A more perfect unification: exploring a Nano-syntactic solution to Vietnamese *đã*

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Abstract

In this paper, we provide a new analysis of the Negative Constraint in Vietnamese, whereby the anterior morpheme *đã* loses its perfect reading in negative contexts. The Nanosyntax approach adopted here is claimed to derive this constraint without the stipulations inherent in existing formal accounts (e.g., Trinh 2005, Phan & Duffield (2016, 2017).

Keywords
Vietnamese syntax, Aspect-Negation interactions, Negative Constraint

1. Introduction

The empirical concern of this paper[1] is the contrastive behaviour of the Vietnamese TAM marker *đã* across affirmative contexts *vs*. negative contexts. Specifically, our concern is with the fact that in affirmative sentences the presence of *đã* gives rise to an ambiguity between a past and a perfect reading, whereas in negative contexts only the preterite reading is available. For obvious reasons, we refer to this as the Negative Constraint.

Let us first consider some data, beginning with affirmative contexts:

(1) a. *Anh-ấy đến.*
3S.M come
'He comes/came.' [No specified time]

b. *Anh-ấy đã đến.*
3S.M DA come
EITHER: 'He came.' [Past time interpretation]
OR: 'He has come.' [Perfect interpretation]

In (1a) – the sentence without *đã* – the man's coming may be freely interpreted as taking place in the present or in the past. In (1b), on the other hand, the presence of *đã* situates the event in the past. However, in

[1] The present article is an attempt to improve upon our previous analyses of the Negative Constraint: see, for example, Phan & Duffield (2016, 2017), Phan & Duffield (2018).

addition to this past time (preterite) reading, (1b) may also be interpreted with a perfect reading; that is to say, the man's arrival is asserted to have occurred prior to the utterance time, and still to be of current relevance.

Now consider the interaction between *đã* and clausal negation. There are two negative markers in Vietnamese that we are concerned with in this paper: the simple negative morpheme *không* (NEG) and perfect negative *chưa* (NEG_{PRF}), usually translated as 'not yet': these are exemplified in (2) and (3), respectively.

(2) a. *Anh-ấy không đến.*
3S.M NEG come
'He doesn't come/didn't come.'
b. *Anh-ấy* ***đã*** *không đến.*
3S.M DA NEG come
'He didn't come.' [exclusive past time interpretation]
NOT 'He hasn't come.'

(3) a. *Anh-ấy* ***chưa*** *đến.*
3S.M NEG_{PRF} come
'He hasn't come yet.' [exclusive perfect interpretation]
b. *Anh-ấy đã* ***chưa*** *đến.*
3S.M DA NEG_{PRF} come
'He hadn't come yet.' [past perfect interpretation]

Simple negative sentences, such as the example in (2a) – which contain *không* but without *đã*, – are compatible with either a present or a past time interpretation. Addition of *đã* to a negative clause, as in the example (2b), yields a past time interpretation only: the perfect reading is excluded here. In order to obtain a negative perfect reading the default negative *không* in (2) must be replaced by the synthetic negative marker *chưa* ('not.yet'), illustrated in (3a) and (3b). Where this form appears on its own, as in (3a), *chưa* has an exclusively perfect reading; that is to say, it cannot be used to indicate a definite time in the past. The addition of *đã* in (3b) immediately shifts the interpretation from a present perfect to a past perfect one. This clearly suggests that the sole interpretive contribution of *đã* in negative sentences is to add a past time reading.

While these observations concerning *đã* have been previously discussed in the literature – see *e.g.,* Panfilov (2002), Trinh (2005); Duffield (2013, 2014, 2017), Phan (2013), Bui (this volume) – no completely satisfactory explanation has yet emerged of the Negative Constraint. The aim of this squib is to sketch out an original syntactic approach to *đã* using the Spell-out principles of Nanosyntax: we shall claim that the advantages this approach offers over earlier head-movement-driven accounts makes it the most promising to date.

