammatical Voice^0, REFL)
  - ↳ **syntactic movement of the anaphor** (triggered by that same semantic reflexivizer)



- My proposal predicts the variety in "strategies" to mark LSOR found across languages
  - ↳ Some combination of special reflexive pronouns, special word orders, verbal affixes, ...
  - ↳ Also explains why LSOR marking often overlaps with Voice marking (e.g. Lidz 1996)

I WILL CONCLUDE:

LSOR, all its properties, and apparent variation
emerge from what UG provides, namely:
(i) syntax-semantics interface
(ii) Reflexive Voice

2. Previous Approaches

LSOR is overtly marked with some morpho-syntactic exponent(s) in a great many languages

- e.g.,

Danish	***sig selv***	(Scandinavian, Vikner 1985)
Inuit	***immi***	(Eskimo–Aleut; Bittner 1994)
Japanese	***zibunzisin***	(Altaic; Katada 1991)
Kannada	***-koL***	(Dravidian; Lidz 1996)
Lakhota	***ic'i-***	(Siouan; Charnavel 2009)
Romance	***se/si***	(Kayne 1975, Burzio 1986, Rizzi 1986, Sportiche 2010)
Russian	***sebe***	(Slavic; Timberlake 1979)
Tɔrɔ sɔɔ	***unɔ***	(Dogon; Culy et al. 1994)

  ...

- These LSOR markers cannot be used for reflexivity when the subject is not the binder

Despite this, **well-established theories of reflexivity cannot (or do not) distinguish binding by a subject and binding by a non-subject** – this is true of semantic and syntactic binding theories

- ↳ Co-argument theories (Reinhart and Reuland 1993, *et seqq.*) and valency-reducing theories (Bach and Partee 1980, Keenan 1988, *inter alia*) simply cannot refer to structural notions like 'subject'
- ↳ Principle A-type theories (e.g. Chomsky 1981 et seqq.) and Movement-Based Theories (Hornstein 2001, Kayne 2002) place constraints on anaphors, and not their antecedents

- **This has been seen as a benefit**: not all languages seem to differentiate LSOR from a non-LSOR

(3) a. Ken$_k$ assigned Angie$_j$ to herself$_j$.

b. Ken$_k$ assigned Angie$_j$ to himself$_k$.

- ↳ If not all languages make the distinction, perhaps LSOR-derivations employ all the same grammatical mechanisms for deriving reflexivity in general, with some additional mechanism(s)

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The mechanism to derive LSOR, when modeled, is movement: for the anaphor to be in the subject's local domain

- "[T]he most prominently defended mechanism for explaining the crosslinguistic variety of locality conditions on anaphors has been to posit (covert) movement to the more local domain." (Safir 2004:7)

- This reflexive-movement has been seen as independent of whatever conditions license reflexives
- Movement seems right: it derives the fact that **LSOR is ruled out when the bound argument is licensed in an island** that excludes the subject[2]

(4) a. Lucie **s'** est vu (French)
Lucie **LSOR** PERF seen
'Lucie saw herself.'

b. Lucie a compté cinq filles en dehors d' elle-même/Alan
Lucie PERF counted five girls outside of herself /Alan
'Lucie counted five girls outside of herself/Alan.'

c. ✶Lucie s' est compté(e) cinq filles en dehors (de)
Lucie **LSOR** PERF counted five girls outside (of)
Intended: 'Lucie counted five girls outside of herself.'

↳ That (4c) contains an island is demonstrated in (4d):

(4) d. ✶Qui a Lucie compté cinq filles en dehors (de)
Who PERF Lucie counted five girls outside (of)
Intended: 'Lucie counted five girls outside of who?'

↳ Examples similar to (4c) can be constructed using any number of islands (e.g. coordination, complex NP, etc.)

But a purely movement-based approach to deriving subject oriented reflexivity **overgenerates**

- Any subject should be able to license LSOR
- But **derived subjects do not license LSOR** (e.g. subjects in passive/raising clauses; Kayne 1975, Burzio 1986, Lidz 1996, Rizzi 1986, Sportiche 2010, Storoshenko 2009)

(5) a. hari tann-annu hoDe-du-**koND**-a (Kannada, Lidz 1996)
Hari self -ACC hit -PP-**LSOR** -3SM
'Hari hit himself'

b. hari (tann-age) santooshaagiruwaage kaNis-utt -aane
Hari (self -DAT) be.happy seem-PRES-3SM
'Hari seems (to himself) to be happy'

c. ✶hari (tann-age) santooshaagiruwaage kaNis-**koLL**-utt -aane
Hari (self -DAT) be.happy seem-**LSOR** -PRES-3SM
Intended: 'Hari seems to himself to be happy'

↳ The movement theory, if correct, **needs to be constrained**

LSOR Requires a New Approach

Coargument/valency-reducing theories cannot distinguish subjects from non-subjects

Existing movement theories incorrectly predict all subjects to be able to license LSOR

[2]Data of this type seems to be well known among those who research binding in Romance languages, but to my knowledge it has not been discussed in the literature.

3. Reflexive Voice

3.1. Subject? Voice?

Question: is LSOR dependent on a notion of subjecthood along the lines of S-structure or D-structure?[3]

- If LSOR needs a D-subject, a D-subject in a passive (e.g. a by-phrase) should be able to antecede a marker of LSOR
  - ↳ Not true: thematic subjects in a by-phrase cannot license LSOR

(6) ✶ Pierre se_i sera présenté par $Jean_i$ Sportiche 2010:(8c)
Pierre **LSOR** perf.aux.3s.REFL introduced by Jean
Intended: 'Pierre will be introduced by $Jean_i$ to himself$_i$.'

- If LSOR needs a S-subject, any derived subject should be able to license LSOR
  - ↳ Not true: grammatical subjects that are not thematic subjects cannot license LSOR

(7) ✶ Tu_i te_i seras décrit par ta femme Kayne 1975:(91a)
You **LSOR** perf.aux.2s.REFL described by your wife
Intended: 'You_i will be described to yourself$_i$ by your wife.'

- **The LSOR antecedent must be the subject both at S-structure *and* D-structure (Storoshenko 2009, Sportiche 2010)**

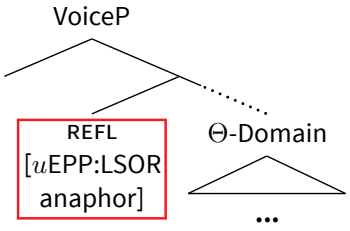
New Question: How does a D-structure constituent get mapped onto the S-structure subject?

- Grammatical voice is what controls whether the S-subject is also the D-subject (Sailor and Ahn 2010)
- **Proposal**: **LSOR and its effects are derived by a special grammatical voice, REFL**
  - ↳ The idea of a reflexive grammatical voice has a long history in philology
  - ↳ Reflexive verbal morphology and morphology for other grammatical voices (e.g. Passive, Medio-passive, Middle, Antipassive, etc.) overlap in a many languages (e.g. Geniušienė 1987, Lidz 1996)

"...the status of [reflexive verbs] with respect to voice is theory dependent in the sense that **it depends on the definition of voice**..." (Geniušienė 1987:10)[4]

- Syntactically, the **REFL Voice^0 is situated just outside the thematic domain**
  - ↳ Just as other grammatical voices, such as passive (e.g. Harley 2012)
  - ↳ It is endowed with an EPP feature that attracts LSOR reflexive argument[5]

(8)



- Semantically, **REFL coidentifies two arguments**
  - ↳ The reflexive anaphor and the subject
  - ↳ REFL is semantic reflexivity

[3] By S-structure subject, I mean the XP in the grammatical subject position, whatever it is (e.g. Spec,TP). By D-structure subject, I mean the XP in the highest thematic position, whatever it is.

