ASPECTS OF CLAUSE STRUCTURE IN VIETNAMESE

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Kurzbeschreibung der Arbeit

In dieser Arbeit wird die Syntax zweier Satztypen des modernen Vietnamesischen untersucht: des Aussagesatzes und der Entscheidungsfrage. Erstens wird die Distribution temporaler und verbaler Elemente im Aussagesatz erklärt. Die Erklärung ist in Rahmen der minimalistischen Theorie formuliert und beinhaltet einige Annahmen über die Morphosyntax des Vietnamesischen. Von diesen Annahmen ausgehend wird dann eine Analyse für die Entscheidungsfrage gemacht, die ebenfalls mit Begriffen des Minimalismus formuliert wird. Es stellt sich aber heraus, dass diese Analyse in mancher Hinsicht inadäquat ist. Aus diesem Grund wird sie durch sprach- und konstruktions-spezifische Regeln ergänzt. Es wird angenommen, dass diese Regeln historisch entstanden sind und zur Peripherie gehören.

1 Introduction

The goal of this paper is mostly descriptive: to offer analyses for a number of grammatical constructions in modern standard Vietnamese using theoretical concepts and techniques of minimalist syntax.

The focus is on clause structure. Section 2 deals with declaratives. It is shown that many puzzling facts about the distribution of predicate heads can be derived from general UG principles plus morphophonological properties of particular Vietnamese lexical items. As these properties represent values in dimensions along which languages have been known to vary, it is expected that they distinguish Vietnamese from English in the relevant respects. It is evident from the discussion that this expectation is fulfilled.

Section 3 investigates the syntax of polarity questions, a subtype of yes-no questions. In Vietnamese, polarity questions with certain propositional contents cannot be formulated in a simple way. Taking the structure of declaratives arrived at in section 2 as basis, an analysis of polarity questions is given which predicts this fact. The analysis turns out to explain a number of other facts.

There is a problem with the theory of polarity questions proposed in section 3: it overgenerates. There are sentences which it predicts to be possible, but which are perceived by Vietnamese speakers to be deviant. Section 4 deals with this problem. It is suggested that the solution is not to be found in modifying the core grammar account in section 3, but in complementing it with rules of the periphery.

Section 5 is the conclusion.

2   Declarative clauses

This section deals with the structure of declarative clauses in Vietnamese. In 2.1, I present some distibutional facts and make descriptive statements to capture them. In 2.2, I derive these statements from more general principles, thus giving the facts observed in 2.1 a more explanatory account.

2.1   Description

I propose that declarative sentences are headed by T(ense). Between T and the lexical verb, there can be optional auxiliary verbs, each of which projects a VP. I consider three such auxiliaries: the perfect aspect marker *da* and the negative verbs *khong* and *chua*. I also discuss the copula verb *la*, and argue that *da* and *la* must raise overtly to T, while the negative verbs do so only when T is phonologically empty.

2.1.1   Verb raising and 'do-support'

I assume that the clause in Vietnamese is a projection of Tense, i.e. a TP. TP dominates the lexical VP.[1] Between TP and the lexical VP, there can also be auxiliaries which head their own projections. I will consider such auxiliaries to be verbs and call their projections VPs, except when more explicit notation is called for. In the normal case, the subject raises from its base position in [Spec, V] to [Spec, T].[2] Thus the sentence in (1a) has the structure in (1b), assuming that the future marker FUT (*se*) is base generated in T.[3]

(1)   a.   no   se   doc   sach
             he   FUT   read   book
             'he will read books'

       b.
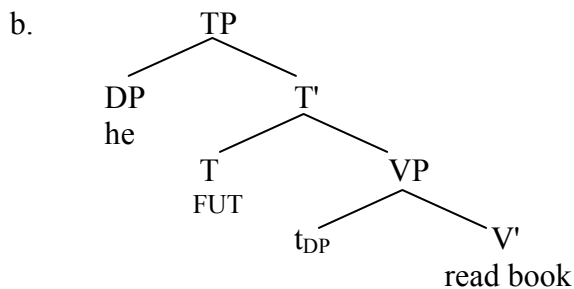
When a sentence is affirmed, i.e. when the truth of its proposition is emphasized, the highest head generally receives phonological stress.[4]

(2)   a.   no   **se**   doc   sach
             he   FUT   read   book

6

      b.   * no   se   **doc**   sach[5]
             he   FUT   read   book
             'he **will** read books'

(3) a.   no   **da**   doc   sach[6]
             he   PERF read   book
      b.   * no   da   **doc**   sach
             he   PERF read   book
             'he **has** read books'

Following standard assumptions, I take the stressed constituent to be associated with the tense specification of the clause, namely T or elements adjoined to T.[7] This would mean that in (3), PERF raises overtly to T, as in (4).

(4)
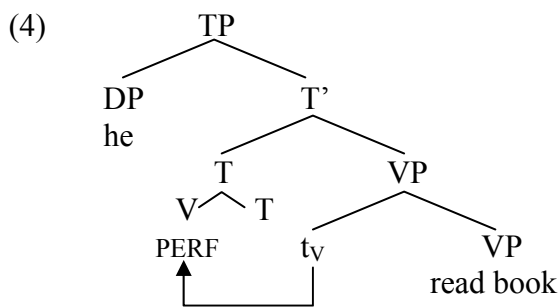
Following the same reasoning, the copula verb must also raise to T overtly, since it is stressed when a copula sentence is affirmed, as (5) shows.

(5)   no   **la**   giao-vien
       he   COP   teacher
       'he **is** a teacher'

However, the facts above are compatible with two other analyses, (6a) and (6b). We will consider and exclude each of these possibilities in turn.

(6)   a.   In affirmative sentences, the leftmost V is stressed
      b.   FUT, PERF, and COP are all base generated in T

(6a) is not correct, since there are cases in which the leftmost V cannot be stressed when the sentence is affirmed, namely when V is a main verb.[8]

(7) * no   **doc**   sach
        he   read   book
        ('he **does** read books')

The intended meaning in (7) has to be expressed by (8).[9]

(8) no **co** doc sach
     he HAVE read book
     'he **does** read books'

This can be explained as follows. In affirmative sentences, a morpheme – call it AF – is adjoined to T. AF is interpreted by the phonology as a suprasegmental affix which results in stress on the element it adjoins to. Suppose that a suprasegmental affix without a segmental host is an illegitimate PF object, then it follows that if there is no segmental material in T at PF, the derivation will crash at this interface.[10] Main verbs cannot raise overtly to T, for reasons to which we come below, so when the sentence is affi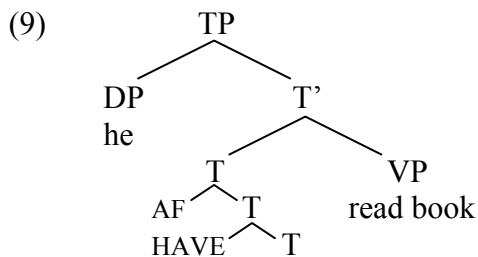rmed, an expletive, in this case the verb *co* ('have'), is inserted in T at PF to carry AF. This is essentially how do-support in English is generally analyzed, and *co* is similar to *do* in that it is also a light verb.[11] This means (8) has the structure in (9).[12]

(9)

```
             TP
            /  \
          DP    T'
          he   /  \
              T    VP
            /  \
          AF    T      read book
         HAVE  /  \
              T
```

So the element that gets phonological stress in affirmative sentences is not generally the left most V, but specifically that overt element which is in T.[13]

(6b) is not correct either. There are syntactic facts which would not be explained easily if we assume that FUT, PERF, and COP are all base generated in T, but which can be given a straightforward account if we take PERF and COP to originate below T and subsequently move to T.[14] As seen in (10-12), PERF and COP are not compatible with the sentence negation *khong*, whereas FUT is.

(10) a. * no   khong da   doc   sach
             he   NEG   PERF read book
      b. * no   da   khong doc   sach[15]
             he   PERF   NEG   read book
             ('he has not read books')
(11) a. [??] no khong la   giao-vien
             he   NEG   COP   teacher
      b. * no   la   khong giao-vien[16]
             he   COP   NEG   teacher
             ('he is not a teacher')
(12) no   se   khong doc   sach
      he   FUT   NEG   read book
      'he will not read book'

If we take FUT, PERF and COP to be all T elements, we would have to explain why one T element, i.e FUT, is compatible with NEG while the other two, i.e. PERF and COP, are not.[17] On the other hand, the facts in (10-12) can be easily accounted for if we assume that NEG is base generated below Tense, and that PERF and COP are base generated below NEG, as in (13).[18]

(13)

```
              TP
           /      \
        FUT       NegP
                 /     \
              NEG       VP
                      /    \
                  PERF      VP
                          /    \
                       COP      XP
```
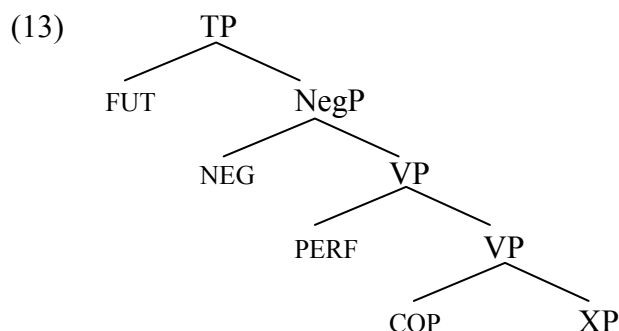
The argument would then be as follows. Suppose that NEG is a head which is relevant for the Head Movement Constraint HMC.[19] Furthermore, let us make the following assumption.

(14)   PERF and COP must raise overtly to T

We can now say that (10a) and (11a) are bad because they violate (14) with PERF and COP in situ, and (10b) and (11b) are bad because they violate the HMC with movement of PERF and COP to T over NEG.[20]

The assumption that PERF and COP must not stay in-situ and must move to T is supported by other distributional facts. First, they are incompatible with FUT.

(15)   a.   * no   se   da   doc   sach
                 he   FUT   PERF   read   book
        b.   * no   da   se   doc   sach
                 he   PERF   FUT   read   book
              ('he will have read books')
(16)   a.   ?? no   se   la   giao-vien[21]
                 he   FUT   COP   teacher
        b.   * no   la   se   giao-vien
                 he   COP   FUT   teacher
              ('he will be a teacher')

Second, PERF and COP are incompatible with one another.

(17)   a.   ?? no   da   la   giao-vien
                 he   PERF   COP   teacher

b.   * no   la   da   giao-vien
         he   COP   PERF   teacher
         ('he has been a teacher')
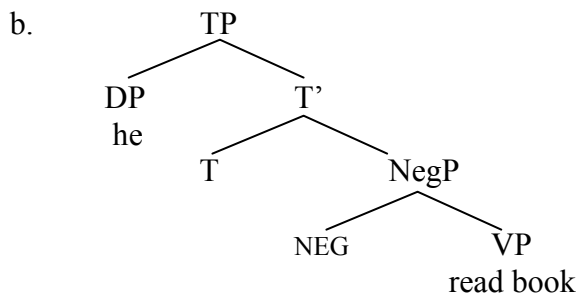
To account for this, we need to assume (18).

(18)   T can host at most one overt element.

The facts in (15-17) are now accounted for. If FUT is base generated in T and PERF/COP must raise overtly to T, we then have FUT, PERF and COP all competing for the same position T. Given (18), it follows that there is no way for any combination of these elements to be possible.[22]

2.1.2   The negative verbs

Having established the position of NEG below Tense as well as above the VPs headed by PERF and COP, we now assume the null hypothesis that in sentences without PERF and COP, NEG is also below Tense and above VP. Thus (19a) has the structure in (19b). I leave open the question whether NEG stays in situ or raises to T for now.

(19)   a.   no   khong   doc   sach
                  he   NEG   read   book
                  'he doesn't read books'

         b.

```
                      TP
                    /    \
                  DP      T'
                  he    /    \
                       T      NegP
                            /      \
                          NEG       VP
                                 read book
```

Let us now turn to the structure of negated perfect sentences. In these sentences, the main predicate is preceded by the word *chua*. As shown in note 15, *chua*, glossed here as NEG_PERF, is similar in meaning to *have not …(yet)* in English.

(20)   no   chua   doc   sach
         he   NEG_PERF   read   book
         'he hasn't read books (yet)'

Two plausible analyses suggest themselves. The first is that NEG has an affixal form, call it NEG_Af. PERF can adjoin to NEG_Af, then the complex [PERF+NEG_Af], which is spelled out as *chua*, raises to T. That way, PERF can move to T without

having to skip over the negation head.[23] In this analysis, the derivation of (20) would look like (21). Let us call this analysis the affix analysis.