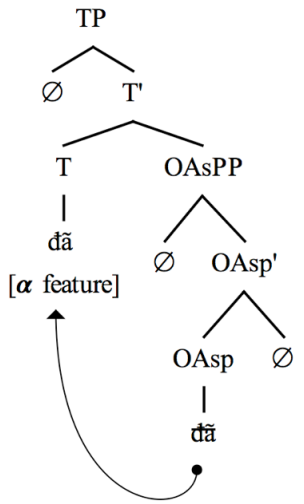
Before continuing, it is worth noting that this kind of interaction between aspect and negation is not unique to Vietnamese: it has previously been observed that certain kinds of aspectual reading may appear or disappear in negative contexts; *cf*. Matthews (1990), Li (1999), Miestamo *et al.* (2011).

2. Previous Treatments

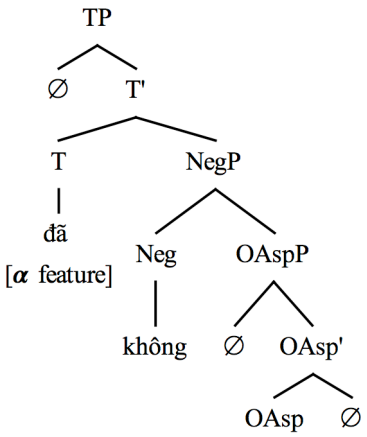
Hitherto, there have been two main syntactic approaches to the Negation Constraint: the '*đã*-as-homophone' analysis, as proposed by Trinh (2005), and the 'multifunctional-*đã*' approach advanced by Duffield (2013, 2014) and Phan (2013). We briefly review these in turn.

Trinh (2005)'s account tackles the problem by assuming that there are two homophonous lexical items: 'perfect *ĐÃ*$_1$' and 'past *ĐÃ*$_2$', each having different points of initial merger. Specifically, the perfect *ĐÃ*$_1$ is initially merged lower in Asp^o, then raises to T^0 yielding the ambiguous interpretation of *đã* in (1b), as shown in (4a). By contrast, past *ĐÃ*$_2$ is taken to be directly base-generated in T^o, as illustrated in (4b): this yields the exclusive past interpretation in (2b) and (3b) above.

(4) a. Affirmative clauses (OAsp→T)



b. Negative clauses (direct insertion under T)



There are two significant difficulties with Trinh's account. In the first place, it fails to capture the close semantic relationship between perfect and past readings: it is presumably not accidental that these meanings are conflated in many languages, such as in many modern varieties of spoken Romance and Continental West Germanic, where preterite forms have largely been lost (either restricted to literary registers, or lost entirely, in some varieties).

More significantly perhaps, Trinh's analysis offers no explanation – other than possibly though appeal to haplology – as to why these two homophones may not co-occur, either in affirmative or negative contexts (as in (5) and (6), respectively):

(5) **Anh-ấy đã đã đến.*
3S.M DA DA come
'He came'/'He has come.'

(6) a. **Anh-ấy đã không đã đến.*
3S.M DA NEG DA come
'He didn't come.'
b. **Anh-ấy đã chưa đã đến.*
3S.M DA NEG_{PRF} DA come
'He hadn't come yet.'

The analysis proposed in Duffield (2013, 2014), also Phan (2013), is in many respects a variant of Trinh's account. It avoids the problem of accidental homophony by invoking the notion of multifunctionality in the sense of Travis, Bobaljik & Lefebvre (1998), Duffield (2014), according to which grammatical meaning inheres in syntactic heads themselves, rather than in the underspecified lexical exponents of these heads. On the original Duffield/Phan account, there is only one lexical *đã*: its interpretation in a given context is the sum of its core meaning – namely, 'anterior' – and whatever additional meanings it derives from the grammatical positions into which it is merged. Thus, *đã* is ambiguous if it is first merged under Asp° and later raised to T°, but is unambiguous – signalling the past-only reading – whenever it is directly inserted under T°.