[4] As this quote suggests, many different schools of thought use the term "voice", each with different conceptualizations of it. Even within modern generative syntax, this term is used in very different ways: compare the Austronesian 'voice' (e.g. Pearson 2005), the external argument introducer 'voice' (e.g. Kratzer 1996), the locus of passive auxiliary *be* 'voice' (e.g. Bjorkman 2011), etc. This conceptualization differs from all of these, while sharing core properties with each of them as well.

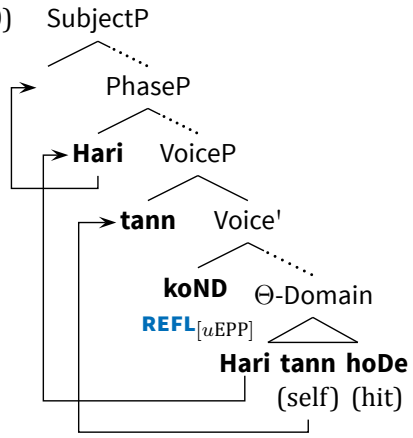
[5] In this proposal, the REFL Voice head is what requires its feature to be checked by the LSOR anaphor. However, it could just as easily be a feature of the LSOR anaphor that needs to be checked by REFL Voice – or it could be that both have features, and each needs to be checked by the other.

3.2. A Derivation

The (relevant portion of the) syntactic derivation for (5a), repeated as (9), is given in (10):

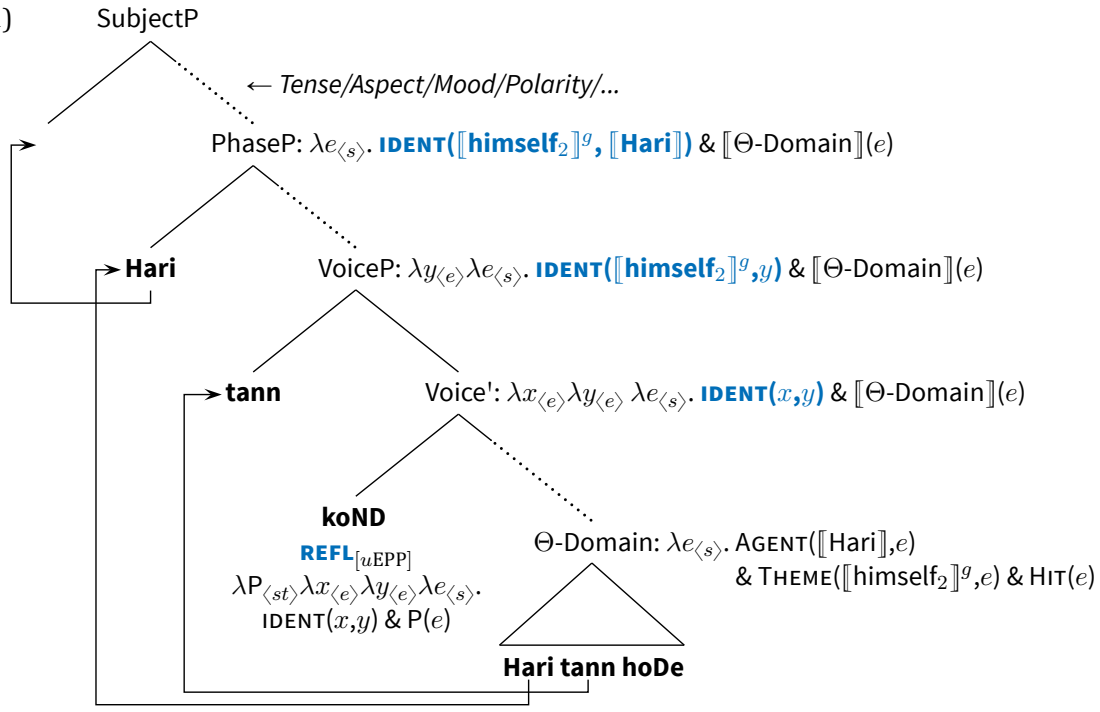
(9) hari tann-annu hoDe-du-**koND**-a (Kannada, Lidz 1996)
Hari self -ACC hit -PP-**LSOR**-3SM
'Hari hit himself'

(10)



- **Syntactically, this portion of the derivation proceeds as follows**:
  - ↳ *Hari* and *tann* are first merged in their thematic positions within the Θ-Domain
  - ↳ *tann* moves from its thematic position to VoiceP, to check REFL's EPP feature, which requires an LSOR anaphor in its specifier
  - ↳ *Hari* moves from its thematic position to PhaseP, as it moves up to the subject position, putting it very local to *tann*
- **The semantic derivation is directly dependent on the syntactic derivation**
  - ↳ And the semantic interpretation simply follows from denotations of constituents and the order in which they merge:

(11)



- Semantically, the following assumptions are made in (11):
  - ↳ Anaphors (such as *tann*, and *himself*) are **semantically interpreted as a simple pronoun**
    - ↳ A contextually-specified assignment function, g, determines the reference of all pronouns:
      $[\![\text{himself}_2]\!]^g = g(2)$
    - ↳ This is consistent with the idea of Lees and Klima 1963 that the difference between *himself* and *him* is only a formal/syntactic one (see also Hornstein 2001)
    - ↳ This (correctly) allows the morphological shape of the anaphor in LSOR to be the same as a pronoun (e.g. Old English, Romance 1st/2nd person, etc.)[6]
  - ↳ Essentially, **the IDENT function constrains the assignment function**, g
    - ↳ In such a way that the assignments of its two arguments are identical[7]
- Syntax feeds semantics cyclically, in such a way that **movement can feed semantic operations**
  - ↳ Semantics crucially depends on syntax, and semantic computations happens regularly at small intervals during the building of the syntactic structure (e.g. Chomsky 1995)
  - ↳ "Any semantic object or operation on such objects has to have a correlate in the syntax, an expression or operation that triggers it. And conversely, all expressions and ***all structural operations in the syntax have to have a semantic correlate***. Thus the autonomy of syntax is limited."(Stokhof 2006:2067, emphasis mine)
  - ↳ **Semantic objects can compose with multiple semantic functions** by (syntactic) movement
    - ↳ The subject and anaphor each composes with its thematic licenser (before movement) and the IDENT function (after movement)
    - ↳ This isn't novel: a movement theory of control (e.g. Hornstein 2001), a movement theory of possessor dative constructions (e.g. Lee-Schoenfeld 2006), etc. rely on this too.