(21)
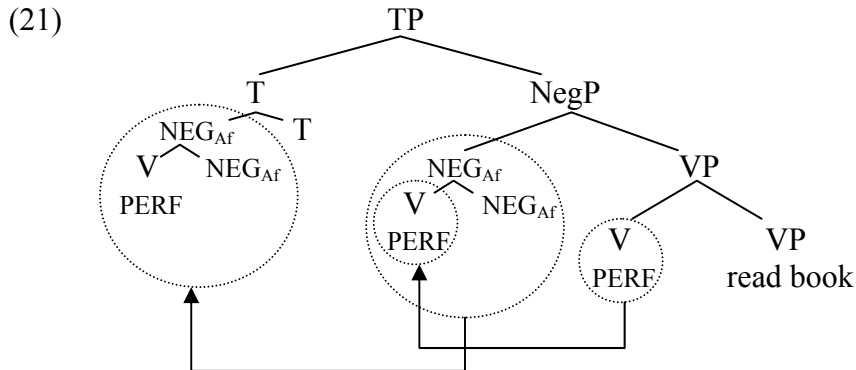
Another possibility is that *chua* is just like *khong*, an independent lexical item. It differs semantically from *khong* in that whereas *khong* has the meaning of *not*, *chua* has the meaning of *have not...yet*. Specifically, suppose sentence *Φ* expresses proposition p, then *khong Φ* means that p is not true and *chua Φ* means that p so far has not been true yet. *Chua*, which we gloss as NEG$_{PERF}$, will then be dominated by TP and select a VP, just like NEG (*khong*). (20) will have the structure in (22). Call this analysis the word analysis.

(22)

There are reasons to adopt the word analysis. First, *chua* does not morphologically resemble PERF (*da*) at all. The assumption that *chua* is derived from of PERF, i.e. *chua* = [PERF+NEG$_{Af}$], is therefore implausible. Second, w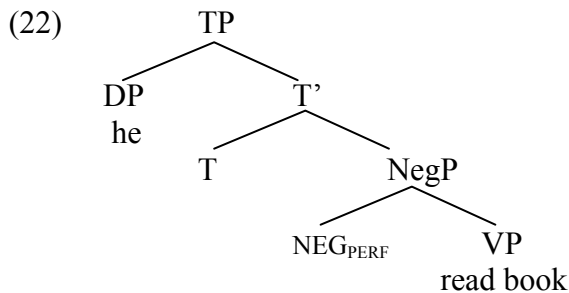hereas the affix analysis explains the non-existence of [COP+NEG$_{Af}$] and [FUT+NEG$_{Af}$], i.e. forms that correspond to *isn't* and *won't* in English, by assuming an irregularity either in the syntax, e.g. COP and FUT cannot adjoin to NEG$_{Af}$, or in the morphology, e.g. [COP+NEG$_{Af}$] and [FUT+NEG$_{Aff}$] cannot be turned into words, the word analysis does this by locating the irregularity in the lexicon. It says simply that there is no lexical items NEG$_{FUT}$ and NEG$_{COP}$, whose meanings correspond to those of *isn't* and *won't*, respectively. Standard assumptions about the structure of the linguistic system would prefer the word analysis.[24]

But the conclusive evidence in favor of the word analysis is the following fact. If the affix analysis is correct, we predict that *chua* will not be able to combine with

an overt tense morpheme such as FUT (*se*). The reason is that according to this analysis, *chua* is in T, and T cannot host both *se* and *chua*, according to (18). This prediction is wrong, as (23) is both perfectly grammatical and intelligible.

(23)　no　　se　　chua　doc　　sach
　　　　he　　FUT　CHUA　read　book
　　　　'he will not have read books yet'

On the other hand, the word analysis predicts precisely that (23) is grammatical. NEG$_{PERF}$ is generated below T and there is no reason for it not to be incompatible with T = FUT (*se*). (23) should have the same status as (12), which it does.

We conclude that *chua* is not the result of morphological merger of NEG and PERF but an independent lexical item which enters the derivation as an atomic syntactic object. The question now is whether NEG and NEG$_{PERF}$ occupy one and the same position in the clause. This is plausible, since both of them are sentential negation. Moreover, NEG (*khong*) and NEG$_{PERF}$ (*chua*) are incompatible with each other.

(24)　a.　* no　　khong　chua　　　　doc　　sach
　　　　　　　he　　NEG　　NEG$_{PERF}$　　　read　　book
　　　　b.　* no　　chua　　　　khong　doc　　sach
　　　　　　　he　　NEG$_{PERF}$　　　NEG　　read　　book

We will therefore assume that both NEG and NEG$_{PERF}$ occupy the head of NegP which is below TP and above VP/VPs. We can say that they are two syntactic heads with different meanings but the same categorial feature. For this reason, what is said below pertaining to the categorial feature of NEG will be assumed to hold for NEG$_{PERF}$ also. I will use NEG to refer to both NEG and NEG$_{PERF}$ when there is no need to make a distinction.[25]

What is the categorial feature of NEG? It seems that it is verbal, i.e. [+V]. More precisely, it is a modal verb which takes a VP complement. This is evidenced by the fact that NEG must precede a predicate and cannot precede a noun. For example, if the answer to 'what does he read' is 'not Darwin', it can only be formulated in Vietnamese as (25c), not (25b).

(25)　a.　　no　　doc　　gi
　　　　　　　he　　read　　what
　　　　　　　'what does he read'
　　　　b.　* khong　Darwin
　　　　　　　NEG　　Darwin
　　　　c.　　khong　doc　　Darwin[26]
　　　　　　　NEG　　read　　Darwin

This is the difference between NEG in Vietnamese (*khong*) and *not* in English. Whereas the former is a modal verb which takes a VP complement, the latter is an

adverb which can attach to any category. Since the syntactic position of modal verbs in the clause is fixed whereas adverbs are generally able to attach to various categories, the prediction will be that *khong*, which is generated right below T, must precede all predicates and thus always have sentential syntactic scope, while *not* can precede any constituent over which it has scope. This prediction is borne out by facts. In (26), to express narrow semantic scope of NEG over *doc* ('read'), NEG must still take syntactic sentential scope, with semantic scope over *doc* effected by phonological stress on *doc*. The structure in which the syntactic scope of NEG parallels its narrow semantic scope is ill-formed, no matter where phonological stress goes.

(26) a.   no   khong phai **doc**   ma   phai   **viet** sach
             he   NEG   must read   but   must   write   book
             'he must not **read**, but **write** books'
       b. * no   phai   khong **doc**   ma   **viet**   sach
             he   must   NEG   read   but   write   book
             ("he must not **read**, but **write** books")

This is not so with *not*, as seen in (27).[27]

(27)   he must not **read**, but **write** books
         'he is not required to **read** books, he is required to **write** them'

We therefore assume that the head of NegP in Vietnamese is a modal verb. Consequently, NegP in this language is a VP, immediately dominated by T' and subcategorizing for another VP.[28] Thus the string (28a) has the structure (28b).

(28) a.   no   se   khong doc   sach
             he   FUT   NEG   read   book
             'he will not read books'

       b.
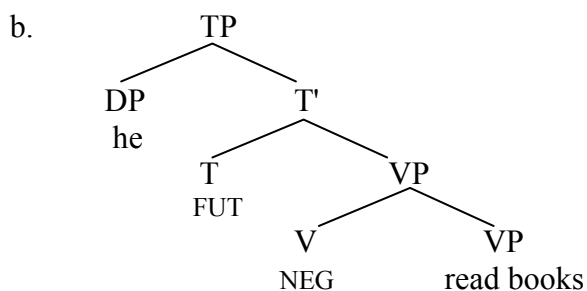
2.1.3   Past Tense

More should be said about Tense. So far we have seen only examples where it is overtly realized as *se*, which is the future marker. It seems that there is another overt T head which is used for reference to past events, call it PAST. While this

fact is not surprising, what is potentially confusing is that PAST is homonymous with PERF, both pronounced as [da].

There are good reasons to assume a morpheme PAST which is overtly realized as [da], since that would clarify a number of puzzling facts in Vietnamese. First, as pointed out in note 15, the string in (10b), repeated here as (29), is grammatical with a preterite reading. Furthermore, it is grammatical *only* with a preterite reading.[29]

(29) no   da   khong doc   sach
      he   DA   NEG   read   book
      'he did not read books' / *'he has not read books'

Second, the string (30) also allows a preterite reading in addition to a perfect one, as evidenced by the fact that time adverbials such as 'yesterday' can precede it.[30]

(30) a.   no   da   doc   sach
            he   DA   read   book
            'he read books'
      b.   hom-qua   no   da   doc   sach
            yesterday   he   DA   read   book
            'yesterday he read books'

Third, to express the meaning 'he has read books', i.e. the perfect meaning, speakers of Vietnamese almost always use the adverb *roi*, which means 'already'.

(31) no   da   doc   sach   roi
      he   PERF   read   book   already
      'he has read books already'

If we assume that there is only one lexical entry PERF with the phonetic matrix [da], we would have no easy way to explain the facts in (32).

(32) a.   perfect sentences allow preterite reading
      b.   PERF can sometimes move to T over NEG, violating HMC
      c.   when PERF moves to T over NEG, preterite reading is forced
      d.   speakers of Vietnamese prefer redundancy in perfect sentences[31]

On the other hand, if we posit that there is another lexical item PAST which has the same phonetic matrix as PERF but is base generated in T, we have a straightforward answer to all the facts above. PAST can precede NEG because it is base generated above NEG.[32] It gives the sentence a preterite meaning by virtue of its semantics. And speakers use the adverb *roi* ('already') in perfect sentences to avoid ambiguity and facilitate communication.[33]

2.1.4 Neutral Tense

We have not said anything about the content of T in sentences without FUT or PAST. Let us assume that there is another morpheme, call it ARB (suggesting 'arbitrary'), which is phonologically empty. Basically, sentences headed by T = ARB are unspecified for Tense, or tense-neutral. Thus a sentence such as (33) is semantically well-formed in combination with *hom-qua* ('yesterday'), *bay-gio* ('now') or *mai* ('tomorrow').

(33) a.   no   doc   sach
             he   read   book

      b.

```
            TP
          /    \
        DP      T'
        he     /  \
              T    VP
             ARB  read book
```
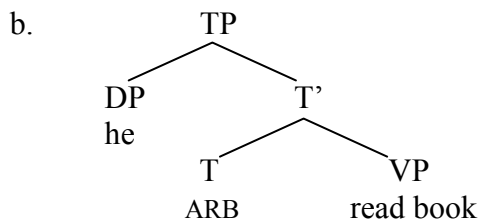
Given the constraint in (18) which prevents T from hosting more than one overt element, and given that COP and PERF must raise overtly to T, it follows that T in sentences with COP or PERF is always ARB, as in (34) and (35).

(34) a.   no   la   giao-vien
             he   COP   teacher

      b.

```
               TP
             /    \
           DP      T'
           he     /  \
                 T    VP
                / \   /  \
               V   T  V    DP
              COP ARB tCOP teacher
```

(35) a.   no   da   doc   sach
             he   PERF   read   book

b.

```
                        TP
                 ┌──────┴──────┐
                DP            T'
                he      ┌──────┴──────┐
                        T            VP
                     ┌──┴──┐    ┌─────┴─────┐
                     V    T     V          DP
                   PERF  ARB         teacher
                          tPERF
```
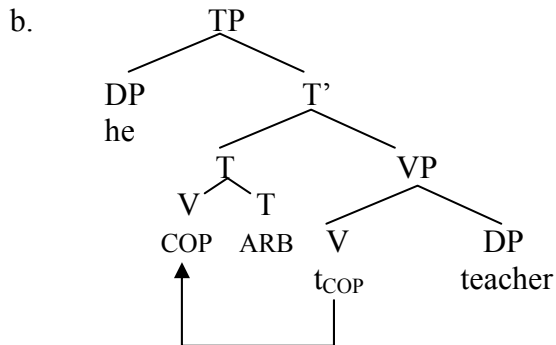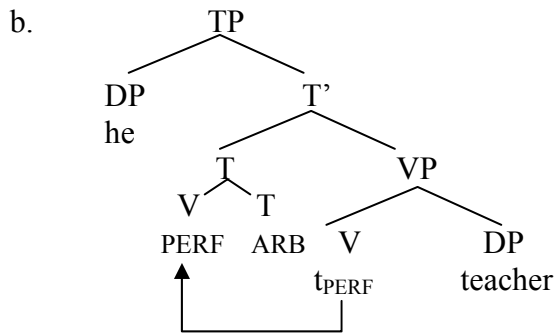
There is evidence that NEG also raises to T when T is ARB. Above, we saw that the expletive verb *co* ('have') must be inserted in T to carry the morpheme AF in affirmative sentences when T is phonologically empty. If NEG stays in situ, we predict that *co* will be inserted in T when the truth of the sentence containing NEG is emphasized. This prediction is false.

(36) $^{??}$no   *co*   khong doc   sach
        he   HAVE   NEG   read   book

Instead, there is no expletive verb and NEG itself is the element which receives phonological stress.[34]

(37)   no   *khong* doc   sach
       he   NEG   read   book

So we will assume for the following discussion that NEG raises to T when T is phonologically empty, i.e. when T = ARB, as in (38).[35]

(38)   a.   no   khong doc   sach
                he   NEG   read   book
                'he does not read books'

b.

```
                        TP
                 ┌──────┴──────┐
                DP            T'
                he      ┌──────┴──────┐
                        T            VP
                     ┌──┴──┐    ┌─────┴─────┐
                     V    T     V          VP
                    NEG  ARB         read books
                          tNEG
```

16
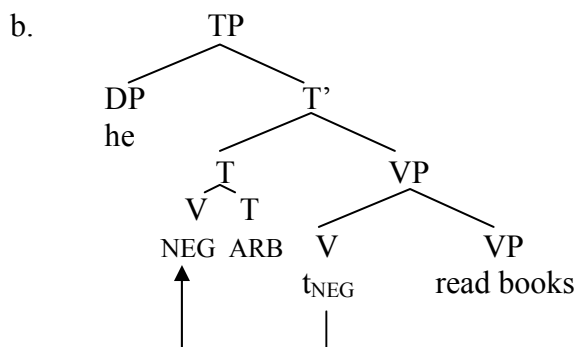
2.1.5 Summary

The analysis of the syntax of Vietnamese declarative clauses presented in this section can be summarized as follows.

