Only-concord in Vietnamese: Support for a bipartite analysis and Undermerge[*]

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1.   Introduction

This paper investigates the 'only' construction in Vietnamese and its theoretical implications for a particular analysis of association with focus constructions in the literature, namely the bipartite analysis (Lee 2005; Horvath 2007; Cable 2010; Barbiers 2014; Quek and Hirsch 2017, among others). A bipartite analysis, as indicated by its name, assumes that a sentence with an overt focus operator such as 'only' underlyingly involves two heads in its structure: one on the clausal spine (Op), and one more local to the focused constituent (F). For instance, English *only*-sentences in (1) are analyzed as a bipartite structure as in (2), with either Op head or F head being pronounced.

(1)   a.   Haki ate only [a fish]$_F$.
        b.   Haki only ate [a fish]$_F$.

(2)   [$_{TP}$ Haki$_1$ [**Op** [$_{VP}$ t$_1$ ate [**F** [a fish]$_F$]]]]

Despite the evidence for such bipartite structure provided in Quek and Hirsch (2017) (Quek & Hirsch) based on split scope and VP-ellipsis , English nevertheless bans the co-occurrence of adverbial *only* and adnominal *only*, when a single focus reading is intended:

(3)   *Haki only ate only [a fish]$_F$.

Vietnamese becomes particularly suitable in terms of investigating the bipartite analysis since it allows the co-occurrence of two 'only's (*chỉ*, *mỗi*) even when there is just one focus in the sentence (Hole 2013, 2017; Erlewine 2017), as in (4).

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(4)　　Nam chỉ　ăn mỗi THỊTBÒ
　　　　Nam only eat only beef
　　　　'Nam eats only [beef]$_F$.'

Two aspects of the concord-like phenomena in (4) are of our interest. First, I argue that the novel data on the semantic scope of 'only' in Vietnamese provides support for the bipartite analysis proposed in Quek & Hirsch, under which constantly the Op head is interpreted at LF whereas the F head is semantically vacuous. Second, I show that the optional focus movement of the *mỗi*-phrase cannot be directly captured by the bipartite analysis unless the syntactic operation 'Undermerge' (Pesetsky 2013, Yuan 2017) is adopted.

The paper is organized as follows. Section 2 reviews the bipartite analysis proposed in Quek & Hirsch and shows that how it correctly predicts the scope data in Vietnamese. Section 3 demonstrates why the focus movement in 'only'-construction poses a potential challenge to the current bipartite analysis, thus motivating us to utilize 'Undermerge' to capture the data. Section 4 briefly compares the current analysis to a previous analysis of Vietnamese 'only' in Hole (2017). Section 5 concludes.

2.　　Scope evidence for a bipartite analysis of 'only'

This section first reviews Quek & Hirsch's proposal and supports it by extending the proposal to the Vietnamese data.

2.1　　Quek and Hirsch (2017)

Building on the previous versions of bipartite analyses (Lee 2005; Horvath 2007; Cable 2010; Barbiers 2014), Quek & Hirsch propose that association with focus constructions such as 'only' contain two underlying heads: one operator head (Op) on the clausal spine, and another functional head (F) that is more local to the focused constituent, as in (5).

(5)
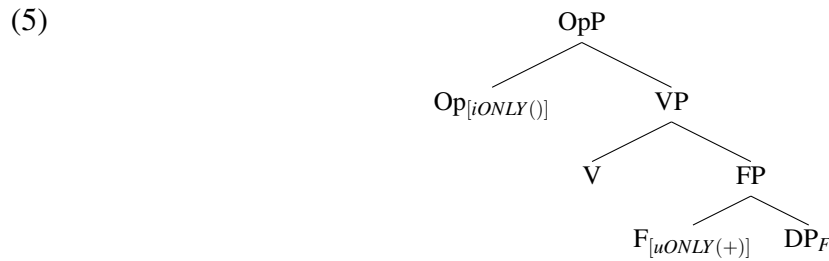
The Op head bears an interpretable but unvalued feature [iONLY()] while the F head bears an uninterpretable but valued feature [uONLY(+)]; the two agree. Semantically, the Op head is interpreted at LF, which is a propositional operator under the classic theory of *only* (Rooth 1992) while the F head is semantically vacuous, as in (6).

(6)　　　$[[only]](C) = \lambda p_{st} \lambda w. \forall p' \in C[p'(w) \rightarrow p \subseteq p']$

In English, either head (but not both) can be overtly pronounced, by the adverbial(/sentential) *only* or adnominal(/constituent) *only* respectively.