This multifunctional approach nicely captures the intuition that different interpretations of *đã* result from different syntactic environments, and directly explains the absence of doubled *đã* in affirmative contexts, as in (5) above. However, it leaves unresolved the question of why negative sentences such as those in (6) are unacceptable even though both positions – above and below Neg° – should be available.

Both previous analyses trace the Negation Constraint to the idea that the presence of negation triggers a violation of head-minimality: as with tense-lowering in English (Pollock 1989, Chomsky 1989), clausal negation is assumed to block head-movement. Yet though the analogy is obvious, it is much less clear why negation should block Asp-to-T raising here; after all, finite auxiliary raising over negation would seem to be the rule rather than the exception in more familiar languages. This putative blocking effect is particularly puzzling since there are no morphosyntactic considerations – 'Mirror Principle effects' – that would require strict adherence to the Head Movement Constraint (Travis 1984): in the case at

hand, long head-movement should be permissible; see Harizanov & Gribanova (2018), for a revised approach to the HMC. Given this, we are led to consider an alternative approach to the negation puzzle: rather than invoking head-movement, we propose to explain the Negation Constraint in terms of competition among lexical – or rather *lexico-syntactic* – items {*đã, chưa, không*} when it comes to spelling out the syntactic structure *T > Neg > Asp*. The present account relies on the lexicalization algorithms of Nanosyntax, which are set out in the next section.

3. A Nanosyntactic approach to the Negation Constraint

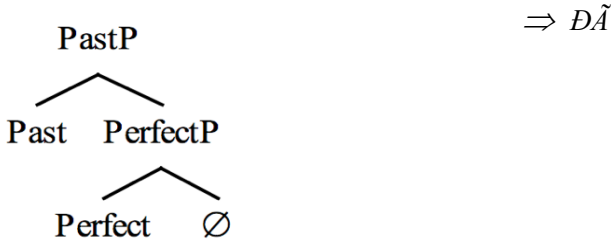
Following Starke (2009, 2011), Caha (2009), and Lander (2016), we assume that words, including functional categories, are lexically represented as L-TREES, which may – if they are complex — correspond to a continuous stretch of syntactic phrase-structure, that is to say, a word corresponds to more than a single syntactic head. On this construal, where we have a syntactic tree (S-TREE) that needs to be spelled out, it is necessary to match all available L-trees to the S-tree.[2] There will be a competition between those L-trees: which competitor wins out in this mapping contest in a given context is determined by three governing principles:

- SUPERSET PRINCIPLE, which requires that an L-tree should be the same size or larger than the relevant S-tree for a successful match, see Caha (2009, 2014);
- ELSEWHERE PRINCIPLE, which requires that – just in case more than a single L-tree is available to lexicalise an S-tree – the L-tree with the fewest unused features should be chosen;
- PRINCIPLE OF CYCLIC OVERRIDE: assuming that derivations are built bottom-up, then later, higher-level spell-outs cancel out previous, lower-level spell-outs: see Lander (2016), for discussion.

Here, we adopt a compositional approach to *đã* – for fuller justification see Phan & Duffield (2018) – in which *đã* is taken to comprise two semantic features: a temporal PAST feature, and an aspectual PERFECT feature. Syntactically, these two features head their own strictly-ordered projections: PastP > PerfectP. In terms of Nanosyntax, ĐÃ is a lexico-syntactic object, instantiated as the layered L-tree in (7):