(39) a.   hierarchy of projection: tense 〉 (NEG) 〉 (PERF) 〉 main predicate
   b.   main verbs must stay in situ
   c.   COP and PERF must raise overtly to T
   d.   NEG / NEG$_{PERF}$ raise overtly to T when T is ARB
   e.   T can host at most one overt element

Relevant lexical items (LIs) introduced include those in (40). Each LI belongs to a syntactic category, in this case [+T] or [+V]. Each LI has a meaning, represented by its gloss, and a sound, represented by its orthographical form in square brackets.

(40) a.   [+T] elements
     i.   {ARB, [∅]}
     ii.   {PAST, [da]}
     iii.   {FUT, [se]}
   b.   [+V] elements
     i.   {NEG, [khong]}
     ii.   {NEG$_{PERF}$, [chua]}
     iii.   {PERF, [da]}
     iv.   {COP, [la]}

2.2   Analysis

In this section, the facts in 2.1 are given an explanation. Specifically, it is shown that they can be made to follow from general grammatical principles plus language particular facts about Vietnamese, especially morpho-phonological properties of its lexical items.

2.2.1   Basic assumptions

I will make the following language particular assumptions about Vietnamese.

(41) a.   T = ARB (∅) is a PF affix
   c.   main verbs enter the derivation without tense
   d.   NEG/NEG$_{PERF}$ enter the derivation with or without tense
   e.   PERF/COP enter the derivation with tense[36]

The other assumptions we need to make in order to account for the facts in 2.1 are standard. In particular, I assume that the computational system obeys Economy.

Specifically, movement is driven by interface conditions, i.e. it takes place so that the derivation does not crash at LF/PF. In other word, it is constrained by the principle Last Resort of Economy. Furthermore, I take Lasnik's Enlightened Self Interest (ESI), understood as in (42), to be the proper interpretation of Last Resort.[37]

(42)   Movement of α to β must be for the satisfaction of formal requirements of
        α or β

Following Chomsky (1995), I assume Move α to be Move F. Thus α and β in (42) range over formal features. Overt movement, according to this view, is the result of F pied-piping along the containing category, which includes phonological features. Whether this sort of pied-piping takes place, and how much is pied-piped, is determined (mostly) by properties of the PF component.

A derivation crashes at an interface when it terminates with a representation containing objects that cannot get an interpretation, i.e. that are 'illegitimate', at this interface.[38] What are illegitimate PF/LF objects is an empirical question. For this discussion, I will make the following assumptions.

(43)   a.   stranded affixes are illegitimate at PF[39]
        b.   tense features on verbs are illegitimate at LF[40]

This means affixes must be affixed and tense features on verbs must be deleted before the derivation reaches the PF and LF component, respectively. Deletion of an uninterpretable feature F results from F entering the checking domain of a head which also carries F. We assume the definition of 'checking domain' given in Chomsky (1993), according to which X is in the checking domain of head Y iff X is adjoined to Y, a specifier, or an adjunct of YP.[41]

There are basically two ways for an affix to get together with a word, namely by adjunction or by morphological merger. These are quite different operations. Adjunction is an instance of Move α, a syntactic operation. Its implementation requires the presence and checking of uninterpretable features. Morphological merger, on the ther hand, takes place at PF. Its application requires linear adjacency, and there is no feature checking involved.[42]
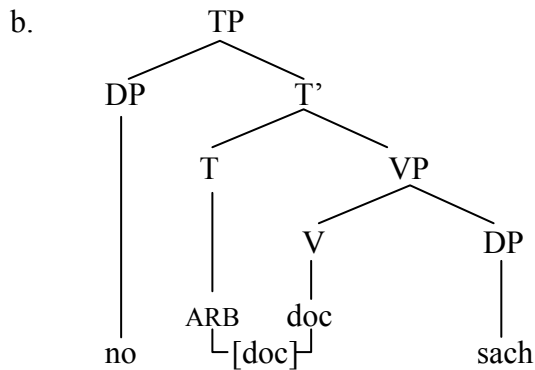
Now we are ready to move on to explaining the distributional patterns of verbal heads in Vietnamese clauses seen in 2.1.

2.2.2   PF merger

Main verbs stay in situ because there are no uninterpretable features to drive movement in this case. The categorial feature of V as well as the tense features of T are both interpretable.[43] The question arises of how T = ARB, which is an affix,

gets attached. The answer I suggest here is that in the case of main verbs, T and V get together through morphological merger. Thus in (44), ARB and *read* merges in the PF component, forming one word, which is a legitimate PF object.[44]

(44)　a.　　no　　doc　　sach
　　　　　　he　　read　　book

　　b.

```
                    TP
                  /    \
               DP       T'
                |      /   \
                |     T      VP
                |     |     /  \
                |     |    V     DP
                |     |    |      |
               no  ARB  doc     sach
                     └[doc]┘
```

2.2.3　Economy and modularity

Assuming that PERF and COP always enter the derivation as tensed verbs, their uninterpretable tense feature, call it [+uT], must raise and adjoin to T to check against the interpretable tense feature of T, call it [+T]. When T = ARB, which is an affix, [+uT] pied-pipes along the phonological features of PERF/COP to support this affix, rescuing the derivation from PF crash. The result is overt V-to-T movement.[45]

Suppose, however, that T is not an affix but a freestanding lexical item, say PAST (*da*), and T is merged with a VP headed by COP (*la*). Given that COP carries [+uT], there are two ways for the derivation to converge.

(45)　a.　　[+uT] moves to T with pied-piping
　　　b.　　[+uT] moves to T without pied-piping

Option (45a) is shown in (46a). The string generated by this derivation is (46b).[46]

(46)　a.

```
                          TP
                        /    \
                     DP        T
                     he      /   \
                           T       VP
                         /   \    /  \
                        V     T  V     XP
                    COP[+uT] PAST[+T] tCOP  teacher
```

19
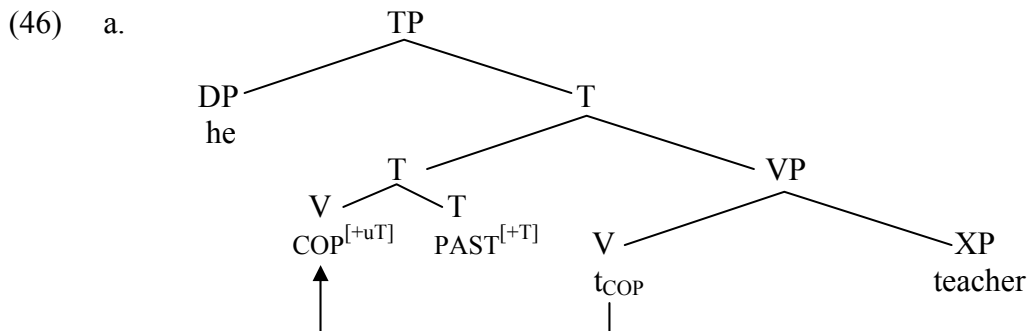
b. * no   la   da   giao-vien
       he   COP   PAST   teacher
       ('he was a teacher')

The ungrammaticality of (46b) suggests that option (45a) has to be ruled out. This can be done rather simply: apparently, (45a) is uneconomical. T is an independent word, and as such it needs no phonological support. Pied-piping of phonological features in (46a) thus violates Last Resort, since the derivation converges without this operation, i.e. this operation does not satisfy any formal requirement.[47]

Economy, understood this way, enables us to derive generalization (39e), i.e. (18), repeated as (47).

(47)   T can host at most one overt element

The argument is as follows. Vietnamese is a morphologically isolating language. Let us assume a language L is isolating to the extent that (48) is true of L.

(48)   every overt morpheme is a word

Let us say that words, distributionally, are "minimum free forms" in roughly the sense of Bloomfield (1926). Translated into current terms, they are freestanding lexical items with no need for phonological support. As Vietnamese is very consistently isolating, all of its overt morphemes are words.[48] This entails that affixes in Vietnamese are not overt, which seems true. We have come across one affix, ARB, and it turns out to be a null affix. If Last Resort dictates that the T head can have other elements attached to it only if it is an affix, and affixal T is null as a consequence of general properties of Vietnamese morphology, then there can never be more than one overt morpheme occupying T in Vietnamese.

We have ruled out (45a) by Last Resort. Let us consider (45b). This possibility is represented in (49a). The string generated is (49b).

(49)   a.
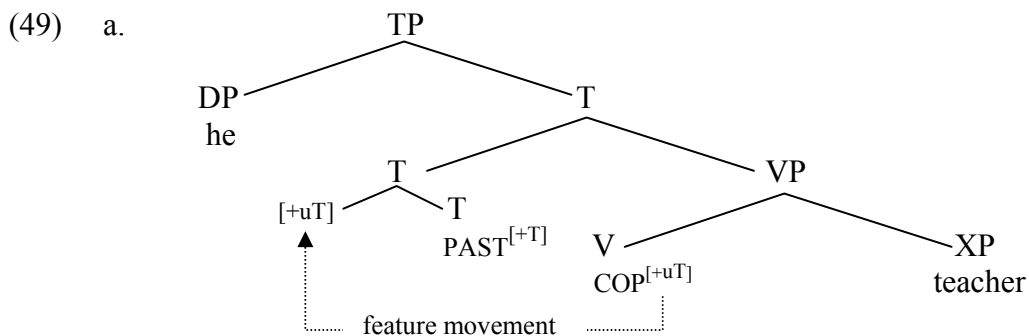
b. * no   da   la   giao-vien
       he   PAST   COP   teacher
       ('he was a teacher')

20

But (49b) is ungrammatical. This means we have to rule out derivation (49a), i.e option (45b), as well. Intuitively, the feature movement operation in (49a) also violates some sort of Economy, in the sense that it contributes nothing to the interpretation of the sentence. However, we cannot say that (49a) violates Last Resort. Last Resort prohibits an operation if it is not needed for convergence. Feature movement in (49a), however, **is** needed for convergence. If it did not apply, [+uT] on COP will not be checked and the derivation will crash at LF.

Let us assume that Economy not only contrains the application of rules within a derivation, as in the case of Last Resort, but also chooses among different derivations. This assumption is generally expressed in terms of the following statements.[49]

(50)   given two convergent derivations D and D', which belong to the same reference set, D blocks D' if D is more economical than D'

(51)   D is more economical than D' iff (a) or (b) holds:[50]
       a.   D has fewer steps
       b.   D has shorter steps

Call (50) the principle of Least Effort. The question now is how to define the notion of "reference set." For our immediate purpose, let us adopt the definition of Nakamura (1998), given below.

(52)   *reference set*
       a set of derivations that arise from non-distinct numerations

Assuming a numeration to be a set of pairs (l, n) where l is a lexical item and n its index, i.e. the number of times it is selected, the notion of non-distinctness is defined as follows.[51]

(53)   *non-distinctness*
       numerations N and N' are non-distinct iff there is a one-to-one correspondence C between their members, such that if $(l, n) \in$ N and $(l', n') \in$ N' and (l, n) corresponds to (l', n') in C then l and l' have the same LF-interpretable features and $n = n'$

As this definition takes only the LF-interpretable features as the basis for comparison, it captures our intuition about the uneconomical character of (49a), namely, that it contains an interpretatively vacuous operation.[52]

Specifically, given this definition of reference set, we see that there is another derivation that competes with (49a), namely one in which COP is not assigned the uninterpretable tense feature [+uT]. There will be no V-to-T movement in this derivation, whether overt or covert. This derivation is shown in (54).

(54)

```
                        TP
             ┌───────────┴───────────┐
           DP                         T
           he              ┌──────────┴──────────┐
                           T                      VP
                        PAST[+T]          ┌───────┴───────┐
                                          V               XP
                                         COP            teacher
```
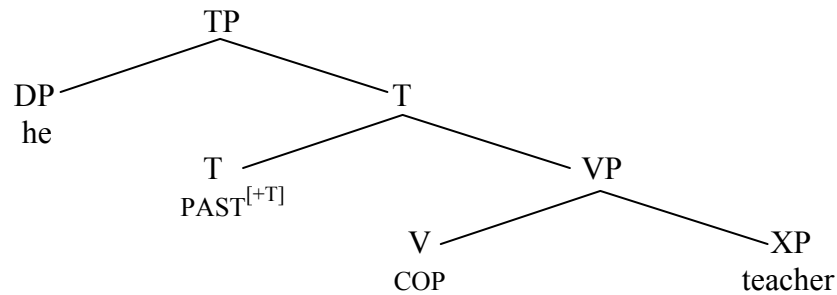
(54) will block (49a), since it has fewer steps. However, there is a problem. (54) produces the same string as (49a), namely (49b), and (49b) is ungrammatical. There are two possibilities of accounting for this fact, namely (a) assuming that there is something wrong with (54), or (b) assuming that (49b) cannot be understood as being derived from (54). As it is not clear how to proceed with (a), I will opt for (b), which turns out to follow rather naturally from our assumptions.