That said, **there are only two main components of this LSOR derivation**[8]

THE CORE UNDERPINNINGS OF LSOR
(i) **a unique Voice** for reflexivity, and (ii) **movement of the anaphor** to VoiceP

3.3. Solving Our Puzzles

The syntax-semantics interface **solves our Naïve Puzzle**

- The LSOR anaphor will need to be identical to the subject, due to where each of them is merged
  - ↳ Only the subject occurs in a position where it can saturate the second of IDENT's arguments
  - ↳ Binding between e.g. a direct object and an indirect object cannot employ REFL
  - ↳ (The derivation would not result in the correct meaning; IDENT's two arguments will always be Spec,VoiceP and Spec,PhaseP)

Additionally, with REFL as a type of Voice, **our Informed Puzzle is also solved**

- Derived subjects are ruled out as licensers of LSOR
  - ↳ They require some other (non-Active, non-REFL) Voice to become subject (Sailor and Ahn 2010)
  - ↳ Any other Voice is in complementary distribution with REFL w.r.t. merging in VoiceP[9]

[6] In fact, it might be that the *-self* morpheme in English is the lexicalization of the REFL head. This is possible, but (for word order reasons) requires a syntax much more complicated than I have the space to argue for. See Ahn (In Progress) for more discussion.
[7] However this constraint is defined, it would seem to be loose enough that proxies and a proxy-referent can be deemed as identical, since LSOR marking seems to be able to occur with proxy interpretations.
[8] Other frameworks/assumptions can be used to cover the same range of data. See the appendix and Ahn In Progress.
[9] Alternately, there could be multiple syntactic loci of grammatical voice – this would open the door to the possibility of Reflexive voice (and all its effects) being compatible with other grammatical voices. This would predict the possibility of the grammatical effects multiple voices in a single clause (contra e.g. Sailor and Ahn 2010). And since reflexive in all of the languages I have investigated exclude the possibility of Passive and Reflexive Voice^{0}s in a single clause, if there are multiple loci for Voices, selection or some other existing mechanisms would have to exclude the Reflexive-Passive combination (at least in languages like those that I have investigated).

- The reflexive argument **must be able to move to VoiceP**[10]
  - ↳ This requires that it not be merged in an island not containing VoiceP

THIS REFL VOICE^0 SOLVES OUR ORIGINAL PUZZLES, DUE TO:

(i) its **structural height**,
(ii) **where the subject and anaphor occur** in a REFL derivation,
and (iii) **semantic composition**

4. LSOR Across Languages

4.1. Reflexive and Other Voices

Across languages, LSOR does not pattern uniformly as either active or non-active

- This is predicted: LSOR is controlled by a unique grammatical Voice, but not every grammatical Voice requires its own morphological paradigms (Alexiadou and Doron 2012)
  - ↳ Modern Greek uses the same non-active voice paradigm[11] for middles, passives, and reflexives[12] (Embick 1998, Alexiadou and Doron 2012)

(12) a. o Janis diava**se** to vivlio — Greek Active
the John read.**ACT**.PFV.PST.3S the book
'John read the book'

b. afto to vivlio diavaz**ete** efkola — Greek Middle
this the book read.**NACT**.IPFV.NPST.3S easily
'This book reads easily'

c. afto to vivlio diavast**ike** xtes — Greek Passive
this the book read.**NACT**.PFV.PST.3S yesterday
'The book was read yesterday'

d. i Maria afto-katastref**ete** — Greek Reflexive
the Maria **self**-destroy.**NACT**.IPFV.NPST.3S
'Maria destroys herself'

- Other languages divide up Voice morphology differently
  - ↳ Consider this very small typology with a small set of Voice^{0}s:[13]

	PASSIVE Voice^0	**MIDDLE Voice^0**	**REFL. Voice^0**	**ACTIVE Voice^0**
English	non-act. morph.	act. morph.		
Greek	non-act. morph.			act. morph.
Finnish	N/A[14]	mid. morph.	refl. morph.	act. morph.

Table 1. Voice^{0}s and Their Morphological Realizations on the Verb

  - ↳ Table 1 is meant to demonstrate that there can be syncretism: **LSOR markers can also mark other grammatical functions** (e.g. Geniušienė 1987, Lidz 1996)

[10] This movement takes place in the narrow syntax; it is not LF-movement. See Appendix.

[11] The non-act. morpheme has different surface forms in (12b–d) due to the fact that the realization of the voice morpheme depends on interactions with agreement, tense, and aspect.

[12] Lexical reflexives do not employ an *afto-* anaphor, but still use non-active voice morphology. Perhaps lexical reflexives in Greek involve a different REFL Voice (this can be motivated by semantic and morpho-syntactic differences between lexical reflexive and productive reflexive strategies; see e.g. Moulton 2005.). Or perhaps lexical reflexives employ a second kind of anaphor, which could have a unique phonological form (possibly silent) and which can only be used with certain predicates (as a sort of phrasal idiom). It is possible that both proposals are right: there is this second REFL which selects this second (silent) anaphor.

[13] The way this table is set up might implicate a kind of linear continuum of voices, with Passive and Active being diametrically opposed. This implication need not hold; e.g. Voice^{0}s might be better described along multiple dimensions, and a linear representation based solely on "activity" is not adequate. (i.e. It is not clear how many features ought to be used to define Voice.)

[14] Finnish is said to have a passive – but the external argument is obligatorily absent such a voice, so I assume that this is in fact a middle voice. It is certain that the number of Voice^{0}s is much greater, and it might be that the Finnish "passive" is neither what I have marked as PASS nor what I have marked as MID.

- In addition to voice morphology on the verb, LSOR clauses may resemble actives, passives, or neither along other dimensions such as agreement and auxiliary selection:[15]

LSOR clauses...	...pattern like actives	...pattern like non-actives	...pattern distinctly
Voice morphology	English	Greek	Finnish, Kannada
Agreement morphology	Chickasaw	Lakhota	Shona
Auxiliary selection[16]	Spanish	French	Sye(?)

Table 2. LSOR effects on Morpho-Syntactic Paradigms

  - ↳ Importantly the morpho-syntactic effects of reflexivity in Table 2 are predicted to be limited in the way that LSOR is restricted (i.e. §3.3)

- For example, the Shona *zvi* reflexive agreement marker cannot occur when the voice of the clause is passive (Storoshenko 2009:§5.1)
  - ↳ Compare the grammatical, non-passive (13) with the ungrammatical passive (14):

(13) Mufaro a- ka- zvi- bik -ir -Ø -a mbudzi — Storoshenko 2009:(23)
Mufaro.1 SUBJ.1-PST-**LSOR**-cook-APPL-**REFL**-FV goat.9
'Mufaro$_i$ cooked the goat$_j$ for himself$_{i/*j}$.'

(14) ✱A- ka- zvi- bik -ir -w -a — *ibid.*:(29a)
SUBJ.1-PST-**LSOR**-cook-APPL-PASS-FV
Intended: 'She was cooked for herself'

- Another example: the Greek LSOR anaphor *afto-*, which has moved to a preverbal position, only occurs with non-active voice morphology

(15) a. **afto**-katastraf**ome** — Reflexive 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"

4.2. Non-Realization of LSOR Markers

Is the REFL Voice employed in languages that lack overt morpho-syntactic marking for LSOR?

- Yes – even though English LSOR appears morpho-syntactically identical to non-LSOR
- **Ahn (in progress) shows English LSOR anaphors differ prosodically**

(16) a. Liz embárrassed **herself**.
b. Liz embarrassed Ják.
c. Liz embarrassed Jack or hersélf.

(17) a. My food didn't eat **ITSÉLF**.
b. #My food didn't eat JOHN.
c. #My food didn't eat John or ITSÉLF.