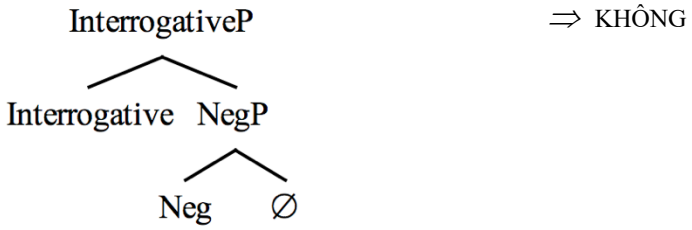
[2] Within the assumptions of Nanosyntax, the computation starts from features. The syntax does not project from lexical items (as is more commonly assumed), but rather the other way around. The core idea in Nanosyntax is that the lexicon is strictly post-syntactic: there is no pre-syntactic lexicon, as in Minimalism, nor or there 'lists' that feed into syntax, as proposed in Distributed Morphology. The justification behind this kind of architecture ultimately has to do with the idea of sub-morphemic heads, and the need for phrasal spellout. See Baunaz, De Clercq, Haegeman & Lander (2018), for explication and detailed discussion. We are grateful to a reviewer for raising this issue.

(7)

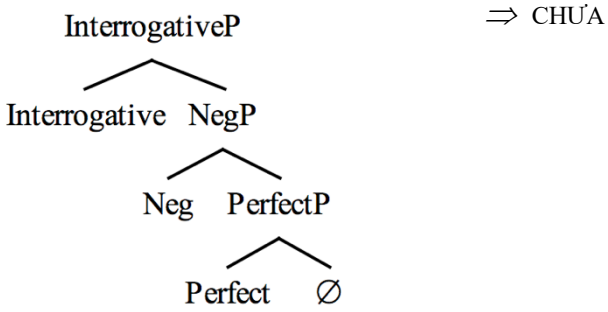


The Vietnamese lexicon also contains two abstract lexical items, KHÔNG and CHƯA: these are associated with the L-trees in (8) and (9), respectively.

(8) *L-tree for KHÔNG*



(9) *L-tree for CHƯA*

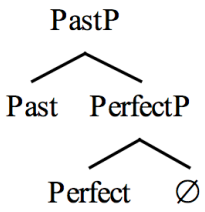


Crucial to the present analysis is the top layer *InterrogativeP*, above NegP in (8) and (9).[3] This additional structure reflects the fact that *không* and *chưa* can serve as either negative or interrogative markers, depending on their position with respect to VP; *cf.* Duffield (2013), Trinh (2005), Law (2014), for further discussion. Intuitvely then, *không = (yes or) no*; whereas *chưa = (yes or) not yet*: *cf*. Nguyen D. H. (1997). These extended trees for *không* and *chưa* in (8) and (9) thus minimally contrast with what is proposed in Duffield (2017: tree 20), in which the L-tree for *chưa* contained only two layers (NegP>PerfP). On that earlier proposal *đã* would have no fewer unused features than *chưa* when it comes to spelling out PerfectP, and so could not be preferred by the Elsewhere Principle.

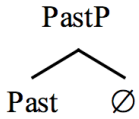
[3] We are grateful to Lena Baunaz and to Karen De Clercq for discussion of this point.

By the Superset Principle,[4] the L-tree in (7) can match all of the S-trees in (10), yielding the multifunctional ambiguity effect of *đã*: [5]

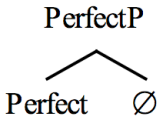
(10) a. *S1: Past-Perfect*



b. *S2: Past*



c. *S3: Perfect*



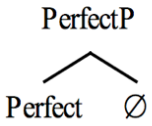
Syntax incorporates one feature at a time, and at each step, a suitable match from the lexicon must be found. First let us consider affirmative *perfect* contexts, as in the ambiguous examples (1) and (*5) above. In affirmative perfect sentences, we have only PerfectP. There are two L-tree candidates that can lexicalise PerfectP — either *đã* or *chưa* — since by the Superset Principle, PerfectP is contained both in the L-tree for *đã* in (7) and also in the L-tree for *chưa* in (9). Given the Elsewhere Principle, the