Recall that COP always enters the derivation as tensed verb. Suppose that this is an idiosyncratic property of COP, specified in the lexical entry of this verb. It follows that the lexical resource for derivation (54) is not available in Vietnamese. Specifically, no numeration can be constructed to input (54), given that the numeration is constructed from material delivered to the computational system by the lexicon. (54), in other word, is an "unrealistic" derivation.[53]

Now let us say that Economy is oblivious to lexical information. It only cares about how the computational system works. In this particular case, Economy does not "know" that COP is defective in the sense that it cannot enter the derivation as bare verb. From its point of view, (54) is a possible candidate, just as (49a). As (54) involves fewer steps than (49a), the latter is ruled out. The question of which derivation is "realistic" with respect to what can be offered by the lexicon of the language is irrelevant to the working of Economy. This is one of the cases where the modularity of the language faculty leads to ineffability.[54]

We have discussed just COP and PAST. However, it is evident that what is said can be generalized to other cases, namely PERF and FUT. The conclusion is that no tensed verbs are possible in sentences with non-affixal T, and also that in TPs headed by an affixal T, there can be at most one tensed verb, since one V is enough to support T. It follows that COP and PERF can be combined neither with FUT, nor with PAST, nor with each other. This prediction agrees with the distributional facts in 2.1.

2.2.5   The Principle of Paninian Blocking

We now turn to the negative verbs *khong* and *chua*, which I will refer to as NEG. (41d) says that NEG can be tensed or untensed when entering the derivation. There is no question about the cases where T is a word, i.e. FUT or PAST. In these cases,

Economy requires that NEG be untensed. We will assume that this is indeed the case. The structure of (55a) is thus (55b).

(55) a.   no   se   khong doc   sach
              he   FUT   NEG   read   book
              'he will not read books'

      b.

```
                    TP
                  /    \
                DP      T'
                he    /    \
                     T      VP
                   FUT[+T] /    \
                          V      VP
                        NEG    read book
```
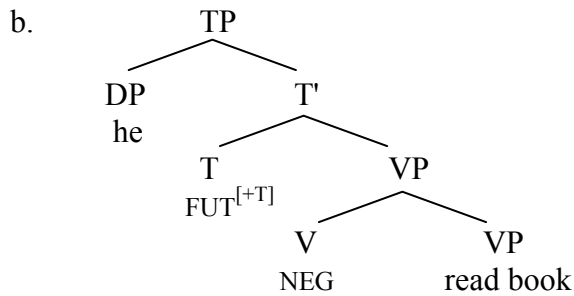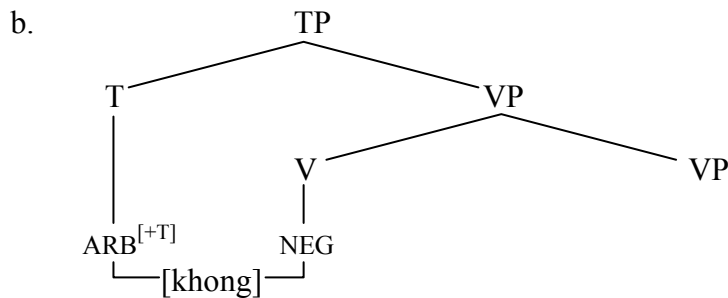
Let us now consider the case where T is ARB. In this case, T is an affix. As said above, an affix must be attached, either by syntactic adjunction or PF merger. Assuming these operations are equally costly, we expect two possibilities.

(56) a.   NEG is assigned [+uT], which pied-pipes to support ARB
      b.   NEG enters the derivation untensed and merges with ARB at PF

Given sentence (57), (56a) is represented in (58a), (56b) in (58b), ignoring irrelevant details.

(57) no   khong doc   sach
      he   NEG   read   book

(58) a.

```
                              TP
                          /        \
                         T          VP
                       /   \       /    \
                NEG[+uT]  ARB[+T]  V      VP
                                 t_NEG
```

      b.

```
                    TP
                  /     \
                 T       VP
                 |      /   \
                 |     V     VP
                 |     |
              ARB[+T]  NEG
                 └─[khong]─┘
```
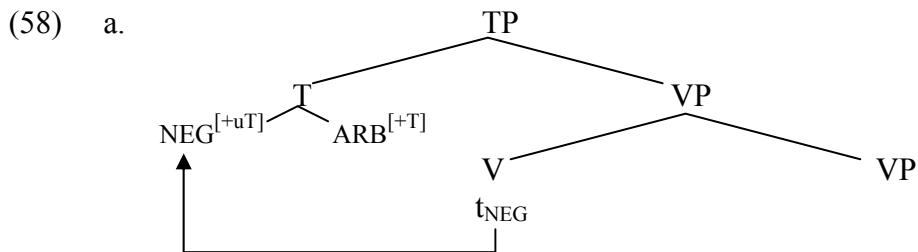
But from what we have seen, i.e. from (36) and (37), it looks like option (56b) is not available in Vietnamese. NEG *must* raise to T when T = ARB. It *cannot* stay in situ when T is phonologically empty (see (39d)). The generalization is something like (59), where "equally good" means "convergent and equally economical."

(59)   given two equally good derivations D and D' of a negated sentence, both belonging to the same reference set, D is preferred to D' if D contains a tensed NEG and D' contains an untensed NEG

As (59) looks very ad hoc, it would be desirable to derive it from some general principle. In fact, a case can be made that it is exemplary of a more general phenomenon, of which another instance is (60).

(60)   a.   * he does not be a teacher
         b.   he is not a teacher

Lasnik (1981) provides the principle to capture these observations, the so-called Elsewhere Condition. I quote it here in full.[55]

(61)   *Elsewhere Condition*
         If transformations T and T' are both applicable to a phrase marker P, and if the set of structures meeting the structural description [SD] of T is a proper subset of the set of structures meeting the structural description of T', then T' may not apply. (Lasnik (1981: 169)).

We can illustrate (61) informally as follows. Applied to the case of English verbs, which include the set of the auxiliaries *have* and *be* as a proper subset, the Elsewhere Condition dictates that because do-support applies to all verbs but V-to-T raising applies only to auxiliary verbs, do-support may not apply to auxiliaries. In the case of Vietnamese negative verbs, (61) means that because PF merger applies to all non-defective verbs, whereas V-to-T raising applies to only a subset of these verbs, namely the set of negative verbs, PF merger will not apply to the set of negative verbs, but will only apply 'elsewhere', i.e. to the complement of this set in the set of non-defective verbs.

Let us try to reformulate (61) in the framework we adopt here.[56] Intuitively, an SD defines a proper subset of another SD' if SD contains more 'specifications' than SD', i.e. if the specifications in SD' make up a proper subset of those in SD. Translate 'specifications' into 'features', let us replace (61) with (62), and call (62) the Principle of Paninian Blocking (PPB).

(62)   *Principle of Paninian Blocking*
         Given two equally good derivations D and D' belonging to the same reference set, D blocks D' if the features in the numeration of D' constitute a proper subset of the features of the numeration of D

The PPB will rule out (58b) in favor of (58a), since the numeration of the latter contains at least one more feature than that of the former: the tense feature of NEG.
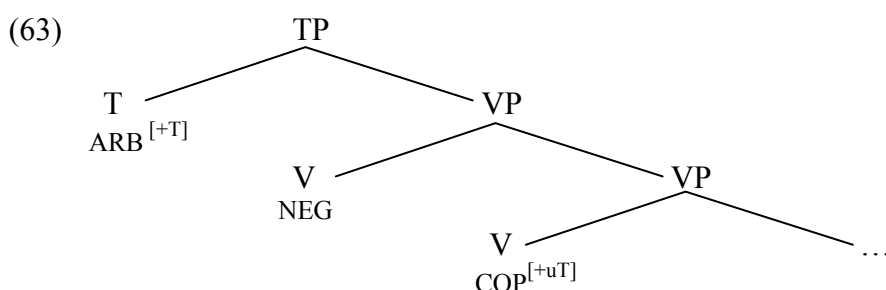
Testing the empirical power of the PPB would go beyond the scope of this paper. Here we limit our attention to the English data in (60). The PPB predicts (60), provided we assume that the expletive verb *does* is not present in the numeration of (60). Otherwise, (60a) would block (60b) since although the verb *is* in (60b) has more features than the verb *be* in (60a), in (60a) there is the verb *does*, which is not there in (60b). Thus we assume that do-support is a purely PF operation, applying to "rescue" the derivation from PF crash.[57]

Questions arise about the place of the PPB in the grammar. It is similar to the economy principles in the sense that it applies only to convergent derivations. However, it deviates from such economy principles as Last Resort and Least Effort in that it favors more over less, which is counter to the spirit of Economy. Furthermore, if we took the PPB to be part of the definition of Economy, we would have to say that it is ranked below Last Resort and Least Effort, i.e. its candidate set is the output of these latter constraints. In other words, if a derivation D contains a convergence-superfluous step, or has more steps than a competitor D' in the reference set, then the PPB has nothing to say. D is ruled out regardless of whether its numeration has more or less features than the numeration of D'. But ranking in this sense has never been implied by the definition of Economy.

I will assume that the PPB follows from some general cognitive principle which is also at work in other domains than syntax, and leave this issue to further research.[58]

2.2.6   Intervention

At this point, there is an interesting question. Suppose we select for the numeration an untensed NEG, a COP, and a T = ARB. At some point, the syntactic object (63) will have been constructed.[59]

(63)

```
              TP
      _____
     T                    VP
  ARB[+T]          _____
               V                      VP
             NEG             _____
                          V                    …
                       COP[+uT]
```

It seems nothing prevents overt movement of COP to T, as in (64a), yielding the ungrammatical string (11b), repeated here as (64b).

(64) a.

```
                              TP
                 _____/    _____
                T                            VP
        COP[+uT]  ARB[+T]            ____/    \____
          ↑                        V              VP
          |                       NEG        ___/   \___
          |                                 V           …
          |                               t_COP
          |_____|
```
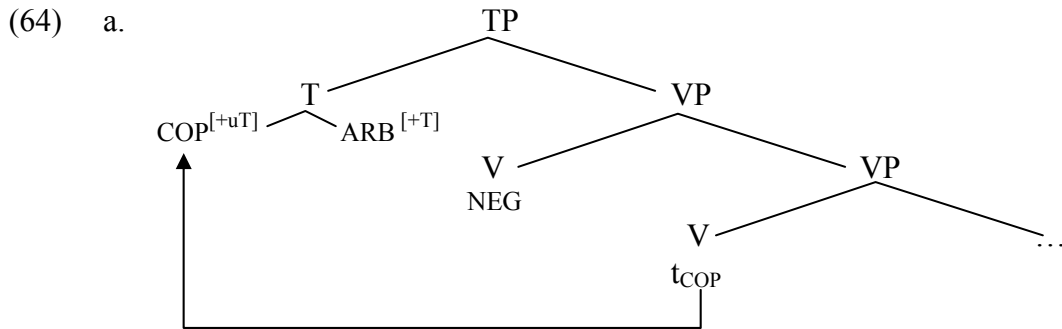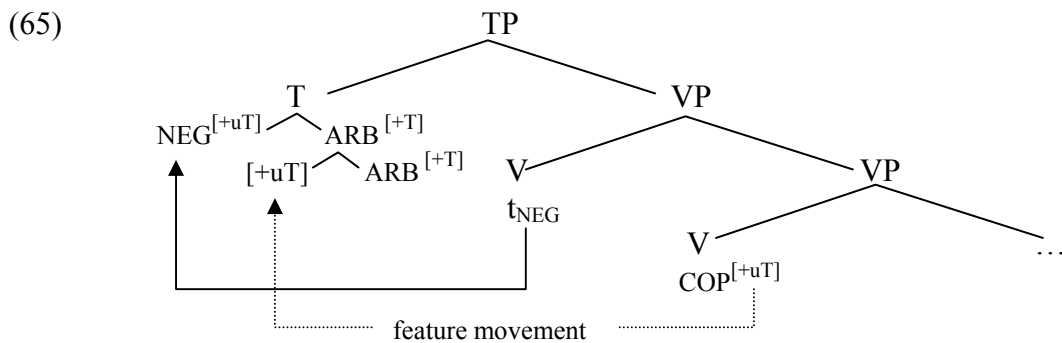
b. * no   la   khong giao-vien
       he   COP   NEG   teacher

The problem now is how to rule out (64). The solution is quite simple, and readily available. But before coming to it, I will first reject three possibilities.

The first possibility is to use the PPB. It does seems that the lack of tense features on NEG is the defect of (64a), and the PPB favors more features over less. But in fact, the PPB does not rule out (64a). Specifically, it cannot rule out (64a) in favor of a derivation whose numeration contains a tensed NEG, i.e. (65).

(65)

```
                                    TP
                       _____/    _____
                      T                            VP
          NEG[+uT]      ARB[+T]            ____/    \____
        [+uT]   ARB[+T]                   V              VP
          ↑       t_NEG                           ___/   \___
          |         |                            V           …
          |         |                         COP[+uT]
          |_____|
    ............ feature movement  ........................
```

The reason is that (65) is excluded from the candidate set of the PPB by Economy: this derivation has more steps than the convergent (64a), so it violates Least Effort. Therefore, we reject this possibility.

