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Exploring the Focus-morphology interface: Morpho-syntactic aspects of non-prosodic Focus♥

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1. Introduction

This paper claims that a constraint-based theory (i.e, OT) can best account for the many manifestations of Focus in typologically diverse languages. We propose an interaction between Discourse Representation Theory (hereafter DRT) (Kamp, 1981; Kamp and Reyle, 1993) and Optimality Theory (OT) (Prince and Smolensky, 1993/2004) to best account for these facts, maintaining that constraint-ranking is the best way to achieve a descriptive and explanatorily adequate analysis of natural data. In particular, we provide a novel sketch of a theoretical account of natural languages that mark Focus morphologically but not prosodically.

We also show that modular frameworks cannot account for the facts presented in this paper (see also Perlmutter, 1998 and Teeple, 2007). Thus, there is another advantage to our proposal which has been less frequently discussed but is perhaps more crucial. Our data and the analysis put forth here require parallel evaluation of syntax, phonology, and morphology, which we model within OT. Consequently, our data and analysis offer interesting insights into grammatical theory.

The paper is organized as follows: Section 2 provides some background on Focus constructions and presents a selective review of the different ways in which Focus can be expressed in typologically different languages. Section 3 introduces DRT, the OT constraints and develops the analysis. We also present the data of relevant languages in this section. Section 4 summarizes our main claims and findings and draws attention to issues that do not appear to have been explicitly covered in previous research nor in the current paper, thus needing much attention in the future.

2. The many manifestations of Focus

It is well-known that Focus plays an important role in human language: Focus sometimes affects word order (syntax), Focus sometimes affects truth conditions (semantics), Focus sometimes affects the felicity conditions (pragmatics), and it can also affect the placement of pitch accent(s) on constituents (prosody). In this section we provide a quick overview of the many manifestations that Focus has cross-linguistically, with a particular Focus on the morpho-syntactic properties of Focus in section 2.4. This brief survey includes looking at word order effects of information structure (the syntax of Focus), interpretation of Focus (the semantics/pragmatics

of Focus), Focus markers (the morphology of Focus) and the prosodic effects of Focus (the phonology of Focus).

2.1. Pragmatics

Some effects of Focus appear to be outside semantics and take place in pragmatics. Pragmatics is almost canonically conversational implicature (Grice, 1975). Conversation is generally cooperative: A speaker's contribution is relevant (relation), only as informative as required (quantity), something for which the speaker has adequate evidence and does not believe to be false (quality), and is unambiguous, succinct, orderly, and not obscure (manner). Let us examine Rooth's (1992) example:

(1) Mats and his roommates took a test. How'd it go, Mats?

    a. Well, I **passed**.   I [passed]$_F$ *I did not do better than passing*
    b. Well, **I** passed.   [I]$_F$ passed *Somebody didn't pass*

                                              (Rooth, 1992)

If you ace a test, you passed the test; so ace would make a stronger statement. Since the strongest statement was not used, we conclude that he did not do better than passing. (1a), with the VP marked as the Focus of the sentence, conversationally implicates that Mats did not ace the test. (1b) conversationally implicates that Steve and Paul did not pass the test. The difference is one of conversational implicatures rather than truth conditions. The reasoning behind this is that the Gricean maxim of quality and quantity tells us to use the strongest statement we have evidence for.

2.2. Semantics

The effects of Focus extend beyond the realm of pragmatic/discourse interpretation. Jackendoff (1972) shows that Focus is not just pragmatic in nature, but can also affect the truth conditions of an utterance, as illustrated in (2) below.

(2)   a. Mary only introduced Bill to **Sue**.   false if M introduced B to J.
       b. Mary only introduced **Bill** to Sue.   false if M introduced J to S.