(7)   a.   Haki only ate [a fish]$_F$.
      b.   Haki ate only [a fish]$_F$.

The analysis is supported by a contrast between adverbial *only* and adnominal *only* (Taglicht 1984; Rooth 1985): while adverbial *only* gives rise to a surface scope reading when there is another scope-taking operator in the sentence, adnominal *only* results in scope ambiguity, cf. (8), (9).

(8)   a.   Haki is only required to eat [a fish]$_F$.   (*□ > only, only > □)
      b.   Haki is required to only eat [a fish]$_F$.   (□ > only, *only > □)

(9)   Haki is required to eat only [a fish]$_F$.   (□ > only, only > □)

The sentences in (8) are not ambiguous because adverbial *only* spells out the Op head, which is the position 'only' is interpreted (the scope site). In contrast, adnominal *only* as the overt realization of F head in (5) leaves the scope site of 'only' uncertain in (9), either on the clausal spine of the embedded clause, or that of the matrix clause.

Furthermore, the analysis correctly predicts the possibility of split scope between 'only' and the object DP in (10).

(10)   Haki is required to eat only [ONE fish]$_F$.   (Possible: only > □ > one fish)
       'The only requirement for Haki is to eat one fish, whatever the fish is'

Since the scope site of 'only' is determined by the covert Op head in (10) and the adnominal *only* is semantically vacuous, it is possible to have 'one fish' scope at a position below the modal and have the covert Op head above the modal at LF, giving rise to the split scope reading.[1]

2.2   Predictions born out in Vietnamese

In Vietnamese, the counterpart of English *only* can also occur in an adverbial or adnominal position, though it is realized by different lexical items respectively (Erlewine 2017; Hole 2013, 2017), as in (11)-(12).

(11)   Nam chỉ   ăn THỊTBÒ   (12)   Nam ăn mỗi   THỊTBÒ
       Nam only$_{Adv}$ eat beef   Nam eat only$_{Adn}$ beef
       'Nam only eats [beef]$_F$.'   'Nam eats only [beef]$_F$.'

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[1]Quek & Hirsch argue in their paper that the split scope reading in (10) cannot be captured by an alternative analysis in which the adnominal *only* is type-shifted to a quantifier because such a analysis predicts 'only' and the DP 'one fish' scope at the same height.

Under Quek & Hirsch's analysis, *chỉ* and *mỗi* are the exponents of the Op head and the F head. Interestingly, the two are indeed allowed to co-occur when a single focus reading like the one in (11)-(12) is intended:

(13)   Nam chỉ   ăn mỗi   THỊTBÒ
Nam only$_{Adv}$ eat only$_{Adn}$ beef
'Nam only eats [beef]$_F$.'

Their analysis further makes a series of predictions for a sentence involving 'only' and another scope-taking operator in a language that allows *only*-concord such as Vietnamese. First, as long as the adverbial *chỉ* is pronounced in such a sentence, 'only' should be interpreted at the position of *chỉ*, no matter whether *mỗi* is pronounced or not. The reason is that *chỉ*, as the exponent of Op head, indicates the scope site of 'only'. Second, if *mỗi* is pronounced alone in such a sentence, then there should be scope ambiguity, just like an English sentence with adnominal *only*.

The above predications are indeed born out in Vietnamese. Examples in (14)-(16) show that a sentence in which *chỉ* occurs alone exhibits surface scope relative to the modal operator, while a sentence in which *mỗi* occurs alone exhibits scope ambiguity:

(14)   Nam chỉ   có thể ăn THỊTBÒ
Nam only$_{Adv}$ can   eat beef
'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(15)   Nam có thể chỉ   ăn THỊTBÒ
Nam can   only$_{Adv}$ eat beef
'Nam is allowed to only eat [beef]$_F$.'   ($\diamond$ >only, *only > $\diamond$)

(16)   Nam có thể ăn mỗi   THỊTBÒ
Nam can   eat only$_{Adn}$ beef
'Nam is allowed to eat only$_S$ [beef]$_F$.'   ($\diamond$ >only, only > $\diamond$)

When *chỉ* and *mỗi* co-occur as in (17)-(18), the sentence is not ambiguous as predicted and the semantic scope of 'only' is determined by the position of *chỉ*.