[4] In this squib, we adopt the revised version of the Superset Principle, following Caha (2014), which is the original version (Stark 2009, Lander 2016) without the 'Anchor condition'. The crucial difference between the two versions is that the revised version allows the L-tree to spell out all three S-trees (a) (b) and (c) in (10); whereas in the classical version only (a) and (c) are allowed, (b) is not allowed, since the lowest layer PerfectP has to be matched by the Anchor condition; see Lander (2016), for details, see also De Clercq & Vanden Wyngaerd (2016), Vanden Wyngaerd (2016), for further discussion of the revised Superset Principle can account for other grammatical phenomena cross-linguistically. We are grateful to Amélie Rocquet, Pavel Caha, Eric Lander and Karen De Clercq for discussing this point.

[5] One anonymous reviewer raises the question of whether the so-called mapping between the lexical syntax and the genuine syntactic structure is nothing more than a different way to maintain the "homophone" approach, only to shift part of the burden to the syntactic structure. As will be shown below, Nanosyntax is certainly not a different way of maintaining the homophone approach. This is exactly the point of the Superset Principle as a way to account for syncretism. See Baunaz, De Clercq, Haegeman & Lander (2018), for detailed discussion. However, we suppose in one way we are 'shifting the burden' to syntax - since we assume that different readings require different underlying structures, with a single lexical entry potentially being able to match different sizes of that syntactic structure by the Superset Principle.

L-tree for *đã* in (7) is the winning match since it has fewer unused features. Accordingly, PerfectP is lexicalised as *đã*.

(11) *Affirmative Perfect Derivation (one step):*

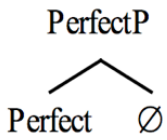


⇒ *đã* [*chưa* is the losing competitor]
ťã [*chưa* is losing competitor]

In the case of affirmative *past* contexts, two derivational steps are involved. First, we start once more with PerfectP: once again, the best match in the lexicon is the L-tree of *đã* in (7), so PerfectP is spelled out by *đã*, as before. At the second step in the derivation, however, when we build PastP on top of PerfectP, there is a match for the whole trunk PastP>PerfectP in the lexicon, spelled out by *đã*, which overrides the first spellout. The unattested order **đã đã* is ungrammatical (example 5) due to the Principle of Cyclic Override.

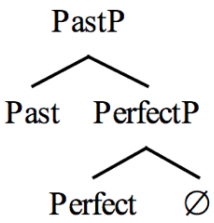
(12) *Affirmative Past Derivation (two steps):*

Step 1:



⇒ *đã* [*chưa* is the losing competitor]

Step 2:



⇒ *đã*

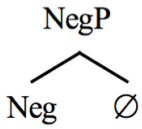
⇒ ~~đã~~ [deleted by Cyclic Override]

Now consider negative contexts, as in the examples in (2), (3) and (6). In past – that is *non-perfect* – negative *không* sentences, such as example (2b), two derivational steps are once again involved. The first step begins from NegP: here, the Superset Principle allows for two possible spell-outs – *không* or *chưa* – since both the L-tree for *không* in (8) as well as the L-tree for *chưa* in (9) are supersets of the S-tree NegP. However, the L-tree for *không* in (8) contains the fewer unused features, so NegP spells out as *không*, given the Elsewhere Principle. At Step 2, PastP is built on top of NegP. At this point there is no match for the whole trunk PastP>NegP in the lexicon, so NegP is spelled-out by *không*, while PastP is spelled out by *đã,* the two independently of one other. We end up with the correct word order – that is to say, *đã* precedes *không* – and with

the desired interpretation, in that *đã* is interpreted as past only.

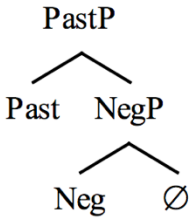
(13) *Negative Past Derivation (two steps):*

Step 1.



⇒ *không* [by Superset Principle]

Step 2.