                                              (Rooth 1985)

In a situation such that Mary introduced Bill to Sue and Jane and there were no other introductions, (2a) will be false, but (2b) will be true. Adverbs like 'only' are said to associate with Focus, in the sense that the Focus determines the domain of quantification. So 'only' in (2a) quantifies over the set of people which Mary could have introduced Bill to. Data like these suggest that association with Focus is a truly semantic phenomenon. This means that semantic interpretation has to have access to Focus structure. If the truth conditions of sentences involving adverbs like 'only' are crucially dependant on information structure, this raises fundamental questions about the relations between syntax, phonology and semantics. Thus, semantic interpretation has to have access to Focus structure.

2.3. Syntax

The truth conditions of sentences involving adverbs like 'only' are crucially dependant on information structure; this raises fundamental questions about the relations between syntax, phonology and semantics (Parafita, 2005, 2008). Therefore, we need a grammatical theory in which both syntactic structure and phonological information can be input to the semantic component. (De Swart and De Hoop, 1995)

2.3.1 Evidence for Syntactic Movement

Focused phrases show weak cross-over effects in English like we find in (3c) with the wh-word moving to the front of the sentence:

(3) a. His$_i$ mother saw John$_i$
     b. *His$_i$ mother saw [$_F$ John$_i$]
     c. *Who$_i$ did his$_i$ mother see?

Chomsky argues that this is evidence that the Focused phrase in (4b) must have undergone movement to the front of the sentence at LF because that is what prevents it from binding the pronoun in such a configuration. In Spanish we can also observe WCO effects both in cases of Focus in the left periphery and in cases of Focus in situ (Parafita, 2005):

(4) *[$_F$ A Juan]$_i$ ha matado   su$_i$ madre t$_i$ *Left periphery Focus*
        to Juan has-killed-3s his mother
      It is Juan whom his mother has killed.

(5) a.   * Su$_i$ madre ha matado [$_F$ a Juan]$_i$
    b.   * [$_F$ A Juan]$_i$ ha matado su$_i$ madre t$_i$ *LF*

Ultimately such a stance has a profound effect on the interpretability of derivational units in natural clauses. Following recent proposals by Grohmann (2000, 2003), Marinis (2004), Platzack (2001), and Putnam (2007) among others, there appears to be a one-to-one correspondence between the composition of the clause and the type of information expressed in each domain (the model below in (6) is adapted from Marinis 2004:361).

(6) **Left Periphery**

C-domain	I-domain	-	V-domain
Discourse form	Grammatical Form		Thematic Form

Core Domain
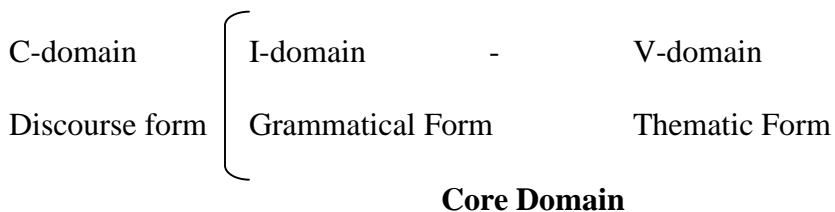
This suggests that languages that utilize constituent displacement to bring about syntactically-marked Focus structures should target the C-domain (i.e, the left periphery) when such an option is available to a given language and/or language family. Although such a uniform approach to syntactic Focus would be ideal in a minimalist view of theory which ultimately seeks to find the most parsimonious, economic movement path for such interrelated

epiphenomena, empirical data disprove this hypothesis. Point in case, Parafita (2005) demonstrates that Galician permits rightward movement of the Focused subject in inflected infinitival constructions, as illustrated in (7) below.