  - ↳ This data can be taken to show that VoiceP is within the same phase as the Θ-Domain (as seen in (10) before; see Legate 2003)
  - ↳ See Ahn 2012a, 2012b, In Progress, and Appendix for more data and discussion

[15] This division of reflexive as its own Voice distinct from Active or Passive (or Unaccusative) can explain why reflexives vary across languages, with regard to being treated like transitives (Active) or intransitives (Middle/Unaccusative/Passive/...). Specifically, this table addresses why, in Spanish-type languages, reflexives exhibit an active-like pattern, while in French-type languages, reflexives exhibit an unaccusative-like pattern. (The latter has contributed to the conclusion that French reflexives are unaccusative (Sportiche 1990); see Sportiche (2010) for specific criticisms against this.)

[16] Auxiliary selection in French is sensitive to reflexivity only in the perfect. All that is indicated by this row is that auxiliary selection *in some part of the grammar* is impacted by reflexivity. As for Sye, it is said to have reflexive auxiliary *ehpe* (Crawley 1998), I put a question mark here for two reasons. Most importantly, the data in Crawley's grammar is inadequate to argue either way whether *ehpe* is restricted to LSOR contexts or not: the sentences given are all simple non-passive mono-transitives, e.g.:

i. y- ehpe n- ochi — (Crawley 1998:127)
3SG:DISTPASTdo.reflexively NOM-see:3SG
'He/She saw himself/herself'

Second, it is not clear how grammatically similar *ehpe* is to more familiar auxiliaries; for example, the verbal complement is glossed as a kind of nominalization in Crawley (though this is, of course, an analysis).

4.3. Cross-Linguistic Summary

Either or both of the reflexive Voice^0 and the anaphor that moves to VoiceP may be silent
And the LSOR movement may or may not affect word order

- Thus the morpho-syntactic configurations of **LSOR may employ**...
  - ↳ an overt verbal affix (i.e. Voice head morpheme; e.g. Kannada),
  - ↳ a reflexive anaphor whose movement affects word order (e.g. Romance),
  - ↳ both (e.g. Greek), or
  - ↳ neither (e.g. English)

	anaphor movement affects word order	anaphor movement does not affect word order
overt REFL Voice^0	Greek	Kannada
silent REFL Voice^0	Romance	English

Table 3. Morpho-syntactic Variation in LSOR at the Surface

- All types of variation are *surface* effects
  - ↳ All the syntactic properties will remain constant across languages, because of UG
  - ↳ (i.e. the height of REFL, and how its denotation necessitates movement)

Additionally, the lexical item(s) used as the anaphor in LSOR contexts may differ from the one in non-LSOR contexts, or there may be syncretism

	French	Japanese	Czech	English	Tongan
LSOR anaphor	se	jibunjishin	se	themselves	kianautolu
Non-LSOR anaphor	eux-meme	jibun	sebe	themselves	kianautolu
Pronoun	eux	karera	je	them	kianautolu

Table 4. Pronominal Variation Across a Selection of Languages

All of this variation is predicted by the Borer-Chomsky Conjecture (Baker 2008)

- **All linguistic variation is restricted to variation in lexical items**
- REFL can have different phonological properties across languages
  - ↳ (silent/pronounced; bound affix/free morpheme; ...)
- There can be lexical ambiguity/differentiation within a language
  - ↳ (REFL and other Voices; LSOR and non-LSOR anaphors and pronouns)

Where there was once chaos we now have order; this theory helps us understand...

- ...how surface manifestations of **LSOR** can vary
- ...why **LSOR** (but not non-LSOR) can be encoded with unique verbal morphology
- ...why **LSOR** may have both verbal and pronominal exponents

Sidebar on Word Order and Reflexive Movement

- We have no *prima facie* reason to expect that the movement **would** affect word order
- That is, even if the **LSOR** object anaphor *appears* to be in the same linear position as other objects, movement may have still taken place
  - ↳ Descriptively, some movements requires other movement(s)
    - ↳ Recall Holmberg's Generalization(for a summary, see e.g. Vikner 2006)
  - ↳ It could be that the reflexive movement also requires another/other movement(s)
    - ↳ And the combination of both/all of the movements ends up resulting in an unchanged string (i.e. covert movement can occur in the narrow syntax; cf. Kayne 1998)
- To be clear, movement (and, in our case, anaphor movement for LSOR) can be string-vacuous
  - ↳ but may still be detectable, e.g. via prosody and/or interpretation

5. Conclusion

LSOR, all its properties, and apparent variation emerge from what UG provides

- **The things relevant for LSOR that are given by UG:**
  - ① **REFL Voice^0**
    - ↳ Its formal properties determine the two core parts necessary to derive LSOR
      - ❶ anaphors move to a reflexive VoiceP
      - ❷ the semantic reflexivizer is associated with the reflexive VoiceP
  - ② **The architecture of Grammar**
    - ↳ LSOR exhibits the patterns that it does (within and across languages) simply as a result of the syntax-semantics interface
      - ↳ Only subjects – and only certain subjects – participate in syntax appropriately to allow an LSOR derivation to converge
- **Morpho-syntactic variation in LSOR-marking is solely due to lexical variation**
  - ↳ The Chomsky-Borer Conjecture
  - ↳ LSOR involves two lexical items (REFL and the moving anaphor)
    - ↳ Either or both of which may (or may not) have unique exponents
    - ↳ REFL can share its morpho-syntactic paradigms with other Voice^{0}s
  - ↳ The linear position of the LSOR markers will vary in languages
    - ↳ Due to grammatical principles and variation in other lexical items
- **Subject-orientation is a core property of predicate-level reflexivization**
  - ↳ It is not simply a special-case of normal binding conditions
  - ↳ Languages that do not obviously mark LSOR (English) still employ REFL
    - ↳ More careful investigation may be required to uncover its effects

6. Open Questions

- What about other, non-LSOR reflexives?
  - ↳ Long-distance (subject-oriented) reflexives
  - ↳ Non-subject-oriented local reflexives
  - ↳ Exempt reflexives?
- What is the underpinning of different grammatical voices sharing morpho-syntactic paradigms?
  - ↳ Accidental homophony?
  - ↳ Feature underspecification?
  - ↳ Something else?
- What if a language seems to be an apparent counterexample to one of the generalizations about LSOR?
  - ↳ Markers of LSOR may be homophonous with other elements
    - ↳ In Swedish, there appears to be one set of anaphors for both local and long-distance subject-oriented reflexivity
  - ↳ Not every language will lexically differentiate LSORs and non-LSORs
    - ↳ Recall the case of English
    - ↳ One might have to look more closely to find properties associated with REFL Voice^0
    - ↳ But, once the properties of LSORs/REFL are identified, they could be used as a diagnostic for whether a subject is a derived subject

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Appendix

Reflexives without REFL Voice

The auxiliary '*be*' is used as a perfect marker non-active voices (including REFL) in French/Italian

- So clauses in the perfect with the LSOR marker, *si*, use '*be*' as their perfect auxiliary:

(18) Gianni si è accusato Italian, Burzio 1986
Gianni **LSOR** PERF.NONACT accuse.PART
'Gianni accused himself'

- There are other clauses with a reflexive meaning, which use the non-LSOR ('strong form'), *se stesso*
- These clauses, as in (19), behave as active clauses, in that they use the '*have*' perfect auxiliary:

(19) Gianni ha accusato se stesso
Gianni PERF.ACT accuse.PART himself
'Gianni accused himself'

(18) and (19) show **there must be (at least) two kinds of reflexive anaphors**

- They can be used in very similar contexts, so **when do you use which reflexive**?
- Perhaps the answer is like Grodzinsky and Reinhart (1993)'s Rule I or Fox (2000)'s Rule H, which place limits on derivational possibilities in coreference:

(20) Rule H A pronoun α, can be bound by an antecedent, β, only if there is no closer antecedent, γ, such that it is possible to bind α by γ and get the same semantic interpretation.