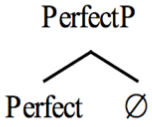
⇒ *đã*

⇒ *không* [from Step 1]

In the case of past perfect negative *chưa* contexts, as in example (3b) above, the derivation now involves three steps. At Step 1, we start from PerfectP; here, the best match in the lexicon is the L-tree of *đã* in (7), so PerfectP is spelled out by *đã*. At step 2, the derivation proceeds, with NegP being inserted on top of PerfectP. This time there *is* a lexical (L-syntactic) match for the NegP> PerfectP, namely, *chưa*, the L-tree for *chưa* in (9) being a superset of the S-tree NegP > PerfectP). This higher spell-out *chưa* cancels out the previous spell-out (*đã*); by Cyclic Override, the order **chưa – đã* is ruled correctly ruled out. Finally, at Step 3, PastP is built on top of NegP>PerfectP. At this point in the derivation, there is no match for the whole trunk in the lexicon, hence only one possibility is permitted: NegP>PerfP is spelled out by *chưa*, and PastP is spelled out by *đã*. We end up with the right word order – *đã* preceding *chưa* – and with the correct interpretation: only the past reading of *đã* is available here. Once more, the grammatically unacceptable order **đã chưa đã,* in (5b), is excluded by the Cyclic Override principle.

(14) *(Past) Perfect Derivation:*[6]

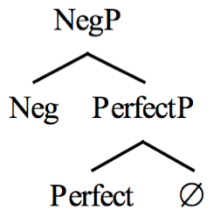
Step 1. Perfect Derivation (as in 11):



⇒ *đã* [*chưa* is the losing competitor]

[6] Perfect sentences are derived by applying Steps 1 and 2 only; Past perfect sentences involve the additional Step 3.

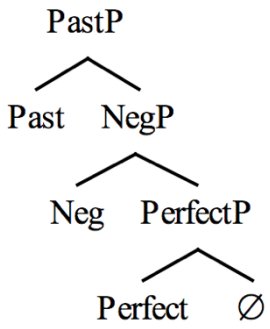
Step 2. Negative Perfect derivation (only one competitor)



⇒ chưa

⇒ ~~đã~~ [deleted by Cyclic Override]

Step 3. Past Negative Perfect derivation (additive — no available L-tree)



⇒ *đã*

⇒ *chưa*

⇒ ~~đã~~ [deleted by Cyclic Override]

By means of these lexicalization algorithms, we end up both with the desired word order, in as much as *đã* always precedes negation morphemes - correctly blocking the unacceptable combinations of **đã đã* and **đã chưa đã* — and with the observed interpretation, correctly excluding the perfect reading of *đã* in negative contexts. The Negative Constraint, which had previously been a stipulation, now emerges as a theorem.

4. Conclusion

In conclusion, our Nanosyntactic approach has several advantages over the previous head-movement driven accounts. It is lexically non-redundant, in assuming only one lexical entry for *đã*. Given that multifunctionality is ubiquitous in the Vietnamese lexicon (see Duffield 1998, 1999, Phan 2013, Duffield 2014), a Nanosyntax solution prevents massive lexical homophony; at the same time, it is syntactically flexible, in allowing for a single L-tree to match more than one S-tree. Most relevantly of course, it correctly derives the Negation Constraint.

Finally, as noted at the outset, the Negation Constraint is not restricted to Vietnamese. To take one example, Mandarin Chinese *le* is also ambiguous between a temporal and an aspectual reading (Lin 2005), and is incompatible with negation markers *bu* and *meiyou*:

(15) a. *ta qu le faguo.*
3S go LE France
'He went to France.'/'He has been to France.'
b. **ta bu qu le faguo.*
3S NEG go LE France
'He did not go to France.' [Examples from Li 1999: 235]
c. **ta meiyou qu le faguo.*
3S not.have go LE France
'He hasn't been to France.'
[Linda Badan, p.c.]

Hence, a question left for future research is the extent to which Nanosyntactic approach can profitably be extended to Chinese, and other typologically similar languages.

Acknowledgements

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