(7) a.　Para　　ir-es　　ó　partido　**ti,** tiñan que ser as entradas ben baratas
　　　　　For　go-2nd p. sg.　to-the game　you, had that be the tickets good cheap
　　　　　For you to go to the game, the tickets had to be very cheap.

b.
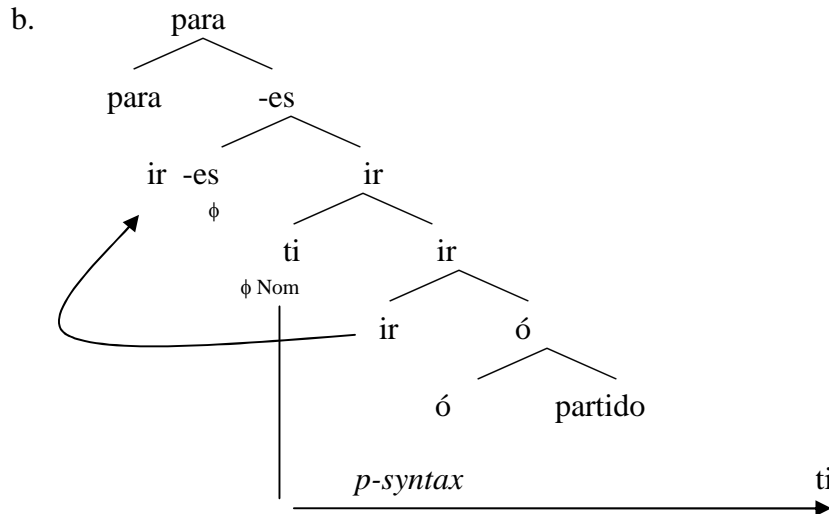
As shown in (7b), Galician sentence-final Focused subjects move to the right p-syntactically, in order to pick up main stress.

Furthermore, middle field scrambling in Hungarian is accompanied by prosodic Focus (e.g, Kiss, 1998). Regardless of one's ontological preference of arguing that the scrambled object occupies a multiple specifier position of vP or moves to the specifier of some sort of agreement phrase functional projection in the middle field, the final landing site for scrambled objects is not in the desired C-domain. Although these data obfuscate the process of determining demarked landing sites for Focus in the syntax, they do provide unyielding support to the notion that syntactic movement to license Focus does exist in more than one form in the narrow syntax.[1]

2.4　Morphology

In some languages, information structure features are morphologically explicit. Empirical evidence from Aboh's (1999, 2004) research in the Gbe (Kwa) languages in West Africa illustrates that the complementizer system universally hosts these Focus and topic projections). The existence of free and bound morphemes with a pragmatic import supports the existence of TopP and FocP (Parafita, 2005). If there are *free morphemes*, the Topic and Focus markers

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[1] See Jayaseelan (2001) and Parafita (2005) for arguments that there are Top and Focus projections at the edge of strong phases (cf. Chomsky, 2000, 2001) vP and CP.

encode different functional heads that project to the left edge as components of the complementizer system, e.g, Gbe (Aboh, 2004:1)

(8)   Kòfí   **yà** [Lέsì Gúkomέ   ton]$_i$ **wέ** [$_{IP}$ é$_k$ yì xo t$_i$
       Kofi   Top   rice Gukome Poss   Foc   3sg go buy
       Kofi went to buy the RICE FROM GUKOME.

If, on the other hand, there are *bound morphemes,* it could be argued that the existence of affixes with a pragmatic import would support the existence of TopP and FocP. In Chomksy's grammar model, lexical items enter C$_{HL}$ fully inflected. Movement only takes place to check features. Words would be merged with the Focus morpheme already attached, and would move to the spec of a Foc head in order to check or satisfy the "Focus Criterion". Alternatively, the Focus feature could be spelled out segmentally as an affix (Parafita, 2005; Adger, p.c.).   An interesting case is Hindi-Urdu, which shows 3 strategies for realizing non-neutral Focus, as explained in Parafita (2005):

> 1. a syntactic strategy of preverbal positioning
> 2. a morphological strategy of in situ Focus via –hii-cliticization
> 3. a prosodic strategy of heavy (contrastive) stress.

Neither of these strategies are in complementary distribution. All three may be used simultaneously in a single utterance, for example as is the case in Hindi-Urdu (Kidwai, 1999:223-228).