(21) 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.

- To extend this to the current problem, I propose a strong hypothesis, in the form of an additional rule:

(22) Rule J REFL Voice^0 must be merged if (i) it its presence is grammatically possible and (ii) its presence doesn't change the interpretation.[17]

This raises another question: why Rule J?

- This seems to be **part of a larger pattern in syntax**:

(23) The more constrained derivation is utilized to the greatest extent 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), movement for focus (Zulu, Halpert 2011; Hungarian, Szendrői 2003), etc.[18]

- 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"

[17] It might seem desirable to reduce Rule J to being a consequence of Rule I, since REFL Voice^0 forces a bound-variable interpretation (see Ahn 2011). However, such an analysis faces some empirical issues, since it seems that bound variable interpretations can arise without REFL:

i. Dr. Freud told Dora about herself before he did [~~tell~~] Little Hans [~~about himself~~].

[18] 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. This framework could be useful in explaining possessor raising, movement for focus, and possibly even English reflexive anaphors – the extra movement is done as much as possible; but, if it is not possible, the operation that would normally induce movement can still succeed.
However, if an account in the spirit of Preminger's account is correct, more would have to be said for phenomena in which different lexical items are used for moved and unmoved forms – for example, weak/strong pronoun alternations and LSOR/non-LSOR anaphor alternations in languages that use different lexical items (e.g. Romance). It would require the grammar would have to have an additional set of rules that dictates the choice lexical item for anaphor type, independent of the item's licensing conditions (a post-syntactic, late Spell-Out-type Lexical Insertion model might be appropriate).
Alternatively, it may be that there are two grammatical operations, each selecting different lexical items.

More on LSOR in English

English has (at least) two kinds of reflexive anaphors that can appear in argument positions

- One that behaves (a priori) unexpectedly in its prosody – this is an LSOR marker
  - ↳ In broad-focus contexts, they "avoid" phrasal stress where other constituents "attract" it
  - ↳ In focused-reflexivity contexts, they bear the focal stress
- One that behaves prosodically as other constituents in the same contexts

Just like subject-orientation is a result of the syntax-semantics interface, these prosodic effects arise **from the same syntax** as it is interpreted at the syntax-phonology interface

- In other words, LSOR must be fundamentally syntactic, because only the syntax feeds the observable effects both in semantics and in prosody (and in morphology)
- Specifically, the observable prosodic effects are that, in LSOR contexts (where REFL Voice is merged), English reflexive anaphors exhibit the following behaviors:

(24) English LSOR markers
  i. Reflexives in LSOR appear to be phrasally extrametrical
  ii. Reflexives in LSOR can bear special focus (REAFR)

There are constraints on these behaviors

(25) Limitations on REAFR and Phrasally Extrametrical Reflexives
  i. Reflexives in LSOR must have the grammatical subject as their antecedents
  ii. Reflexives in LSOR cannot appear in passive voice clauses
  iii. Reflexives in LSOR cannot occur in an island that is smaller than a complete predicate
  iv. Reflexives in LSOR surface in only certain linear positions

- Data from phrasal stress:

(26)	Q:	What happened at work today?	**(subject orientation)**
	A1:	Mark told Maxine about Sára.	*baseline*
	A2:	Mark told Maxíne about himself.	*LSOR, exceptional stress*
	A3:	Mark told Maxine about hersélf.	*non-LSOR, normal stress*
(27)	Q:	What happened at work today?	**(passive)**
	A1:	Maxine was told about Sára.	*baseline*
	A2:	Mark told Maxíne about himself.	*active, exceptional stress*
	A3:	Maxine was told about hersélf.	*passive, normal stress*
(28)	Q:	Tell me something new.	**(islands)**
	A1:	Ms. Adler likes Ráven.	*baseline*
	A2:	Ms. Adler líkes herself.	*no island, exceptional stress*
	A3:	Ms. Adler likes people like hersélf.	*island, normal stress*
(29)	Q:	What happened at the rehearsal?	**(linear order)**
	A1:	The actors looked Cary Gránt up.	*baseline*
	A2:	The actors looked up Cary Gránt.	*baseline*
	A3:	The actors loóked themselves úp.	*between V & Prt, exceptional stress*
	A4:	# The actors looked úp themselves.	*between V & Prt, exceptional stress is #*

- Data from REAFR:

(30)	Q1:	Who ___ assigned Mark to Bill?	**(subject orientation)**
	A1:	**Jénna** assigned Mark to Bill.	*baseline*
	A2:	Mark assigned **himsélf** to Bill.	*LSOR, REAFR*
	Q2:	Who did Jenna assigned ___ to Bill?	
	A3:	Jenna assigned **Bíll** to Bill.	*baseline*
	A4:	Jenna assigned **Bíll** to **himsélf**.	*non-LSOR, dual focus*
(31)	Q:	Who was Mark assigned to ____ by Bill?	**(passive)**
	A1:	Mark was assigned to Bill by **Bíll**.	*baseline*
	A2:	#Mark was assigned to Bill by **himsélf**.	*passive, REAFR*
	A3:	Mark was assigned to **Bíll** by **himsélf**.	*passive, dual focus*
(32)	Q:	Who ____ entertained Liz and Ken?	**(islands)**
	A1:	**Jáck** entertained Liz and Ken.	*baseline*
	A2:	#Ken entertained Liz and **himsélf**.	*island, REAFR*
	A3:	**Kén** entertained Liz and **himsélf**.	*island, dual focus*
(33)	Q:	Who ____ looked the actors up?	**(linear order[19])**
	A1:	**Aléxa** looked the actors up.	*baseline*
	A2:	The actors looked **themsélves** up.	*between V & Prt, REAFR*
	A3:	#? The actors looked up **themsélves**.	*between V & Prt, REAFR is #?*

- For discussions how the theory presented in (11) can derive these prosodic facts, see Ahn 2012a, 2012b, and In Progress.

More Cross-Linguistic Data

Below are several the morpho-syntactic configurations that many languages employ when the local reflexivity exhibits LSOR properties:[20]

(34) (Albanian, Indo-European; Williams 1988)

Gazetari	i	a	përshkroi	Agimin	vetes
journalist-the	3sgDat	3sgAcc	describe.pastdef.act	Agim	self.DAT

'The journalist$_1$ described himself$_{1/*2}$ to Agim$_2$'

(35) (Czech, Slavic; Toman 1991)

Sultán	**si**	nabídl	otroka
Sultan	**REFL**.DAT	offer	slave

'The sultan$_1$ offered the slave$_2$ to himself$_{1/*2}$'

(36) (Danish, Scandinavian; Vikner 1985)

... at	Peter	fortalte	Michael	om	**sig**	**selv**
... that	Peter	told	Michael	about	**REFL**	**intns**

'... that Peter$_1$ told Michael$_2$ about himself$_{1/*2}$'

[19]Variability has been found here, in which both word orders of (33) are fine for some speakers. The fact that for some speakers (33A3) is impossible indicates that, in principle, there linear position of the reflexive can influence whether the reflexive anaphor is associated with the semantic reflexivizer. The fact that it is possible for other speakers does not speak against this conclusion – only that there is variability regarding the linear position of moving reflexives.