(17)   Nam chỉ   có thể ăn mỗi   THỊTBÒ
Nam only$_{Adv}$ can   eat only$_{Adn}$ beef
'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(18)   Nam có thể chỉ   ăn mỗi   THỊTBÒ
Nam can   only$_{Adv}$ eat only$_{Adn}$ beef
'Nam is allowed to only eat [beef]$_F$.'   ($\diamond$ >only, *only > $\diamond$)

In short, Quek & Hirsch's analysis can straightforwardly extend to the Vietnamese data in (14)-(18). As illustrated in (19), an *only*-construction in Vietnamese involves a bipartite structure. The Op head agrees with the F head to get its feature valued and the uninterpretable feature on F can be deleted. The adverbial *chỉ* realizes the semantically contentful Op head, while the adnominal *mỗi* realizes the semantically vacuous F head. The two heads can either be pronounced simultaneously or have one of them be pronounced alone.

(19)
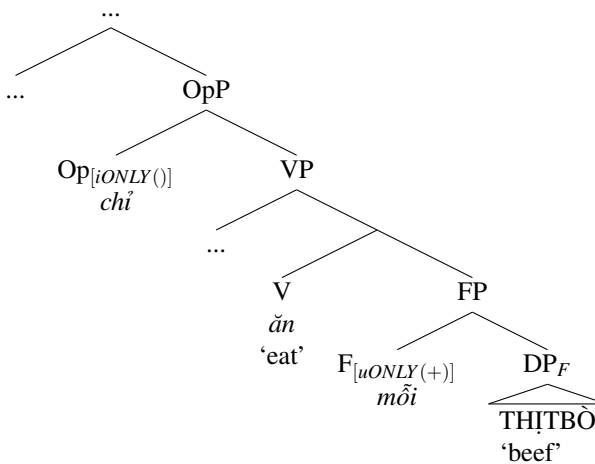
3. Focus movement and Undermerge

Another property of the 'only' construction in Vietnamese is that the nominal phrase containing the adnominal *mỗi* can undergo optional focus movement, either to a post-subject position (20) or a clause-initial position (21). [2]

(20)   Nam [mỗi   THỊTBÒ]$_1$ mới ăn t$_1$
          Nam only$_{Adn}$ beef   PRT eat
          'Only [beef]$_F$ does Nam eat.'

(21)   [mỗi   THỊTBÒ]$_1$ Nam mới ăn t$_1$
          only$_{Adn}$ beef   Nam PRT eat
          'Only [beef]$_F$ does Nam eat.'

Interestingly, such movement can eliminate the potential scope ambiguity that is resulted by adnominal *mỗi*. We have seen that when a sentence with an in-situ *mỗi* contains a modal, it is scope-ambiguous because the Op head that determines the scope of 'only' is covert, repeated as in (22).

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[2]In (20)-(21), a particle *mới* is near-obligatory as reported in Hole (2017), which makes it appealing to postulate a Spec-head relation between the *mỗi*-phrase and the particle *mới*. In the next section we will return to this issue and argue that such an alternative analysis is problematic. Instead, I treat *mới* as an adverb adjoining to VP that is independently required due to the object-fronting.

(22)   Nam có thể ăn mỗi   THỊTBÒ
       Nam can   eat only$_{Adn}$ beef
       'Nam is allowed to eat only [beef]$_F$.'   ($\diamond$ >only, only > $\diamond$)

But if the focus movement occurs, the fronted adnominal *mỗi* suddenly exhibits surface scope, as shown in (23)-(25).

(23)   [mỗi   THỊTBÒ]$_1$ Nam mới có thể ăn t$_1$
       only$_{Adn}$ beef   Nam PRT can   eat
       'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(24)   Nam [mỗi   THỊTBÒ]$_1$ mới có thể ăn t$_1$
       Nam only$_{Adn}$ beef   PRT can   eat
       'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(25)   Nam có thể [mỗi   THỊTBÒ]$_1$ mới ăn t$_1$
       Nam can   only$_{Adn}$ beef   PRT eat
       'Nam is allowed to only eat [beef]$_F$.'   ($\diamond$ >only, *only > $\diamond$)

The facts above can be easily captured if we assume that the focus movement is triggered by an optional [EPP] feature on the Op head, such that the fronted position of adnominal *mỗi* disambiguates the position of the (covert) Op head, as illustrated in (26).