(9) *Three strategies (Syntactic, Prosodic, Morphological)*
    kitaab RAAM-hii laayegaa, (siitaa nahii)
    book Ram-EMPH bring-FUT Sita   not
    RAM will bring the book, not Sita.

(10) *Syntactic*
    kitaab RAAM   laayegaa,   (siitaa nahii)
    book Ram   bring-FUT Sita   not
    RAM will bring the book, not Sita.

(11) *Prosodic*
    RAAM   kitaab laayegaa,   (siitaa nahii)
    Ram   book   bring-FUT Sita   not
    RAM will bring the book, not Sita

(12) *Morphological: Affixation of emphatic Focusing particle –hii*
    RAAM-hii   kitaab laayegaa,   (siitaa nahii)
    Ram-PART   book   bring-FUT Sita   not
    RAM will bring the book, not Sita

One of the most interesting – and subsequently under-researched – phenomena associated with morphologically explicit Focus is its connection (or lack thereof) with other modular units of the C$_{HL}$, most notably the syntax and prosody. Data from languages such a Q'anjob'al,

Somali, and Wolof demonstrate that there is a clear distinction between prosodic and syntactic Focus (data from Parafita, 2005; Wolof data from Harold Torrence, p.c. and Q'anjob'al data from Pedro Mateo, p.c.).

(13)   **Somali**
    Nínkii   **baa**   yimid
    Man-det.m F came
    The man came

(14) **Wolof**
    a. *Perfect*
        Peer lekk na.
        Peer eat PFT3SG
        `Peer has eaten.'

    b. *Verb emphatic*
        Peer dafa   lekk.
        Peer VBEMPH3SG eat
        `Peer did eat.'

    c. *Subject emphatic* (3sg)
        Peer moo   ko lekk.
        Peer SUBJEMPH3SG OPR eat
        `It was Peer who ate it.'

(15)   a. Ø- Ø-xon-el   no'   kaxhlan   ix   q'opoo
        Past-3 p sg. –sell-   direccion classifier   hen classifier lady
        'The lady sold the hen.'
      b. Ja'   ix   q'opoo   x- Ø-txon-on   no   kaxhlan
        Focus   classifier lady   past-3 p sg-sell-agentive Focus classifier hen
        'It was the lady who sold the hen.'

In each of the examples ((13) – (15)) there does not exist a contiguous correlation between prosodic pitch accent (i.e, prosodic Focus) and the morphological Focus reflex. In (13), although the Focus marker delimits a phonological domain, this is not a domain of prominence in the intonational sense, thus refuting Horvarth's (2003: 8) cross-linguistic generalization about Focus that "all subtypes necessarily involve prosodic marking, in addition to whatever other special syntactic or morphological properties they may happen to manifest." In the Wolof examples (14), the first sentence (perfect), which does not contain a Focused constituent, contrasts with the subsequent ones where one or another constituent is in Focus. The Focused complement must appear initially in the sentence and hence be shifted from its unmarked position after the verbal constituent. It is followed by the inflectional complement-emphatic marker, then by the rest of the predicate phrase. Lastly, Q'anjob'al (15) exhibits morphological markers that head Focus phrases that do not bear prosodic stress. As a result of the lack of any obligatory connections between prosodic and morphological Focus, we can also discard any compulsory association between syntactic Focus and morphological Focus through logical deduction.

The Gbe languages (16) display discrete free morphemes that mark topicalized and Focused constituents and could be thought of as the manifestations of such slots. These markers may also occur to the right edge when they take scope over the proposition, as in (16b):

(16)   a. Kòfí   yà [Lέsì   Gúkomέ   ton]$_i$ wέ [$_{IP}$ ék   yì xo t$_i$]
          Kofi Top rice   Gukome   Poss Foc   3sg go buy
          'We went to buy the RICE FROM GUKOME.'

       b. [$_{IP}$ Kòfí   yì xo   lέsì   Gúkomέ   ton]$_i$ wέ lá t$_i$
             Kofi   go buy   rice   Gukome   Poss Foc Ins
             KOFI WENT TO BUY THE RICE FROM GUKOME!