[20]It may be that some of these morpho-syntactic reflexive strategies listed here are not quite the same as what we've already seen. We need to be careful, as the morpho-syntactic configuration used for LSOR in a given language may have a broader distribution, beyond just LSOR. That is, due to homophony/paradigm-sharing, it might be that the morpho-syntactic configuration for LSOR (determined by REFL Voice) is surface-identical to some other kind of reflexivity (not determined by REFL Voice).

(37) (Finnish[21], Uralic; Ahn 2011)
Jussi puolusta-utu -i paremmin kuin Pekka
Jussi.NOM defend -**REFL**-PAST better than Pekka.NOM
'John$_1$ defends himself better than Peter$_2$ does [~~defend himself~~$_{2/*1}$].'

(38) (French, Romance; Sportiche 2010)
Marie **se** montre Jean
Marie **REFL** show.3SG John
*'Marie$_1$ is showing John$_2$ to herself$_1$/*himself$_2$'*

(39) (Greek, Hellenic; Tsimpli 1989)
O Yanis **afto**-katastraf-**i** -ke
The Yani.NOM **self**- destroy -**NONACT**-3sg.past
'Yani destroyed himself'

(40) (Inuit, Eskimo–Aleut; Bittner 1994)
Juuna-p Kaali **immi**-nik uqaluttuup-p -a -a
Juuna-ERG Kaali **self** -INS tell -IND-[+tr]-3SG.3SG
'Juuna$_1$ told Kalli$_2$ about himself$_{1/*2}$'

(41) (Japanese, Altaic; Katada 1991)
Bill-ga Mike-ni **zibun**-**zisin** -no koto -o hanas-ita
Bill-NOM Mike-DAT **REFL** -**intns**-GEN matter-ACC speak-PST
'Bill$_1$ told Mike$_2$ about himself$_{1/*2}$'

(42) (Kannada, Dravidian; Lidz 2001)
rashmi tan -age-taane hari-yannu paričaya -maaDi-**koND** -aLu
Rashmi SELF-DAT-INTNS Hari-ACC introduction-do -**LSOR**.pst-3SG.F
*'Rashmi$_1$ introduced Hari$_2$ to herself$_1$/*himself$_2$'*

(43) (Lakhota, Siouan; Charnavel 2009)[22]
iwó- m- igl- ak -e
talk.about-1sg.II-REFL-talk.about-abl
'I talk about myself'

(44) (Lango, Nilo-Saharan; Foley and Van Valin 1984)
Lócà ò- kwá -o dákó pìr -Ǿ **kɔ̀nɔ̀**
man 3SG.A- ask -3SG.U woman about -3SG **self**
*'The man$_1$ asked the woman about himself$_1$/*herself$_2$.'*

(45) (Malayalam, Dravidian; Jayaseelan 1999)
raaman kriṣṇan -ooḍə **ṯan**-ne patti **ṯanne** samsaariccu
Raman Krishnan-to **self**-ACC about **EMPH** talked
'Raman$_1$ talked to Krishnan to himself$_{1/*2}$'

(46) (Marathi, Indo-Aryan; Wali and Subbarao 1991)
Lili -ni Susi -laa **swataah** -baddall kaahihi saangitla naahi
Lili -ERG Susi -to **self** -about anything told not
'Lili$_1$ didn't tell Susi$_2$ anything about self$_{1/*2}$'

(47) (Norwegian, Scandinavian; Hellan 1988)
Jon fortalte meg om **seg** **selv**
John told me about **REFL** **intns**
*'Jon$_1$ told me$_2$ about himself$_1$/*myself$_2$'*

[21] See Ahn (2011) for argumentation that Finnish -UtU is the Voice morpheme.
[22] Charnavel does not give a grammatical example with two possible binders in a single clause. Instead she says that, in order to express something like *'I talk to Anne about herself'*, you cannot use the reflexive morpheme, and instead must use a paraphrase like *'I talked to Anne and I talked about her'*.

(48) (Russian, Slavic; Timberlake 1979)
Ja emu skazal vse o **sebe**
I him told all about **REFL**
'I_1 told him_2 everything about $myself_1$/$himself_2$'*

(49) (Russian Sign Language, Signing; Kimmelman 2009)
BOY IX-A GIRL IX-B **SELF**+IX-A/*IX-B TELL
boy girl **REFL** tell
*'The boy tells the girl about himself/*herself'*

(50) (Sign Language of the Netherlands, Signing; Kimmelman 2009)
BOY IX-A GIRL IX-B ABOUT **ZELF**+IX-A/*IX-B A-TELL-B
boy girl about **REFL** told
*'The boy tells the girl about himself/*herself'*

(51) (Tɔrɔ Sɔɔ, Niger-Congo; Culy et al. 1994)
Mariam Omar nɛ sɔ **unɔ** mɔ sɔaa be
Mariam Omar to word **REFL** POSS talked PST
'$Mariam_1$ talked to $Omar_2$ about $himself_1$/$herself_2$.'*

Alternative Derivation: LF Movement

In some frameworks, LF movement (i.e. post-syntactic movement for interpretation) exists as a grammatical operation

- If such frameworks, it is *in principle* possible that reflexives *LF-move* to VoiceP
- There have been many proposals of LF-movement of reflexives (e.g. Lebeaux 1983, Chomsky 1986, Reinhart and Reuland 1993, Reuland 2011)

However there is evidence that such movement must be in the narrow syntax

- Such LF movement cannot have phonological effects (w.r.t. word-order or prosody, for example) in a Minimalist architecture
  - ↳ Since there is no LF-PF interface (besides the narrow syntax)
  - ↳ So, any language with **observable PF effects** of the movement to VoiceP provides **evidence that this movement takes place in the narrow syntax**
- Additionally, LF movement has sometimes been claimed to be island-insensitive
  - ↳ If true, this reflexive movement cannot be the sort of LF movement that is island-insensitive
  - ↳ Because there are observable island effects with reflexive movement

Present evidence suggests that reflexive movement to VoiceP takes place in the narrow syntax

- At the very least in the languages with PF effects
- It is theoretically possible that languages vary as to whether this movement takes place at LF or in the narrow syntax
- I have yet to find any evidence supporting this kind of variation