The second possibility is to say that (64a) violates the Head Movement Constraint (HMC). In fact, that is what we do in 2.1. But while this option is quite straightforward, it becomes problematic given the version of minimalist theory we have adopted. In the following, I turn to showing why this is the case.

The HMC is a condition on head movement. Basically, it states that head movement cannot skip intervening heads. But in the theory so far assumed, head movement is not a primitive notion. There is only feature movement, i.e. Move α

is Move F. Whether, and how much, F pied-pipes is determined by output (PF) conditions. Thus there is no natural way to state the HMC in this theory.

Furthermore, Move F has been defined in such a way as to preempt the empirical effects of the Relativized Minimality-based locality conditions, which subsume the HMC. As such, it renders them redundant, thus dispensable as independent principles. Specifically, Move F is defined as follows.[60]

(66)   α can raise to target K if there is no legitimate operation Move β targeting K, where β is closer to K

A 'legitimate operation' is defined as one satisfying (67).

(67)   Move F raises F to target K only if F enters into a checking relation with a sublabel of K[61]

This definition has consequences that bear upon the empirical validity of such principle as the HMC. For example, it follows from this definition that the existence of intervention effects is contingent upon the feature constitution of the relevant elements, not their phrase structural status. Consider for example the configuration (68), in which X, Y, Z are heads and Y has no features to be checked by X.

(68)

$$XP$$

$$X^{[+F]} \quad YP$$

$$Y \quad ZP$$

$$Z^{[+F]} \quad \ldots$$
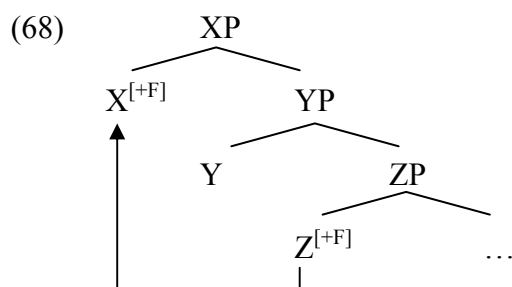
There is nothing in the definition of Move F that prevents movement from Z to X, since this movement is the shortest legitimate one. On the other hand, the HMC would forbid this movement. This means the HMC is not totally incorporated into the definition of Move F. Thus Chomsky (1995: 307) says: "Can the HMC fall within the framework just outlined? That seems doubtful […] There is nothing to prevent α from skipping some head γ that offers no features to be checked."

Is there evidence in favor of one or the other? The answer seems positive. The empirical difference between the HMC and Move F can be seen most clearly in the case of English negation. Since the negation head *not* is an adverbial head, it has no tense features to be checked by T. The HMC predicts that movement of tensed V to T cannot skip *not*, whereas according to the definition of Move F, it can. Evidence decides in favor of Move F: V **can** skip negation, as seen in (69).[62]

(69) a.   John is not a teacher

    b.
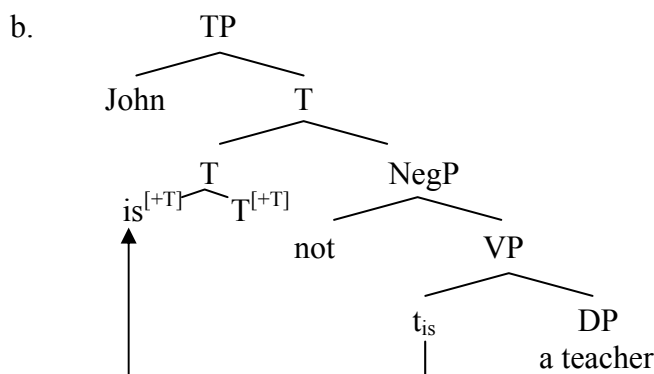
This suggests that the HMC is at best a descriptive artifact, and as such it should not feature in grammatical explanation.[63] Specifically, it shoud not be used to rule out (64a). Therefore, we reject the second possibility.
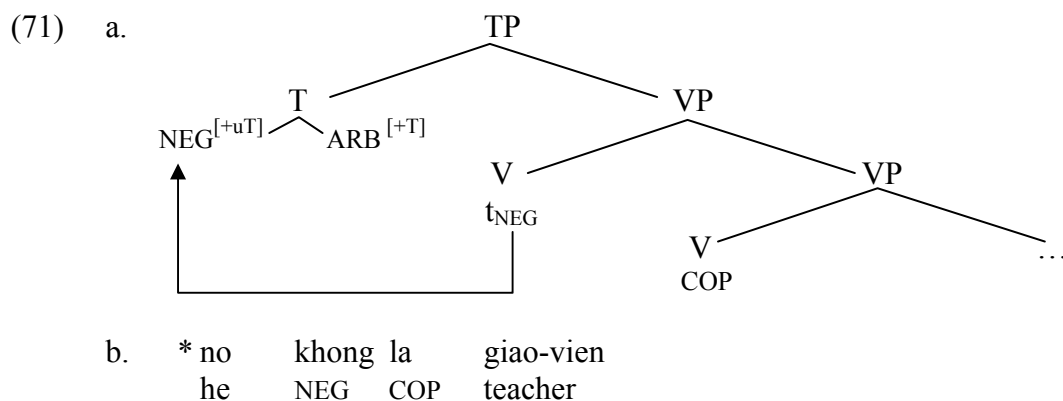
The third possibility is to use the replacement of the HMC, namely the definition of Move F, to rule out (64a). But it is immediately clear that this option fails too. According to Move F, (64a) should be perfectly grammatical. It involves the shortest legitimate Move, since NEG has no feature to be checked by T. Therefore, we reject this possibility also.

To summarize, the situation is the following. Both (64) and (69) are cases ruled out by the HMC and ruled in by Move F. As (69) is grammatical, it constitutes evidence for Move F. As (64) is ungrammatical, it constitutes evidence for the HMC.[64] But we have seen that the HMC and Move F cannot both be right, if the theory is to be kept free from unnatural stipulations.

The solution to this problem lies in the recognition of the fact that (64) and (69) are not quite parallel. The intervener in (69) is *not*, a head that cannot bear tense under any circumstance, given properties of English. The intervener in (64), on the other hand, is a verb, which in principle can be assigned tense features. Once this crucial difference is recognized, the reason for the deviance of (64) is immediately seen, given Least Effort, repeated here as (70).

(70) D is more economical than, and thus blocks, D' iff (a) or (b):
    a.   D has fewer steps
    b.   D has shorter steps

Keeping the assumption that the reference set consists of derivations sharing non-distinct numerations, we see that (64) will be ruled out by (71a), whose steps number the same as those of (64), but are shorter. (71a) would generate (71b).

28

(71)   a.

TP

T   VP

NEG$^{[+uT]}$ ARB$^{[+T]}$

V   VP
t$_{NEG}$

V   ...
COP

b.   * no   khong la   giao-vien
        he   NEG   COP   teacher

The numeration of (71a) will contain an untensed COP and a tensed NEG. By now, it should be clear why the string generated by this derivation is not a sentence, i.e. ungrammatical. Given lexical idiosyncrasies of Vietnamese, there is no input to (71a). In other word, if COP cannot enter the derivation untensed, the string (71b) cannot be understood as generated by the optimal derivation (71a). Thus the impossibility of combining COP and NEG is explained.

2.2.7   Summary

In 2.2, we give a more explanatory account of the distribution of predicate heads presented in 2.1.

We make certain assumptions about morphophonological properties of lexical items of Vietnamese. Specifically, we divide the verbs in this language into three classes with respect to their featural makeup at the point of entering the derivation: (a) those that must be bare (the main verbs), (b) those that must be tensed (the copula and the perfect auxiliary), and (c) those that can be tensed (the negative verbs). We also assume that the tense head ARB in tense-neutral sentences is a phonological affix, and deduce the fact that it is null from the typological property of Vietnamese, namely that it is an isolating language.

The distributional facts to be explained then follow automatically, assuming that Vietnamese obeys invariant principles of UG. Of particular relevance among the latter are the option of PF merger, Last Resort, Least Effort, modularity, and the Principle of Paninian Blocking.

3 Polarity questions

In this section, I give an analysis of polarity questions, a sub-type of yes-no questions. In 3.1, I distinguish polarity questions from another type of yes-no questions, i.e. checking questions. The basic structure of polarity questions is presented and analyzed in 3.2. In 3.3, some derived patterns of these are accounted for.

3.1 Two kinds of yes-no questions

In grammatical descriptions, the term 'polarity question' is sometimes used synonymously with 'yes-no question', both taken to denote what in English would be (72).

(72)   does John read books?

However, in some languages, a question such as (72) can correspond to more than one sentence type. Vietnamese is one of these. In this language, the meaning of (72) can be conveyed by at least two kinds of questions, given in (74). The declarative counterpart of these questions is (73).

(73)   John   doc   sach
        John   read   book
        'John reads books'
(74)   a.   John   co   doc   sach   khong
              John   CO   read   book   KHONG
        b.   John   doc   sach   a
              John   read   book   Q

Informally, (74a) is formed by bracketing the predicate, in this case the VP, of the declarative sentence with the morphemes *co* and *khong*. We will come to the question of what these morphemes are below. In (74b), a question particle is attached to the declarative sentence. I will suggest the name 'polarity question' for (74a) and the name 'checking question' for (74b).

There are differences between polarity and checking questions. First, the former is neutral, whereas the latter is biased. Specifically, in (74b) there is the implicature that the speaker suspects or presupposes that John does not read books, whereas no such implicature exists in (74a). Thus if Bill has always known John as a non-reader, and one day he and Mary see John with a book in his hand, Bill can ask Mary (74b), but not (74a).[65]

Supporting evidence for this fact can be found in translating. If it is the case that in Vietnamese, polarity questions are always neutral and checking questions are always biased, we would expect that the meaning expressed by an English yes-no

question which is necessarily biased cannot be expressed in Vietnamese by a polarity question, but only by a checking question. This expectation is met. It is known that in English, yes-no questions with preposed negation such as (75) are necessarily biased. The speaker of (75) must hold the assumption that John does read books.[66]

(75)   doesn't John read books?

Just as expected, there is no polarity question in Vietnamese that corresponds to (75). On the other hand, (75) is faithfully translated as the checking question (76).

(76)   John   khong doc   sach   a?
        John   NEG   read   book   Q

There is a sense in which the interrogative particle *a* is used to check, or double check, the truth of the sentence preceding it, hence the name "checking question". Normally one only (double) checks what one finds hard to believe. This may be the source of the implicature mentioned above.

Syntactically, polarity and checking questions differ in that the former can be embedded, whereas the latter cannot.[67]

(77)   a.   toi   muon biet   no   co   doc   sach   khong
              I   want know   he   CO   read   book   KHONG
              'I want to know whether he reads books'
        b.   *toi   muon biet   no   doc   sach   a
              I   want know   he   read   book   Q
              ('I want to know whether he reads books')

Another interesting syntactic fact is that a polarity question can be embedded in a checking question, as shown in (78).

(78)   John   co   doc   sach   khong   a?
        John   CO   read   book   KHONG   Q

I can utter (78) when someone asked me "does John read books?" but I didn't catch the question and want to (double) check if his question has been "does John read books?" We see that the proposed meaning of *a* is also present in this instance.[68]

Here I will not attempt to describe and analyze the syntactic, semantic and pragmatic differences between polarity and checking questions. What has just been said merely justifies the use of the term 'polarity question' and not 'yes-no question', since the latter is assumed to include checking questions also. Below, we concentrate on polarity questions, more precisely, on their syntax, and will have nothing to say about checking questions, or particle questions in general.

3.2 Basic structure

Polarity questions in Vietnamese can take a variety of forms. However, these all have a basic skeleton. In this section I present and analyze the basic structure of polarity questions, leaving the derived patterns for 3.3.

3.2.1 Observation

As already seen in (74), a polarity question in Vietnamese is generally formed by inserting *co* before the predicate, i.e. right after the subject, and placing *khong* at the end of a declarative sentence.

(79) a. no   doc   sach
          he   read   book
          'he reads books'
      b. no   co   doc   sach   khong
          he   CO   read   book   KHONG
          'does he read books'

This rule, however, does not work all the time. When the predicate of the declarative sentence includes the perfect aspect verb *da*, the future tense morpheme *se*, the past tense morpheme *da*, or the copula verb *la*, polarity questions cannot be formed by using *co* and *khong* in the above said manner.

(80) a. no   da   doc   sach
          he   PERF   read   book
          'he has read books'
      b. * no   co   da   doc   sach   khong?
          he   CO   PERF   read   book   KHONG
          ('has he read books')
(81) a. no   se   doc   sach
          he   FUT   read   book
          'he will read books'
      b. * no   co   se   doc   sach   khong?
          he   CO   FUT   read   book   KHONG
          ('will he read books')
(82) a. no   da   doc   sach
          he   PAST   read   book
          'he read books'
      b. * no   co   da   doc   sach   khong?
          he   CO   PAST   read   book   KHONG
          ('did he read books')
(83) a. no   la   giao-vien
          he   COP   teacher
          'he is a teacher'

b. *no co la giao-vien khong?
   he CO COP teacher KHONG
   ('is he a teacher')

To convey the intended meanings of the (b) sentences in (80 – 83), we have to use
the sentences in (84 – 87), respectively.