The Gbe markers may occur to the left or right periphery depending on their scope properties. Left peripheral elements take scope over a constituent that is attracted to the relevant specifier position within the complementizer system. Right edge elements, however, take scope over the proposition, which is attracted to a specifier position within the complementizer system, in a sort of predicate fronting (Aboh, 2002). These data suggest that an isomorphic relationship between syntactic features and positions with morphological Focus is not possible on a universal level.

This brief, yet concise overview of the many possible manifestations of Focus in typologically-diverse natural languages poses a notable challenge for most generative frameworks. How, for example, can we develop a descriptively adequate theory that effectively accounts for the myriad of possibilities and combinations of Focus while maintaining a theory that is also explanatorily adequate in design and function? In the proceeding section we provide a novel generative approach that makes use of Kamp's (1981) Discourse Representation Theory (DRT) in an interactive setting with violable constraints (i.e, Optimality Theory (OT)). To the best of our knowledge, such an interface between DRT and OT has not yet been attempted; however, as we will argue below, such a connection is straightforward and has the ability to provide the beginning of a generative account to the many faces of Focus in natural languages.

3. Discourse Representation Theory (DRT)

Discourse Representation Theory (DRT) is a formal pragmatic model of the computation of text in context which has applications in discourse understanding. DRT was originally formulated by Kamp (1981) and further developed by Kamp and Reyle (1993), with a concise technical summary in van Eijck and Kamp (1997). DRT grew out of Montague's model-theoretical semantics (Thomason, 1974) which represents an approach that explicates linguistic meaning in terms of truth conditions. The standard representation format in DRT, known as a discourse representation structure (DRS), consists of a box with two parts, as shown in (17).

(17)

x
Sally (x)
sleeps (x)

The top part of the box lists the discourse referents, which act as variables that can be bound to different entities in the world. The bottom component of the DRS lists the propositions that are claimed to be true of those referents in the described situation. Table (17) provides the DRS

of the sentence "Sally sleeps". The representation can be read as "There is an individual who is named *Sally*, and of whom the *sleep* predicate is true: $\exists(x)$: Sally(x) $\wedge$ sleep(x).

To derive structures like the one shown above in table (17), DRT makes use of a set of standard context-free grammar rules, and a set of semantic interpretation rules that are based on the syntactic structure of the input sentence. Here we wish to extend this mapping notion of semantic interpretation to syntactic structure by insinuating that DRT can successfully interface with not only the syntax, but also other modules of the C_{HL} (e.g, morphology and prosody). Constructing a DRS that marks an item as discourse-Focus is relatively simple. Consider example (18):

(18) SALLY sleeps.

In example (18), the subject *Sally* is Focus, hereafter in this paper represented by capital letters. One could imagine this sentence as a response to a question such as "Who is sleeping?" The answer, namely *Sally*, represents discourse-new information and does not exist as a presupposition for both speakers. The table in (19) illustrates how the truth conditional semantic interpretation of (18) can be represented as a DRS.

(19)

x
Sally (x)
foc(sleep(x))

The notion utilized in (19) determines that there is a real-world entity (x) that: (i) indicates that the predicate *sleep* is true for this entity and (ii) must be Focused: foc(sleep(x)). For the sake of ease, we will no longer make use of DRS representation in box form; rather we will present them in a linear format as shown in (20).