(26)
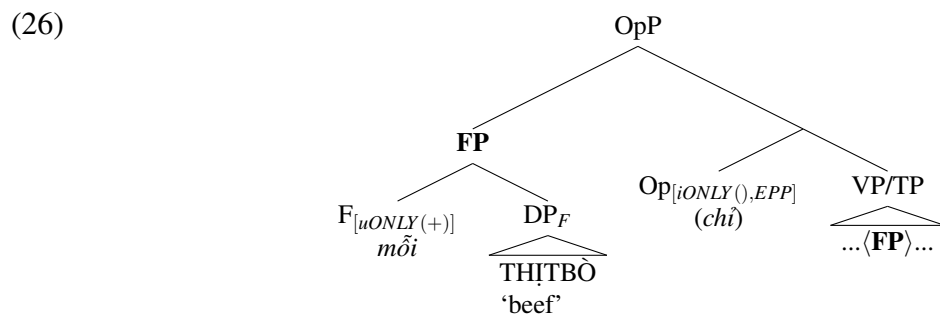
Since the two heads within the bipartite structure can be pronounced simultaneously in Vietnamese, we predict that when the adverbial *chỉ* co-occurs with the fronted *mỗi*-phrase, they should be adjacent the way as in (26).

   Intriguingly, whereas we find the two 'only's are indeed adjacent in such a case, their order is not the expected 'Adnominal-Adverbial' one, but the reverse, as in (27)-(29).

(27)   chỉ   [mỗi   THỊTBÒ]$_1$ Nam mới có thể ăn t$_1$
       only$_{Adv}$ only$_{Adn}$ beef   Nam PRT can   eat
       'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(28) Nam chỉ   [mỗi   THỊTBÒ]$_1$ mới có thể ăn t$_1$
      Nam only$_{Adv}$ only$_{Adn}$ beef   PRT can   eat
   'Nam is only allowed to eat [beef]$_F$.'   (*$\diamond$ >only, only > $\diamond$)

(29) Nam có thể chỉ   [mỗi   THỊTBÒ]$_1$ mới ăn t$_1$
      Nam can   only$_{Adv}$ only$_{Adn}$ beef   PRT eat
      'Nam is allowed to only eat [beef]$_F$.'   ($\diamond$ >only, *only > $\diamond$)

To obtain the single focus reading in (27)-(29), the adverbial *chỉ* has to immediately precede the adnominal *mỗi*. No other word orders are possible: for instance, if the two are not adjacent as in (30), then the sentence is only fine under a double focus reading, which is not the intended one:

(30) Nam chỉ   có thể [mỗi   THỊTBÒ]$_1$ mới ăn t$_1$
      Nam only$_{Adv}$ can   only$_{Adn}$ beef   PRT eat
      'Nam is only$_1$ allowed$_{F1}$ to only$_2$ eat [beef]$_{F2}$'
   *'Nam is only allowed to eat [beef]$_F$.'

    I argue that such an unexpected word order can be captured by the operation 'Under-merge', which is originally proposed in Pesetsky (2013) and recently implemented in the analysis of focus movement in Kikuyu (Yuan 2017). A regular phrasal movement (/Internal Merge) creates a specifier of a certain head as in (26), conforming to the Extension Condition (Chomsky 1995). However, it has been argued that the Extension Condition should be relaxed in some cases such that Internal Merge is also allowed to create a complement of a head (Wagner 2006; Pesetsky 2007, 2013; Yuan 2017), as in (31).

(31) Undermerge:
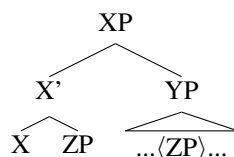
This 'Undermerge' operation is useful in accounting for the Vietnamese data in (27)-(29) since it allows the fronted *mỗi*-phrase to create a complement of the Op head, resulting in the configuration in (32).
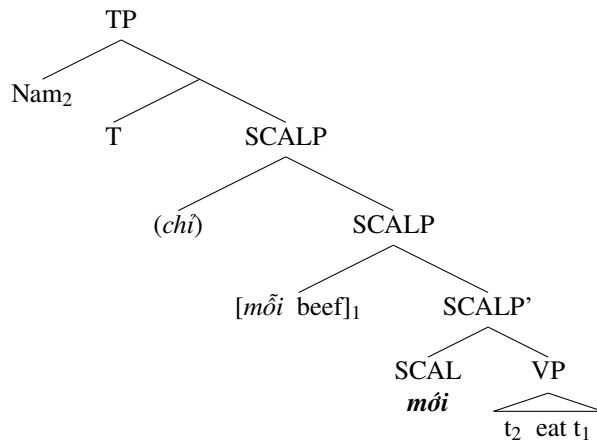
(32)
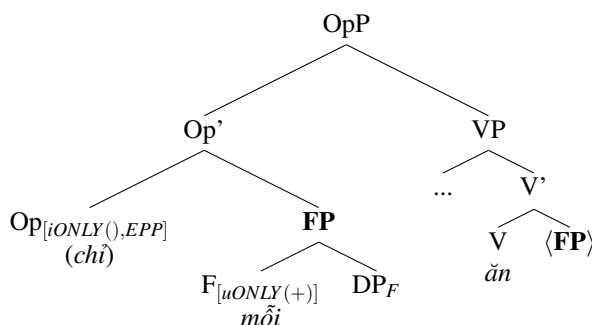
In other words, we can still maintain the bipartite analysis in which the Op head bears an optional [EPP] feature by postulating that this [EPP] feature is a special one such that it attracts the FP to its complement position via Undermerge. In this way the 'Adverbial (*chỉ*)-Adnominal (*mỗi*)' order can be derived straightforwardly.