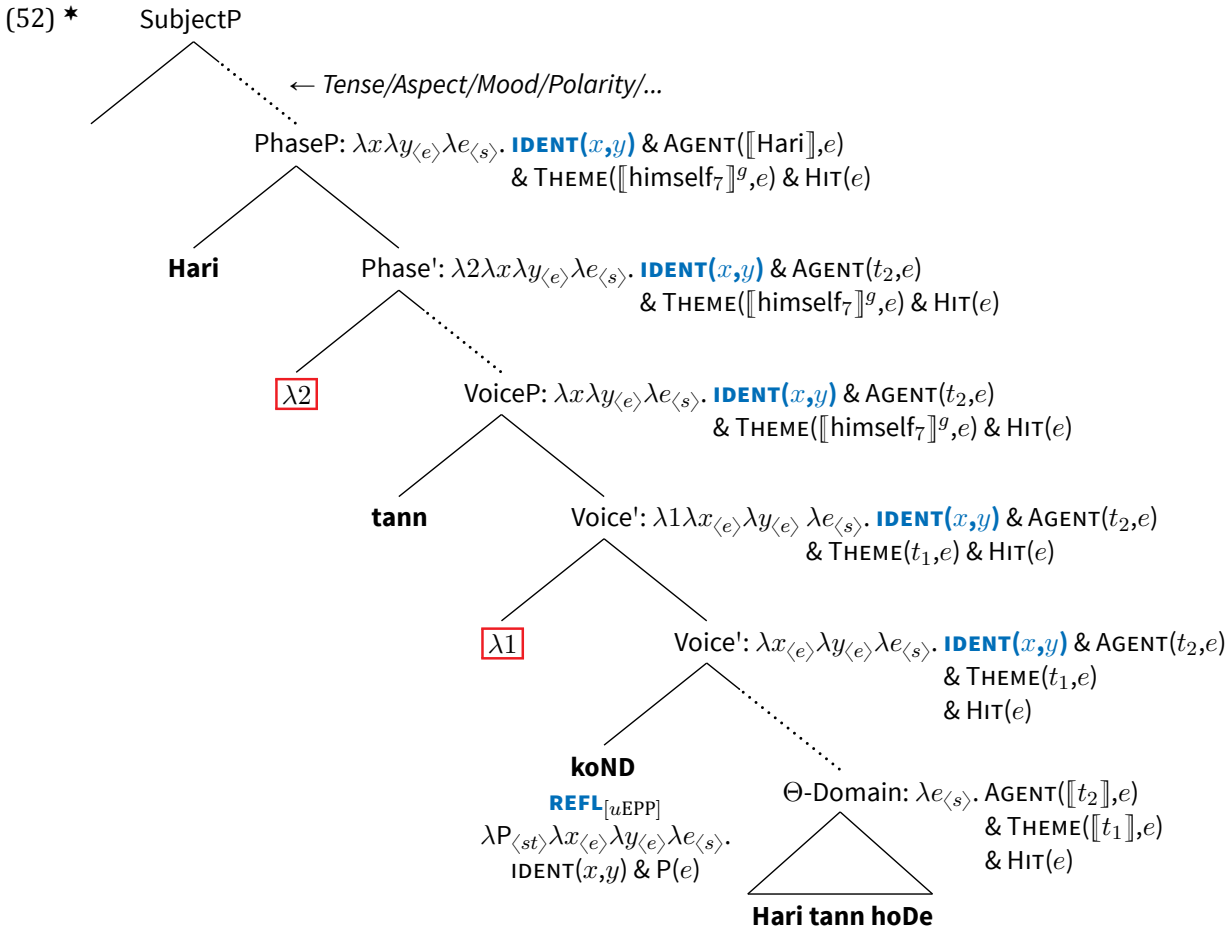
Alternative Semantic Derivations: Lambda Abstraction

This paper assumes a theory in which any given element can compose with multiple semantic functions, as the result of movement

- Even if this can be convincingly shown to be impossible, this derivation could still be re-cast using what (in this author's opinion) amounts to **a notational variant, using lambda abstraction** (e.g. Heim and Kratzer 1998)

We will entertain a few possibilities using lambda abstraction

- As a first pass, let us attempt a derivation identical to (11), with the exception that lambda abstraction is used (**Note that (52) does not converge**)



- The problem with this kind of derivation is the λx and λy introduced by the REFL function will not have the chance to be saturated (at least not by the right constituent) – **the introduction of $\lambda 1/\lambda 2$ outside of the REFL head essentially block this**

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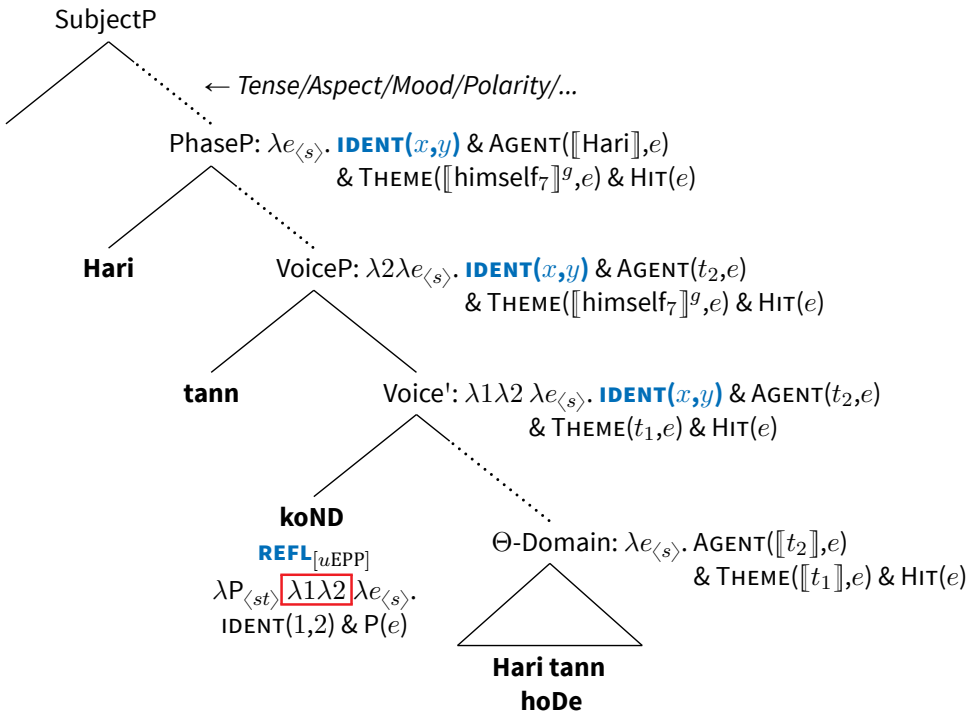
- Another possibility is that the $\lambda 1/\lambda 2$ are not added outside of REFL
  - ↳ INSTEAD, they are bundled with in the Voice head, replacing the λx and λy in (52), as in (53):[23]

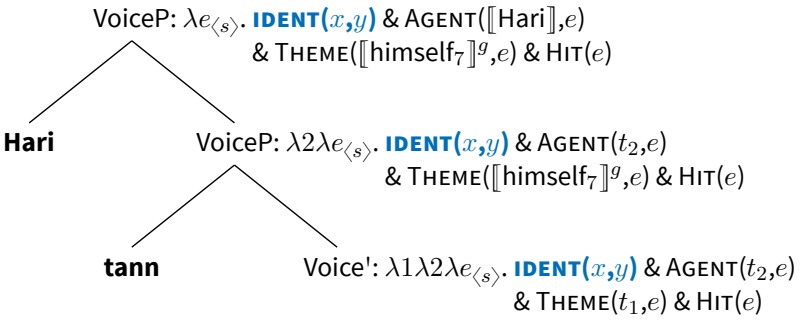
(53)



  - ↳ Essentially what we've done here is say that, if this REFL Voice head is merged, there needs to be movement of two things from in its complement to a higher position (like the EPP)
    - ↳ If there is no movement, the semantic derivation will crash
  - ↳ We've reduced the uEPP feature to the denotation of REFL
    (Or at least made them effect the same result)
  - ↳ Thus an analysis like (53) in which we have lambda-abstraction leans on movement in the same way as (11)
    - ↳ Both the subject and anaphor must move, in order for a derivation with REFL Voice^0 to converge
      - ↳ (in the same way as the derivation in section 3.2)
    - ↳ It is just that the lambda-abstracts would need to be bundled with the Voice^0
      - ↳ Not introduced separately

- It could also be that these lambdas are the EPP for both subject and anaphor
  - ↳ Meaning that the movement of both must target the VoiceP.