(20)   DRS [x: Sally (x), foc(sleep(x))]

The data in the previous section clearly demonstrate that Focus cannot be mapped onto only one particular module of grammar. Certain languages make use of prosodic prominence (e.g, English), whereas other make use of syntax (e.g, English and Hindi-Urdu) or morphology (e.g, Q'anjob'al, Somali, and Wolof). Furthermore, there is nothing to bar a language from representing Focus with more than module of grammar. Take, for instance, Hindi-Urdu. What comes to the forefront in the discussion of these empirical facts is that the representation of Focus is anything but uniform. It is therefore unwarranted to establish rigid rules and criterion with the intention of describing and explaining such a complex mapping phenomenon. Assuming that the truth conditional semantics of our examples exhibiting Focus are indeed true and valid in the previous section, we see that although the sentences in each respective language is faithful to the interpretation of Focus, the optionality with regard to exactly *how* Focus is manifest in a language abounds. To best understand this complex mapping system between the DRS foc(action(x)) and module systems in the C_{HL} we propose a constraint-based framework (i.e., Optimality Theory) that employs violable constraints. As a point of departure, we further postulate that the DRS in (4) represents the constant input structure for the Focus structure of all languages investigated here in this study. (This is, of course, based on the semi-leap of faith that

all instances of Focus in the previous section are equal with regard to truth conditional semantic interpretation). The data in the previous section clearly demonstrate that Focus cannot be mapped onto only one particular module of grammar: Certain languages make use of prosodic prominence (e.g, English), morphology (e.g, Q'anjob'al, Somali, and Wolof), or syntax (e.g, English and Hindi-Urdu). Furthermore, there is nothing to bar a language from representing Focus with more than one module of the grammar. These facts make it difficult to advocate a modular analysis of Focus (in its many manifestations) in natural languages.

3.1 Constraints

To best way to describe this complex mapping system between the DRS foc(action(x)) and module systems in the C_{HL}, we propose a constraint-based framework (i.e, Optimality Theory) that employs violable constraints. Here we introduce the constraints in our analysis.

Faithfulness constraints:

STAY – Do not alter any syntactic structure in the input

IDENT_Morph – Do not alter any morphological structure/components in the input

IDENT_Pros – Do not alter any prosodic structure in the input

Target – Remain faithful to the targeted focused item in the DRS (input).

Markedness constraints:

Pros_Focus – Mark the focused items (DRS foc(action(x)) or foc(person(x))) with prosodic stress

DEP(Syn) – Do not add any syntactic structure to the output.

Move-L – Allow the focused item (DRS foc(action(x)) or foc(person(x))) to undergo movement to the left

Move-R – Allow the Focused item (DRS foc(action(x)) or foc(person(x))) to undergo movement to the right

DEP(Morph) – Add morphological structure

3.2 Analysis

Here we will elucidate how the DRT-OT interface serves to provide a straightforward analysis of the representation(s) of Focus in typologically diverse languages. The novelty of our DRT-OT approach – and, quite frankly, the importance of maintaining this connection – can be seen in the input, which consists of both a DRS and a grammatical string (S = representation). Crucially, the DRS provides the information of what grammatical units need to be focused, thus the DRS is responsible for providing the C_{HL} with sufficient structural and pragmatic information. The faithfulness constraint **Target** insures that the syntactic structures 'targeted' by the DRS are indeed the proper units Focused in optimal candidates.

3.2.1 English

We first begin with the English example "Sally sleeps". Below is the correct constraint ranking as well as the tableau (**Tableau 1**).

Constraint ranking: Target, IDENT_Morph, Pros-Focus, Move-R >> {DEP(Syn), Move-L, STAY} >> DEP(Morph), IDENT_Pros

Input: DRS [x: Sally (x), foc(sleep(x))] ,
    Syn: [S [NP Sally [VP sleeps]]]

Tableau 1

DRS: [x: Sally (x), foc(sleep(x))] , Syn: [S [NP Sally [VP sleeps]]]	Target	IDENT_Morph	Pros_Focus	Move-R	DEP(Syn)	Move-L	STAY	DEP(Morph)	IDENT_Pros
☞SALLY sleeps.					*	*	*	*	*
☞It is SALLY who sleeps.						*	*	*	*
Sally-wa sleeps.		*!	*		*	*			
SLEEPS Sally.	*!				*		*	*	*
Sally SLEEPS.	*!				*	*		*	*
Sally sleeps.			*!		*	*		*	
Sleeps SALLY.				*!	*	*		*	*