To sum up, this section analyzes the optional movement of the adnominal *mỗi*-phrase in Vietnamese as an instance of 'Undermerge': the Op head (*chỉ*) bears an optional [EPP] feature and the FP (*mỗi*-phrase) internally-merges as a complement of the Op head, resulting in the observed '*chỉ-mỗi*' word order. In addition, the analysis captures the surface scope of 'only' in a sentence involving a fronted *mỗi*-phrase alone, since the fronting position directly identifies the position of the contentful Op head.

4.   Comparison to Hole (2017)

There are few detailed accounts of the focus concord phenomena in Vietnamese, and I would like to discuss one specific and representative view from Hole (2017) (based on Hole 2013). Hole's analysis is essentially a bipartite one, as in (33): he argues that the adnominal *mỗi* always co-occurs with a scalarity head, namely the particle *mới*; and when the adnominal *mỗi* stays in-situ, there is a covert counterpart of *mới*. Crucially, his analysis differs from the current one in treating the adverbial *chỉ* as an adjunct modifier, instead of a head that agrees with the adnominal *mỗi*.

(33)   Nam (chỉ)   [mỗi   THỊTBÒ]$_1$ **mới** ăn t$_1$
            Nam only$_{Adv}$ only$_{Adn}$ beef   PRT eat
            'Only [beef]$_F$ does Nam eat.'

```
                            TP
                          /    \
                    Nam₂
                          /    \
                        T        SCALP
                                /    \
                          (chỉ)        SCALP
                                      /     \
                              [mỗi  beef]₁    SCALP'
                                            /      \
                                        SCAL       VP
                                        mới       /  \
                                              t₂   eat t₁
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Here are two arguments to favor the current analysis over Hole's. Firstly, treating *chỉ* as an adjunct fails to capture the obligatory Adverbial-Adnominal order in (33). It is not clear why *chỉ* has to adjoin to a certain position and note that it will not be sufficient to postulate a rule to require *chỉ* and *mỗi* always be adjacent since the two can in fact occur non-adjacently when there is no focus movement, repeated in (34).

(34)   Nam chỉ   ăn mỗi   THỊTBÒ
           Nam $only_{Adv}$ eat $only_{Adn}$ beef
           'Nam only eats [beef]$_F$.'

It is also not sufficient to have the adverbial *chỉ* always adjoin to the (covert) SCALP in (34) since when *mỗi* occurs sentence-initially, *chỉ* does not precede the scalarity particle *mới* and has to adjoin to a higher position to immediately precede the adnominal *mỗi*.

(35)   (chỉ)   [mỗi   THỊTBÒ]$_1$ <*mới> Nam <mới> có thể an t$_1$
           $only_{Adv}$ $only_{Adn}$ beef   PRT   Nam   PRT   can   eat
           'Nam is only allowed to eat [beef]$_F$.'

Secondly, while Hole claims that the particle *mới* is near-obligatory when there is focus fronting, the fact is that it is only required when the object is focused and fronted. When the adnominal *mỗi* attaches to the focused subject DP, as in (36), this particle is optional and crucially, adding *mới* makes a difference in meaning such that the native speakers report that with *mới* the sentence has to be used as a correction to a potentially wrong belief about who eats beef in the discourse. This suggests that *mới* cannot be a head that always co-occurs with the adnominal *mỗi* and is just optionally pronounced in (36).

(36)   chỉ   mỗi   NAM (mới) ăn thịtbò
           $only_{Adv}$ $only_{Adn}$ Nam   PRT   eat beef
           'Only [Nam]$_F$ eats beef.'

5.   Conclusions

This paper presents novel data regarding the scope phenomena and focus movement of Vietnamese 'only', which provides support for a bipartite analysis of focus constructions (Lee 2005; Barbiers 2014; Quek and Hirsch 2017, among others). In addition, I identify the optional focus movement in an 'only'-construction in Vietnamese as another instantiation of the operation 'Undermerge' in which a phrase moves into a complement position (Pesetsky 2013).

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