(54)



  - ↳ Again, the movement is necessary for semantic reasons. (53) and (54) only differ in that:

[23] Keir Moulton in an unpublished presentation has proposed a nearly identical structure, in a similar vein: some types of reflexivity are restricted to structures in which bundling of this kind of lambda onto the Voice head has occurred. (Keir Moulton p.c.)

- ↳ The subject is more syntactically local to the head that introduces its lambda-abstract, and
- ↳ It relies on the existence multiple specifiers

Both lambda-abstraction derivations above and the non-lambda-abstraction in section 3.2 rely on tight relations between syntactic and semantic structure

- See Stokhof (2006)'s characterization of Montague grammar (and subsequent generative approaches to the syntax-semantics interface)
  - ↳ "Semantics is syntax-driven, syntax is semantically motivated"
  - ↳ "Any semantic object or operation on such objects has to have a correlate in the syntax, an expression or operation that triggers it. And conversely, all expressions and all structural operations in the syntax have to have a semantic correlate. Thus the autonomy of syntax is limited."

Alternative Semantic Derivations: Anaphor=Reflexivizer

Some theories assume differently that (some) anaphors are the semantic reflexivizers (Partee and Bach 1980, Szabolcsi 1987, Keenan 1988, Schlenker 2005, Spathas 2010)

- In such a theory, the reflexivizer *himself* has a denotation like the following:

  (55) $[\![\text{himself}]\!] = \lambda R_{\langle eest \rangle} \lambda x.\ \text{R}(x,x)$

- I'll call this theory the Anaphor=Reflexivizer (A=R) theory; and my theory will be the Voice=Reflexivizer (V=R) theory
- Regardless which theory is correct, the generalizations found about LSORs **rely on movement**
  - ↳ An A=R theory does not inherently rely on movement

Some semantic approaches to reflexivity (which are compatible with an A=R hypothesis) argue that movement does happen when the anaphor is the reflexivizer (e.g. Reuland 2011)

- For example, to reflexive-mark the predicate, or to allow for composition to happen normally
- If this movement is to the specifier of a REFL VoiceP, we can maintain all generalizations seen so far

Thus an A=R theory and a V=R theory are both potential solutions, essentially as notational variants[24]

- What must remain constant: a unique REFL VoiceP, to which reflexives move
- What must differ: the denotations of the reflexivizer function (since structural locus differs)
- If REFL Voice is not implemented...
  - ↳ We almost certainly lose the connection to passives
  - ↳ We potentially lose the connection to subject orientation and the linear position facts

IN SUMMARY: the basic theory must say that a the semantic reflexivizer function depends on...

❶ reflexive anaphors move, AND

❷ movement depends on a unique Voice^0 (REFL)

Thus the basic ingredients of a complete analysis of LSOR are REFL Voice and movement

- How exactly this is implemented theoretically is up for debate
- The choice between V=R and A=R theories is likely decided by the choice of framework

[24] Though both are potential solutions, each theory would makes some rather different assumptions in the framework. Thus evidence in favor of one framework over another could influence the choice between A=R and V=R theories. For example, if one assumes (as I do) that syntactic arguments (i.e. non-heads) are never semantic functions on their sisters, only the V=R theory is a possible candidate. (Such an assumption (predictably) constrains and complicates syntactic representations, but makes more principled the mapping of syntax onto semantics.)

What to Look for to Find LSOR Markers

When investigating whether a language's LSOR marker, we want to go through the properties of LSOR demonstrated in the paper, and see what patterns emerge in LSOR contexts as opposed to non-LSOR contexts.

- **Baseline** (The typical cases where you might find LSOR)
  - ↳ There might be multiple ways of expressing these (e.g. similar to Greek, (15)):

  (56) The man dislikes himself.

  (57) The thieves defended themselves.

  - ↳ Prediction:

    If LSOR is marked in some way in the signal, it should be available here.
    (i.e. it should be detectable in at least one way to express these kinds of examples.)

- **Islands**
  - ↳ Separate the reflexive argument position from (all silent objects referring to) the subject binder

  (58) The man dislikes people like himself.

  (59) The thieves defended the murderers and themselves.

  - ↳ Prediction:

    Whatever LSOR marking there is, it should be unavailable here.

- **Ditransitives**
  - ↳ Find out what form you get when there are multiple objects, the lower of which is in a PP, and is subject bound.

  (60) The psychiatrist told the woman about the boy.

  (61) Which boy did the psychiatrist tell the woman about?

  - ↳ If movement can be applied to "the boy" in (60), as in (61). We'll check (62) and (63).
    - ↳ If not, is there a preposition that can be stranded? Or is there another way of expressing this such that the thematically lowest argument can move?
  - ↳ Prediction:

    Whatever LSOR marking there is, it should be available here (if the movement in (61) is possible).

- **Non-Subject Binding in Ditransitives**
  - ↳ Find out what happens when the reflexive in a PP is bound by a higher object, or by a passive subject.

  (62) The psychiatrist told the woman about herself.

  (63) The woman was told about herself (by the psychiatrist).

  - ↳ Prediction:

    Whatever LSOR marking there is, it should be unavailable here.

- **Double Object Constructions** (if they exist)
  - ↳ Find out what form you get in a double object construction, when the lower argument is subject bound

  (64) The principal showed the teachers the problem.

  (65) Which teachers did the principal show the problem?

  - ↳ Prediction:

    Whatever LSOR marking there is, it should be available here (if movement (65) is possible).

  - ↳ If movement can be applied to "the teachers" in (64), as in (65). We'll check (66).
    - ↳ If not, does "the teachers" look like a subject of a lower clause that cannot move for independent reasons? Is there another way of expressing this such that the thematically lowest argument can move?

- **Non-Subject Binding in Double Object Constructions**
  - ↳ Find out what happens when an object reflexive is bound by a higher object, or by a passive subject.

  (66) The principal showed the teachers themselves.

  (67) The teachers were shown themselves (by the principal).

  - ↳ Prediction:

    Whatever LSOR marking there is, it should be unavailable here.

    (If the reflexive marker in (66) looks like the LSOR marker, maybe 64 really involves a biclausal structure, where the higher surface-object is really a subject that can license LSOR.)

CAUTIONARY NOTES

- There might be homophony
  - ↳ The LSOR marker might also be the morphological marker used in non-LSOR reflexives
  - ↳ The LSOR marker might also be used in non-reflexive situations
- Look for non-segmental differences between LSOR markers and non-LSOR markers
  - ↳ Prosody, word order, interpretation
- Predicates that are likely to be lexical reflexives might exhibit different properties
  - ↳ (e.g. predicates of grooming, motion, etc.; see Kemmer 1993)