As indicated in **Tableau 1**, there are two optimal candidates in English to properly focus Sally, one that makes use of only prosody (the first winning candidate) and one that makes use of a cleft construction (the second winning candidate). All other losers are eliminated by one of the constraints in the first stratum: the third candidate (e.g, Sally-wa sleeps) is removed from the competition by violated **IDENT_Morph**, whereas the 4th and 5th losing candidates (e.g, SLEEPS Sally and Sally SLEEPS) do not focus the specified input designated to receive Focus in the input, thus succumbing to a fatal violation of **Target**. The final two candidates violate **Pros_Focus** and **Move-R**.

3.2.2 Hindi-Urdu

Unlike in English, Hindi-Urdu license three options for realizing Focus in grammatical strings. Focus can be manifested morphologically, prosodically and syntactically. These three options for marking Focus in Hindi-Urdu do not appear in complementary distribution and can be realized in tandem with one another.

Constraint ranking: Target, Move-R, DEP(Syn), Pros-Focus >> {IDENT_Morph, STAY, Move-L, DEP(Morph)} >> IDENT_Pros

Input: DRS [x: Raam (x), foc (laaygaa (x)))],
    Syn: [s Ramm kitaab [vP laayegaa]]

Example: kitaab RAAM-hii laayegaa, (siitaa nahii)
    book   Ram-EMPH   bring-FUT Sita   not
    RAM will bring the book, not Sita.

Tableau 2

DRS: [x: Raam (x), foc (laaygaa (x)))], Syn: [s Raam kitaab [vP laayegaa]]	Target	Move-R	DEP(Syn)	Pros-Focus	IDENT_Morph	STAY	Move-L	DEP(Morph)	IDENT_Pros
☞kitaab RAAM laayegaa						*	*	*	*
☞RAAM kitaab laayegaa								*	*
☞kitaab RAAM-hii laayegaa					*	*	*		*
KITAAB Raam laayegga	*!	*					*	*	
kitaab laayegga Raam		*!		*				*	*
laayegga laayegga Ram kitaab		*!	*			*		*	*
kitaab Raam laayegaa				*!		*	*	*	*

As illustrated in **Tableau 2**, three winning candidates emerge based on the three options for marking Focus in Hindi-Urdu. The losing candidates (in order) violate the following constraints in the first stratum: candidate 4 does not target the syntactic unit specified in the input, while candidates 5 and 6 transpose the subject *Raam* too far to the right, thus violating the anchoring constraint **Move-R**.

3.2.3   Q'anjob'al

Q'anjob'al – similar to Somali and Wolof – contrasts with both English (3.2.1) and Hindi-Urdu (3.2.2) in that it marks Focus morphologically and syntactically (cleft-like structures)[2] without prosodic pitch accent.

Constraint ranking: Target, IDENT_Pros, Move-R, DEP(Syn) >> {DEP(Morph), Move-L, STAY} >> IDENT_Morph, Pros-Focus

Input: DRS: [x: q'opoo (x), foc(txon(x))]
Syn: [S Ja' ix q'opoo x- Ø-txon-on kaxhlan]

---

[2] As pointed out by Brian Joseph (p.c.), the notion of comparing 'cleft' constructions in English and Mayan languages (e.g, Q'anjob'al) is not possible in all environments. By the term 'cleft' we simply mean the addition of syntactic structure for the purpose of creating a Focused structure.

Example:

Ja'ix	q'opoo	x- Ø-txon-on	no	kaxhlan
Focus	classifier lady	past-3 p sg-sell-agentive Focus	classifier	hen

'It was the lady who sold the hen.'