(84) no da doc sach chua
     he DA read book CHUA
(85) co phai la no se doc sach khong[69]
     CO right that he FUT read book KHONG
     'is it right that he will read books'
(86) co phai la no da doc sach khong
     CO right that he PAST read book KHONG
     'is it right that he read books'
(87) co phai la no la giao-vien khong
     CO right that he COP teacher KHONG
     'is it right that he is a teacher'

The basic patterns of polarity questions are presented schematically in (88).

(88) a.   Subject CO VP KHONG   (= (79b))
     b.   Subject DA VP CHUA   (= (84))
   c.   CO right CP KHONG   (= (85), (86), (87))

I assume that there are no semantic or pragmatic constraints on formulating a
polarity question whose propositional content is expressed by a perfect, future,
past or copula sentence. What prevents the grammar from generating the strings in
(80b), (81b) (82b) and (83b) is syntactic, as will be shown below.

3.2.2   Analysis

Let us assume that *khong* and *chua* **in polarity questions** occupy some head
position in the C-domain, i.e. they are C heads. Consequently, polarity questions
are CPs, headed by *khong* or *chua*. Furthermore, assume that *khong* and *chua*
carry a feature that types the clause as a polarity question, call it [+Q].[70]

As for *co* and *da*, let us say that they are T heads lexically selected by *khong* and
chua, respectively. So *khong* selects *co* just as *depend* selects *on* in English etc.
Suppose that *co* and *da* also carry the interrogative feature, but that this feature is
uninterpretable on these heads. We will call it [+uQ]. Before LF, [+uQ] must raise
to C to check against [+Q] and delete. Thus there is feature movement from T to
C in polarity questions.[71]

33

We assume then that Vietnamese polarity questions have this configuration, omitting irrelevant details.

(89)
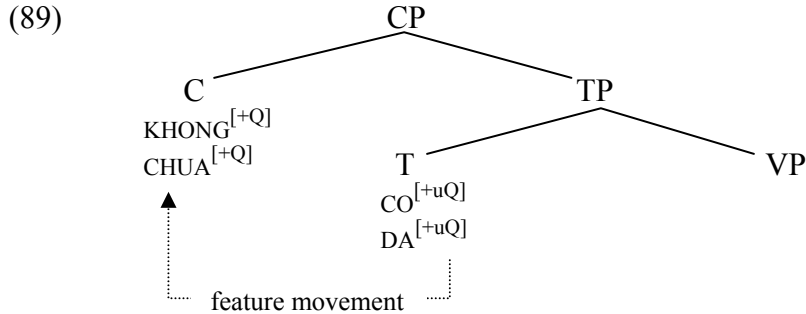
Movement of [+uQ] to C is in some sense similar to movement of [+wh] to C, in that both are operator movement.

Since *khong* and *chua* are sentence-final, we have two plausible choices.

(90) a.   CPs headed by *khong* and *chua* are right headed
      b.   TP moves to [Spec, C] in polarity questions

I will opt for (90b), for the following reasons. If the head parameter exists, then (90a) would be an exception with respect not only to other heads – Vietnamese being very consistently left-headed – but also to other C heads. (91) shows the position of the complementizer *la* ('that').
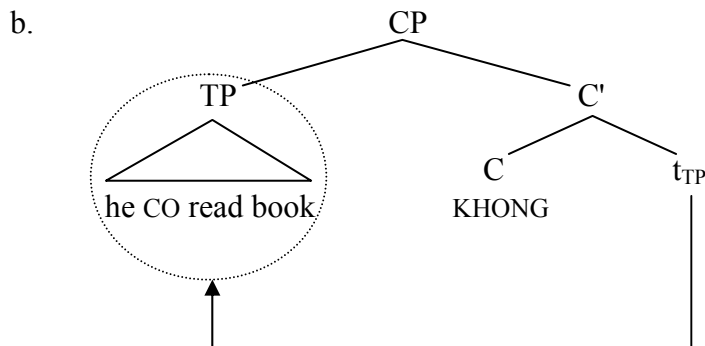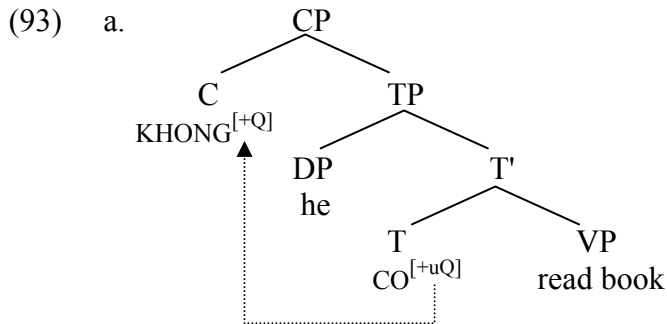
(91) no   nghi   la   toi   doc   sach
      he   think that   I   read   book
      'he thinks that I read books'

If the head parameter does not exist, and syntax is asymmetric as proposed by Kayne (1994), then (90b) is forced. Specifically, if structural c-command implies linear precedence, then *khong* and *chua* should be sentence initial, not final.[72] It follows that TP must have moved to some postion above *khong*/*chua* in polarity questions. Let us assume that TP moves to [Spec, C].

To motivate overt TP movement to [Spec, C], let us say that the feature [+Q] has the EPP property. Following standard assumptions, we say that the EPP property of a feature F requires that the checking operation applying to F and another feature F' be followed up with pied-piping of the category that contains F' to the syntactic environment of F. Thus the checking of [+uQ] must be followed by either (a) adjunction of the T head to C or (b) movement of TP to [Spec, C].[73] Let us say that for some reason, (a) is not available in Vietnamese.[74]

The question (79b), repeated here as (92), has then the derivation in (93).

(92) no   co   doc   sach   khong
     he   CO   read   book   KHONG
     'does he read books'

(93) a.

CP
C TP
KHONG[+Q]
DP T'
he
T VP
CO[+uQ] read book

b.

CP
TP C'
he CO read book
C t_TP
KHONG

This analysis accounts for the strings with patterns (88a) and (88b), and also for the ungrammaticality of the strings in 3.2.1, in the following way. In future and past sentences, T is FUT (*se*) or PAST (*da*), respectively. Merging TP with the C heads KHONG and CHUA would result in a configuration in which the selectional requirement of the latter is not satisfied. In perfect and copula sentences, PERF (*da*) and COP (*la*) must move to T to check their features. As we saw above, this is possible only if T is an affix. But the T heads in polarity questions, i.e. CO and DA, are not affixes, but freestanding lexical items. It follows that CO and KHONG cannot bracket the predicate of a future, past, perfect, or copula sentence to form a polarity question. This is indeed the case, as seen in (80) – (83).

The syntax of Vietnamese puts constraints on the number of polarity questions that can be formulated. One would wonder how Vietnamese speaker cope with this situation. From a communicative perspective, it is highly disadvantageous not to be able to ask 'is he a teacher' or 'will he read books' etc.

This leads us to the explanation of the pattern (88c), i.e. strings (85) – (87). These are ways to ask polarity questions about the state of affairs expressed by future, past, perfect, and copula sentences. I will propose the following analysis for these sentences.

Let us assume that the morpheme *phai* in these sentences is a verb, which takes a clausal, i.e. CP complement. *Phai* means something like 'to be right', or 'stimmen' in German. I will gloss it as *right*. Furthermore, it is a main verb, just like *doc* ('read'). It follows that nothing prevents a derivation such as (94).[75]

(94) a.

b.
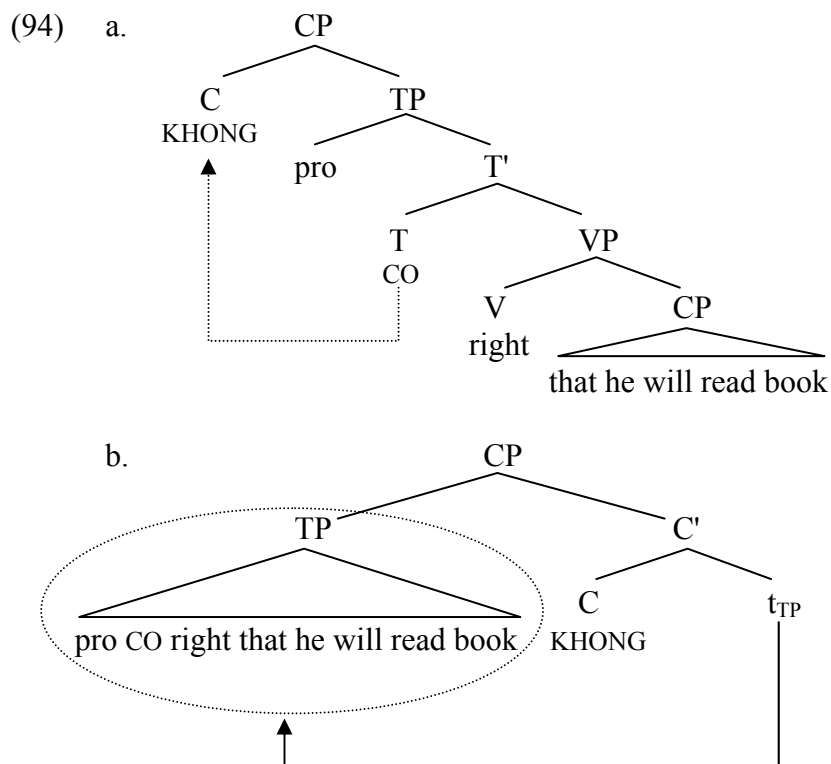
(94) underlies (85). Similar derivations generate (86) – (87), i.e. strings with pattern (88c).[76] We have thus accounted for all the facts observed in 3.2.1.

The question now is whether there is independent evidence for the analysis of polarity questions given above. More precisely, are there facts that can receive an explanation in terms of (a) feature movement from T to C and (b) TP movement to [Spec, C]? The answer seems positive.

3.2.3   Evidence: quantified subjects

One piece of evidence in favor of feature movement from T to C is the fact that Vietnamese does not allow quantifiers in the subject postion of a polarity question, as seen in (95).[77]

(95) *vai   nguoi co   doc   sach   khong
       some people CO   read   book   KHONG
       ('do some people read books')

Pesetsky (2000: 59 – 70) makes a convincing case that intervention by a scope bearing element is diagnostic of [+wh] feature movement.[78] If we assume that [+Q] movement is similar to [+wh] feature movement, in that both are featural operator movement, we can say that the quantifier [NP *vai nguoi*] blocks the movement of [+Q] from T to C in (96).[79]

(96)

```
                CP
          ┌─────┴──────┐
          C            TP
    KHONG[+uQ]    ┌─────┴──────┐
        ▲        NP            T'
        ┊    some people   ┌────┴─────┐
        ┊                  T          VP
        ┊               CO[+Q]    read book
        └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┘
```
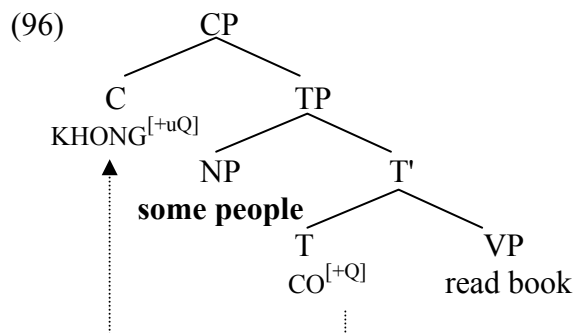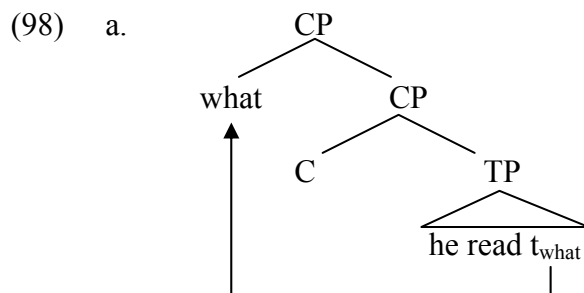
3.2.4 Evidence: Wh in situ

If we make the theoretically plausible assumption that all questions in Vietnamese are headed by an interrogative C, and interrogative C always requires movement of TP to [Spec, C], we might be able to explain the fact that Vietnamese is an wh-in-situ language. The argument is as follows.
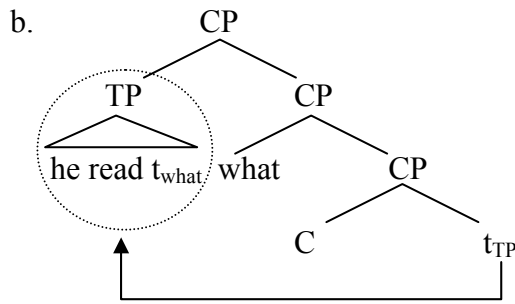
Let us assume that the C head in wh-questions is phonologically empty. Thus (97) is headed by an empty C.

(97)   no   doc   gi
        he   read   what
        'what does he read'

Suppose the wh-object fronts, targeting [Spec, C]. Assuming, as said above, that TP moves to [Spec, C], wh-movement would have to (a) precede or (b) follow TP movement. Consequently, if we can show that both (a) and (b) are impossible, we can deduce that there is no wh-movement.

Let us consider possibility (a), i.e. that wh-movement precedes TP movement. (97) will have the following derivation.

(98)   a.

```
                CP
          ┌─────┴──────┐
        what           CP
         ▲       ┌──────┴──────┐
         ┊       C             TP
         ┊                  ┌───┴───┐
         ┊               he read t_what
         └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┘
```

b.

CP
TP — CP
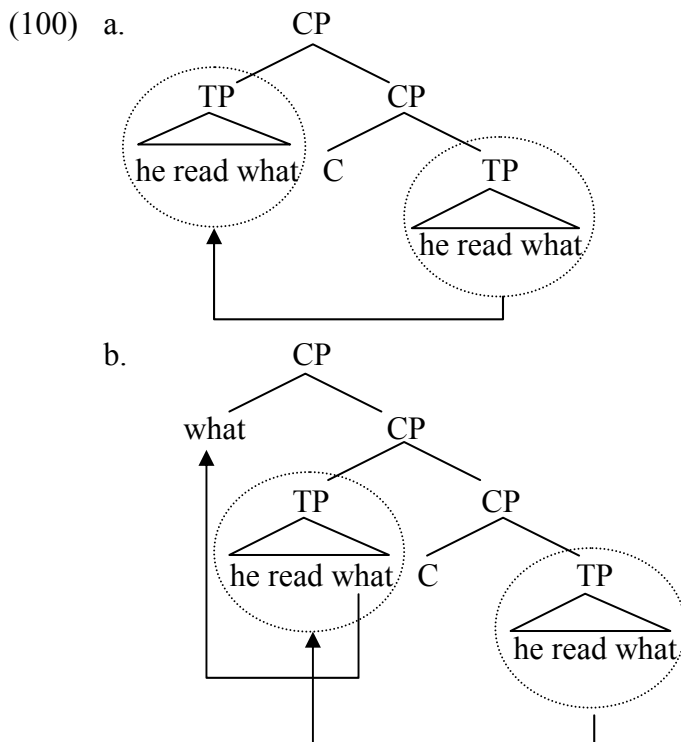he read t_{what} / what
CP
C — t_{TP}

The movement in (98b) is remnant movement, and as such it violates a constraint on remnant movement, namely the principle of Unambiguous Domination, proposed in Müller (1996).

(99) Unambiguous Domination (constraint on remnant movement)[80]
In a structure …[$_A$ …B…]…, A and B may not undergo the same kind of movement

Since in (98) both movement of the wh-phrase and of TP, which contains it, are of the same kind, namely substitution in [Spec, C], (98) is ruled out.[81]

Now let us consider the possibility that movement of TP precedes that of the wh-phrase. In this case, we will have the derivation in (100). To anticipate what will be said, I represent traces as copies of the moved items, i.e. I assume the copy theory of movement. This assumption is compatible with everything that has been said so far. Let us furthermore say that it is the lower copy of a chain which is deleted in the PF component, and the upper copy is pronounced, i.e. given a phonetic interpretation. We say that chains are linearized at PF.

(100) a.

CP
TP — CP
he read what
C — TP
he read what

b.

CP
what — CP
TP — CP
he read what / C
TP
he read what

Note that there is no remnant movement here, so the constraint in (99) is satisfied vacuously.[82]

We have said that the lower copy of the chain must be deleted in PF. What must obtain for this deletion operation to apply, i.e. what is the condition for chain linearization at PF? Let us follow Ochi (1999) and assume (101).[83]

(101)   a chain can be linearized only when its members are identical

Looking at (100b), we see two chains, (102a) and (102b).

(102)   a.   (*what*, *what*)
        b.   (*he read what*, *he read what*)

Assuming that all chains are linearized simultaneously at PF, we can see that (102b) will fail to undergo this operation, since the linearization of of (102a) will result in this configuration.

(103)
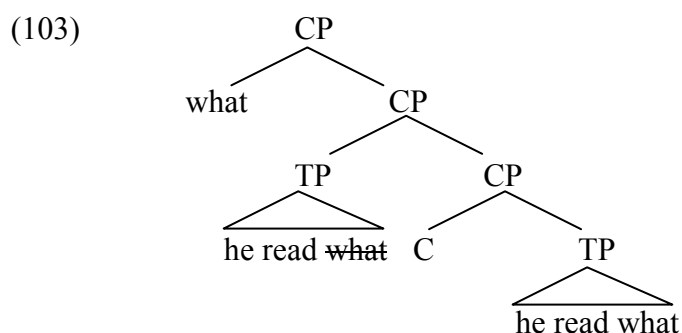
Deletion of the lower copy in the chain (*what*, *what*) will destroy the identity of members in the chain (102b), which will thus fail to be linearized. Assuming that every chain, trivial and non-trivial, has to be linearized at PF, this means derivation (100) will crash at this interface.[84]

We are led to conclude that TP to [Spec, C] movement implies the non-existence of wh-movement in a language.[85] Arguing abductively, the fact that Vietnamese is a wh-in-situ language can thus be considered evidence in favor of the TP movement analysis.

3.2.5   Summary

We have given an analysis of the basic structure of polarity questions in Vietnamese. This analysis assumes that these questions are CPs headed by *khong* or *chua*. Furthermore, there is a head-head relation between C and T. Specifically, *khong* lexically selects *co*, and *chua* lexically selects *da*. T contains the feature [+uQ], which moves to C to check against [+Q] in C. Following this movement is

overt raising of TP to [Spec, C]. We observe that this analysis accounts for the facts about polarity questions. It also explains why quantified subjects are impossible in polarity questions. When we generalize the analysis to wh-questions, we can explain why wh-phrases stay in situ in Vietnamese.

3.3 Derived patterns

We noted that all polarity questions in Vietnamese have a basic skeleton. In 3.2, we look at this basic skeleton. Now we turn to some derived patterns of polarity questions.

3.3.1 Raising of subjects

We have seen that when T is occupied by some tense or verbal head, formation of of polarity questions must be effected through embedding under the verb *phai* ('right'), as in (104).

(104) pro   co   phai   no   se   doc   sach   khong
        pro   CO   right   he   FUT   read   book   KHONG
        'is it right that he will read books'

It is also possible to raise the subject of the embedded TP to the specifier position of the matrix TP, as in (105).[86] The matrix CP layer is not represented in (105).

(105)
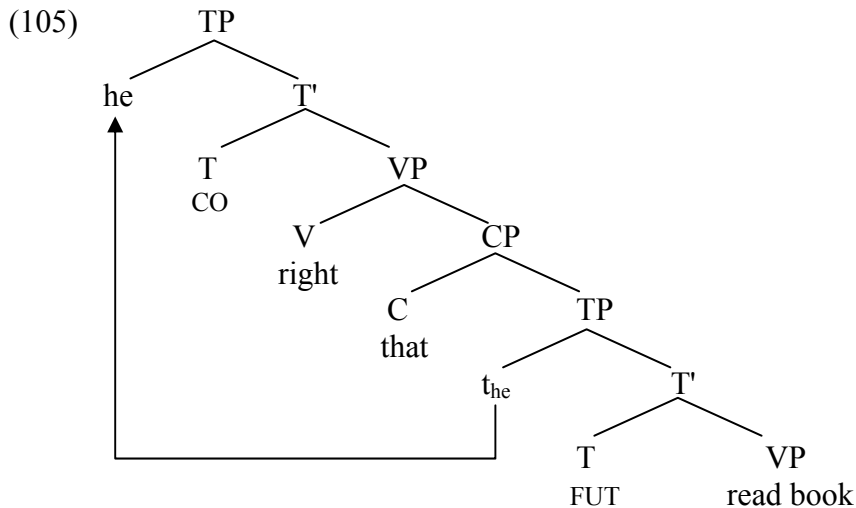
(105) underlies (106), which is a grammatical sentence in Vietnamese.

(106) no   co   phai   la   se   doc   sach   khong
        he   CO   right   that   FUT   read   book   KHONG
        'is it right that he will read books'

We can thus say that *phai* ('right') is a raising verb, like English *seem*. The analysis just given for (106) begs the question of how the subject of an embedded tensed clause can raise to the specifier position of the matrix TP. In other word, (106) seems to be parallel to (107) in English, which is ungrammatical.

(107) *John seems that t$_{John}$ will read books

The ungrammaticality of (107) reduces to the fact that once the structural case feature of John has been checked by [+nominative] of the embedded T, it is deleted and erased. Subsequent A-movement of John will satisfy the EPP requirement of matrix T, but the feature [+nominative] of this T will not be checked, since John has no case feature left. The derivation thus crashes.[87]

I will propose that there is no structural Case in Vietnamese. DPs check Case inherently, inside VP. The subject DP moves to [Spec, T] to satisfy the EPP requirement of T, not to check Case. As a DP can satisfy the EPP requirement of several heads, (106) is accounted for.

The assumption that Case is checked inherently in Vietnamese entails that there is no Agr in this language, given the standard assumption that structural Case is checked when DP is in [Spec, Agr] and the Case checker, which is V or T, is adjoined to Agr.[88] If there is no Agr, then object DPs must stay in situ. It follows that if some grammatical construction whose explanation relies crucially on object raising to [Spec, Agr] is not existent in Vietnamese, this would constitute evidence for the assumption that Case is checked inherently in this language. One such construction is pseudogapping, exemplified in (108).

(108)   John should read Aspects, and Mary should LGB

Lasnik (1999a) argues convincingly that the first conjunct of (108) is (109), which involves the object raising overtly to [Spec, Agr] and V raising to Agr and then to a higher shell V position.

(109)

41
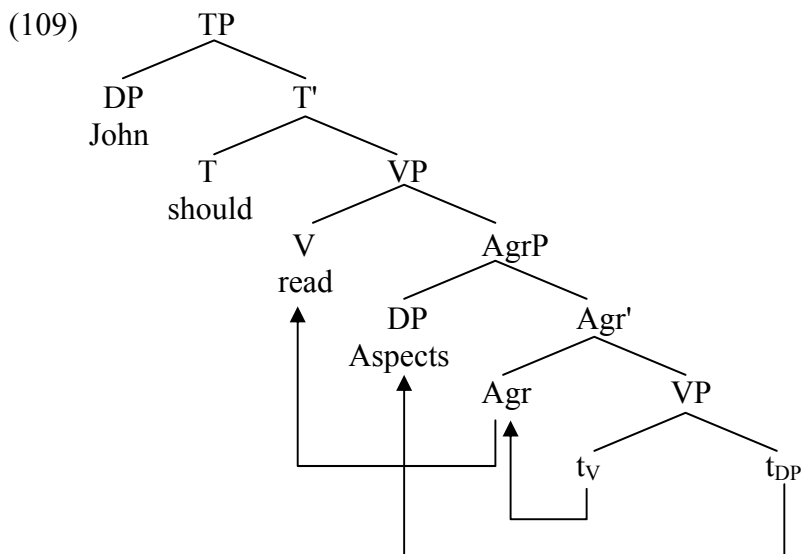
The second conjunct, which exhibits pseudo-gapping, is analyzed as a case of VP elipsis. The crucial fact is that V, in this conjunct, has not raised at all.[89]

(110)

```
                TP
              /    \
            DP      T'
           Mary    /  \
                  T     VP
               should  /  \
                      V    AgrP
                          /    \
                        DP      Agr'
                       LGB     /    \
                             Agr      VP
                                     /  \
                                    V    t_DP
                                   read
```
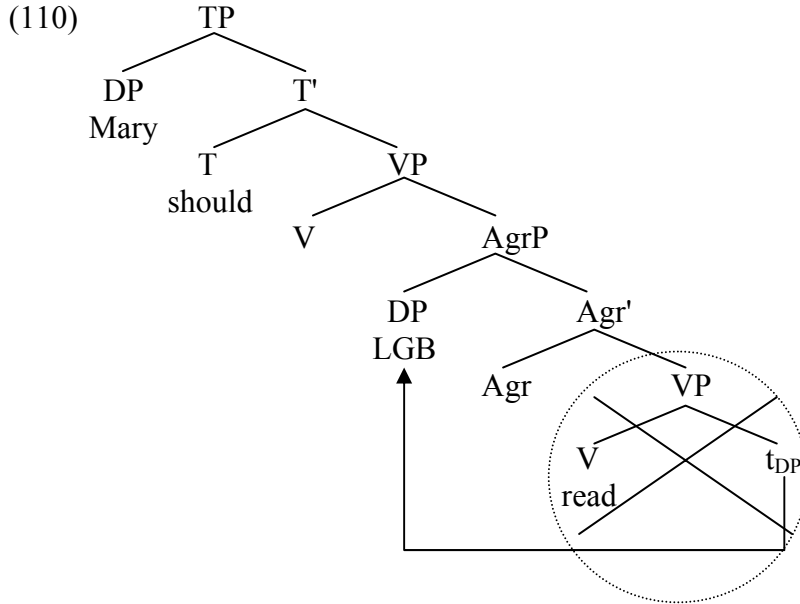
Given this analysis, we predict that Vietnamese will not have pseudogapping, since the object DP stays inside VP. This prediction is borne out.[90]

(111) *John   nen   doc   Aspects   con   Mary   nen   LGB
       John   should   read   Aspects   and   Mary   should   LGB
       'John should read Aspects and Mary should read LGB'

Note that it is not the case that Vietnamese does not allow VP ellipsis.[91]

(112) John   nen   doc   Aspects,   Mary   cung   nen
      John   should   read   Aspects,   Mary   also   should
      'John should read Aspects, Mary should (read Aspects) too'

Let us assume, then, that there is no structural Case checking in Vietnamese. Consequently, T does not carry [+nominative], and the subject can undergo successive A-movement to satisfy the EPP requirement of both T heads in (105), just as it does in the raising construction (113).