Tableau 3

DRS: [x: q'opoo (x), foc(txon(x))] Syn: [s Ja' ix q'opoo x- Ø-txon-on kaxhlan]	Target	IDENT_Pros	Move-R	DEP(Syn)	DEP(Morph)	Move-L	STAY	IDENT_Morph	Pros-Focus
☞Ja' ix q'opoo x- Ø-txon-on no kaxhlan					*	*		*	*
☞Ø- Ø-xon-el no' kaxhlan ix q'opoo					*		*	*	*
Ja' ix no q'opoo x-Ø kaxhlan ix q'opoo	*!								*
Ja' ix q'opoo x- Ø-txon-on NO kaxhlan		*!				*			
x- Ø-txon-on Ja' ix q'opoo no kaxhlan			*!				*		*
(It was) Ja' ix q'opoo x- Ø-txon-on no kaxhlan				*!			*		*

According to **Tableau 3**, Focus can be licensed in Q'anjob'al both by means of a morphological marker and syntactic structure, i.e, a cleft. In contrast to the tableaux for English and Hindi-Urdu, the faithfulness constraint **IDENT_Pros** is in the first stratum of constraints for Q'anjob'al, whereas this constraint occupies the third stratum in the former two tableaux. Conversely, markedness constraint **Pros-Focus** has essentially 'switched places' with **IDENT_Pros** when compared with the previous tableaux for both English and Hindi-Urdu respectively.

4. Conclusion(s) and Directions/Suggestions for Future Research

Our data and analysis showed that it is possible to pursue an OT perspective of human grammar, while maintaining minimalist goals. Furthermore, we would like to claim that the syntactic impact of prosodic requirements can benefit from an OT approach to constraint interaction (Samek-Lodovici, 2001, 2005). As recently pointed out by Teeple (2007), prosody can outrank syntax in an optimality analysis. Teeple's assertion is further justified in the analysis championed here. Admittedly, more data from typologically diverse language must be considered within this framework in interaction with these constraints to gain a more in-depth panoramic view of the interaction of Focus with the modular units of human language (e.g, phonology/prosody, morphology, pragmatics, semantics and syntax). The DRT-OT interface

argued for in this paper presents a direct mapping of a DRS (i.e, what is intended to be Focus) with a grammar string (representation) in the input, thus enriching the input in the OT-framework and upholding the *Richness of the Base* hypothesis. In EVAL, this DRS-S(representation) is policed/evaluated in prospective candidates (created by GEN) by means of the faithfulness constraint **Target**.

Regarding future research, a more in-depth analysis into the Focus structures of Q'anjob'al is desperately needed. As pointed out to us by Clifton Pye and Pedro Mateo (p.c.), Q'anjob'al exhibits both subject and ergative Focus. The data in this paper only exhibit the former. Secondly, it appears that in certain cleft-like structures in Q'anjob'al, prosodic stress may be placed on the focused constituent. According to Pedro Mateo (p.c.), the pitch accent assigned to the focused constituent in these cleft-like constructions may be the result of phonological right-edge effects in Q'anjob'al through the creation of the cleft rather than a direct result of the Focus-representation (i.e, DRS-S(representation)) mapping. Given the fact that not all cleft-like structures involving a Focused constituent receive pitch accent (as evidenced in the examples in this paper (e.g, (15a), (15b) and **Tableau 3**), it would stand to reason that the phonological requirements of Q'anjob'al are acting upon the supra-segmental syntactic units in the represent-ation separate to the Focus-S(representation) interaction. Thus Q'anjob'al – as well as other languages where a potential disconnection between morphological and prosodic Focus exists (e.g, Samoli and Wolof) – pose an interesting challenge to any generative formalism that seeks to gain a more accurate understanding of the interaction that Focus plays with the indiv-idual modules of languages (sometimes acting in tandem *with* one another, and sometimes in complementary distribution *to* one another!). In light of the complex interaction of these modules of language with the notion of Focus, we assert that the DRT-OT interactive framework adopted in this paper presents us with a descriptively and explanatorily adequate mechanism capable of also capturing typological tendencies of natural languages in an accurate and conceptually appealing way.

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