(113)   John seems t_{John} to be t_{John} intelligent

3.3.2   Omission of function words

In polarity questions, the T heads CO and DA can be omitted in speech.

(114) a.   no   doc   sach   khong
                he   read   book   KHONG
      b.   no   doc   sach   chua
                he   read   book   CHUA

I will assume that they are deleted in the PF component, so (114) is actually (115).

(115) a.   no ~~co~~ doc sach khong
      b.   no ~~da~~ doc sach chua

In the embedding version of polarity questions, the complementizer *la* ('that') can be ommited. I will also assume that this is an instance of PF deletion.

(116) a.   co   phai   ~~la~~   no   se   doc   sach   khong
             CO   right ~~that~~ he   will   read   book   KHONG
      b.   no   co   phai ~~la~~   se   doc   sach   khong
             he   CO   right ~~that~~ will   read   book   KHONG
             'is it right that he will read books'

It seems that Vietnamese allows deletion of certain function words, e.g. the complemetizers *la* and the interrogative T heads CO and DA. This is nothing surprising. Similar options are also available in English.[92] However, Vietnamese does differ from English with respect to the following constraint. When the complement of *phai* ('right') is a copula sentence and the embedded subject has raised to the matrix [Spec, T], deletion of the complementizer *la* is obligatory.

(117) a. * no   co   phai la   la   giao-vien   khong
             he   CO   right that is   teacher   KHONG
      b.   no   co   phai ~~la~~   la   giao-vien   khong
             he   CO   right ~~that~~ is   teacher   KHONG

To account for the deviance of (117a), I will propose the following phonological constraint.[93]

(118)   avoid consecutive identical elements

(118) predicts that when a phonological string contains two consecutive identical words and one of them is a function word that **can** be deleted, then PF deletion of that word is obligatory. This prediction is confirmed by another case. Recall that the verb 'to possess' in Vietnamese is also pronounced [co], i.e. it is identical in phonological shape to the interrogative T head CO. If they end up next to eachother in a derivation, PF deletion must apply to the T head CO.

(119) a. * no   co   co   tien   khong
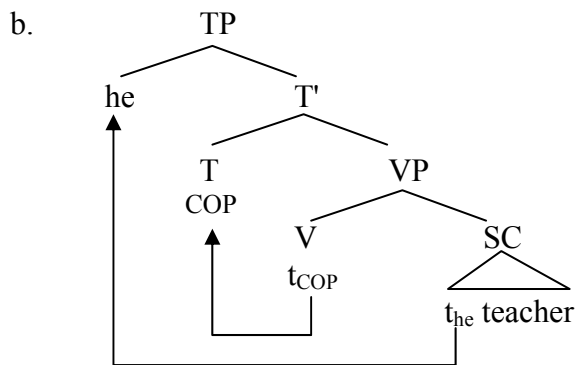   he   CO   have   money KHONG
             ('does he have money')

b. no   ~~co~~   co   tien   khong
    he   ~~CO~~   have money KHONG
    'does he have money'

There is one more case to consider in this connection, namely (120), another instance of embedding polarity question. In this sentence, there is no complementizer, and the verb of the embedded clause, in this case the copula verb, is also absent.

(120) no   co   phai   giao-vien   khong
       he   CO   right teacher   KHONG
       'is he a teacher'

For (120), I will make two assumptions. First, a copula sentence such as (121a) has the derivation (121b).

(121) a.   no   la   giao-vien
             he   COP   teacher

       b.   TP
                    he   T'
                          T   VP
                          COP
                                V   SC
                               t_COP
                                        t_he teacher

The subject of a copula sentence originates inside a small clause (SC) and subsequently moves to [Spec, T] to satisfy the EPP requirement of T.[94]
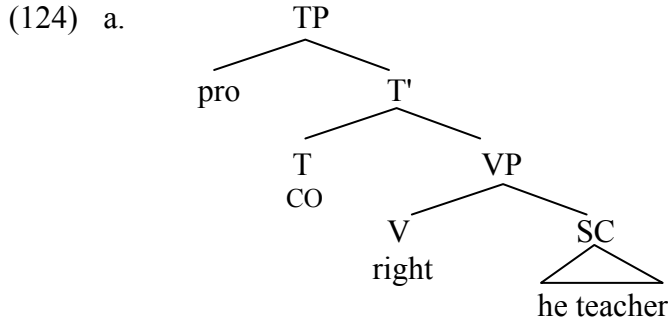
The second assumption is that the verb *phai* ('right'), which we have assume takes a CP complement, can also takes a small clause (SC) complement, just like *seem* in English.

(122) John seems [_SC t_John intelligent]

In (120), then, the verb *phai* takes a SC complement. The subject *no* ('he') of the SC has raised to the matrix [Spec, T]. There is no copula because the SC does not contain a copula, and there is no complementizer since SCs are not introduced by complementizers, as seen in the ungrammaticality of (123).

(123) *John seems that [_SC t_John intelligent]

What if the subject remains inside the SC, and a *pro* is merged in [Spec, T] to fulfill the EPP, as in (124a), yielding the ungrammatical (124b).

(124) a.

```
                    TP
              /            \
           pro              T'
                      /           \
                    T              VP
                    CO         /        \
                            V             SC
                          right        /      \
                                    he teacher
```

   b.   *co   phai   no   giao-vien   khong
        CO   right   he   teacher   KHONG

Assuming that N is not a case checker, the subject *he* inside the SC will not have its case checked, hence the ungrammaticality of (124b).

3.3.3   Tag questions

We have seen cases where the verb *phai* ('right') takes a CP complement and a SC complement. It turns out that *phai* can also be used without any complement.[95]

(125) a.   co   phai   khong
            CO   right   KHONG
            'is it right'
       b.   ~~co~~ phai khong

The sentences in (125) can be used as tag questions, attached to any declarative. An example is (126).

(126) no   la   giao-vien   (co)   phai   khong
       he   is   teacher   (CO)   right   KHONG
       'he is a teacher, right'

3.3.4   Summary

We have looked at a number of derived patterns of polarity questions. We see that in addition to the basic patterns given in (88), Vietnamese has the following ways to ask a polarity question.

(127) a.   raising
            Subj CO right that [$_{TP}$ t$_{Subj}$ …] KHONG

b.	deletion
   	i.	Subj ~~CO~~ VP KHONG
   	ii.	Subj ~~DA~~ VP CHUA
   	iii.	CO right ~~that~~ TP KHONG
   	iv.	Subj CO right ~~that~~ [$_{TP}$ t$_{Subj}$ …] KHONG
   c.	tag question
   	i.	TP CO right KHONG
   	ii.	TP ~~CO~~ right KHONG

Note that the above account does not correlate 'basic' with 'frequent', and 'derived' with 'infrequent'. In fact, the derived patterns are used more frequently than the basic ones. This is a fact about language use and has little bearing on the syntactic analysis given here.

4 Remaining questions

The analysis of polarity questions given above leaves a number of problems open, to which I turn in this section. It will be seen that these problems cannot be solved satisfactorily in the minimalist framework which we adopt.

4.1 Interrogative C and T

There are facts about the C and T heads of polarity questions that cannot be captured naturally in terms of the theory assumed so far. These facts concern the morphology, the semantics and the syntax of interrogative C and T.

4.1.1 Morphology

There is an exact similarity between the interrogative C heads in polarity questions and the negative verbs.

(128) a. $[_C$ KHONG] = $[_V$ NEG] (= *khong*)
       b. $[_C$ CHUA] = $[_V$ NEG$_{PERF}$] (= *chua*)

The interrogative T heads, CO and DA, also resemble exactly the morphemes that occupy the T position of tense-neutral and perfect affirmative sentences, i.e. the expletive verb HAVE (*co*) and the perfect aspect verb PERF (*da*) (see 2).

(129) a. $[_T$ CO] = $[_V$ HAVE] (= *co*)
       b. $[_T$ DA] = $[_V$ PERF] (= *da*)

According to the analysis of polarity questions given above, these resemblances are totally accidental.

Although this fact is not satisfying, we can nevertheless question the relevance of such a fact to a synchronic analysis. Thus the English complementizer *that* and demonstrative *that* also resemble each other, but that has never been a source of concern. However, it will be seen that the relationship between the elements above extends beyond overt similarity in morphophonological shape.

4.1.2 Semantics

We have seen that there are two types of polarity questions with respect to the tense and aspect property of the sentence. C head KHONG selecting T head CO will result in a tense-neutral question. C head CHUA selecting T head DA will result in a question in perfect aspect.

(130) a.   no   co   doc   sach   khong
             he   CO   read   book   KHONG
             'does he read books'
      b.   no   da   doc   sach   chua
             he   DA   read   book   CHUA
             'has he read books (yet)'

Given the analysis we have proposed, this fact must be accounted for by giving elaborate meaning postulates for interrogative Cs and Ts, such that the pairs ([$_C$ KHONG], [$_T$ CO]) and ([$_C$ CHUA], [$_T$ DA]) will properly turn the declarative sentence *no doc sach* ('he reads books') into 'does he read books' and 'has he read books', respectively. The obviously significant fact that in perfect questions, C and T resemble the elements of perfect declaratives, and that in tense-neutral questions, C and T resemble elements in tense-neutral (affirmative) sentences, cannot be captured in our theory.

4.1.3   Syntax

We have seen in 2 that the negative verbs NEG (*khong*) and NEG$_{PERF}$ (*chua*) enter the derivation bearing tense when T is an affix. When T is not an affix, however, they enter the derivation bare and remain in situ, as in (131).

(131)   no   se   khong   doc   sach
         he   FUT   NEG   read   book
         'he will not read books'

As the theory stands, nothing prevents the following derivation. First, an interrogative T, say CO, is merged with a VP headed by NEG$_{PERF}$, which must be untensed because T is not an affix. Then the TP headed by CO is merged with the C head KHONG, satisfying the selectional requirement of the latter. Following feature movement from T to C, TP raises to [Spec, C]. This is how a normal polarity question is derived. The derivation just mentioned generates (132).

(132) *no   co   chua   doc   sach   khong
       he   CO   NEG$_{PERF}$ read   book   KHONG

The meaning of (132) would be something like "yes or no: he has not read books." As far as I can tell, there is nothing wrong with this meaning.[96] In fact, speakers of Vietnamese would say that (132) is perfectly intelligible. But (132) is deviant, i.e. it 'sounds funny.' And not just (132), but any combination of interrogative T and negative verbs seems to be deviant.

(133) a.   * no   co   khong   doc   sach   khong
               he   CO   NEG   read   book   KHONG

b.	*no	da	chua	doc	sach	chua
	he	DA	NEG_PERF	read	book	CHUA
c.	*no	da	khong	doc	sach	chua
	he	DA	NEG	read	book	CHUA

It is not clear how to account for these coocurence restrictions in the theory developed so far without making ad hoc stipulations, such as "NEG must bear tense when T is interrogative."

4.1.4   Solution

Let us look at the following generalization, which is a rule, in the traditional sense, for forming polarity questions in Vietnamese.

(134)   a polarity question is formed by taking an affirmative positive sentence S and adding to the end of S the morpheme which otherwise occupies the T position of the negative correspondent ¬S of S, provided S and ¬S have different Ts

This rule would permit us to form all the polarity questions that are attested, i.e. grammatical. It also excludes all the ungrammatical sequences, in the sense that they cannot be formed according to it. In the following we will look at three examples.

(135)   no   co   doc   sach   khong
        he   co   read   book   khong
        'does he read book'

We know from 2 that the T position of an affirmative positive sentence is occupied by the expletive verb *co* (HAVE), and the T position of a negative affirmative sentence by the negative verb *khong* (NEG). According to (134), (135) should be a well-formed sentence, which it is.

(136) *no   co   la   giao-vien   khong
       he   co   COP   teacher   khong
       ('is he a teacher')

Recall that (a) when a copula sentence is affirmed, COP itself is stressed and there is no expletive verb insertion and that (b) COP cannot be combined with negative verbs. Thus (137a) and (137b) are both non-sentences.

(137)	a.	* no	*co*	la	giao-vien
		he	co	COP	teacher
	b.	* no	khong	la	giao-vien
		he	NEG	COP	teacher

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Consequently, (134) predicts that (136) is not a possible sentence. One reason is that in this case a neccessary condition for the application of (134), which is that there be a negative copula sentence, is non-existent in Vietnamese.

(138) *no   co   se   doc   sach   khong
        he   co   FUT   read   book   khong
        ('will he read books')

(138) is also ruled out because (134) cannot be applied. There is no difference between the T heads of positive and negative future sentences, whether they are affirmed or not.

(139)   a.   no   [$_T$ se]   doc   sach
                he   FUT   read   book
                'he will read books'
        b.   no   [$_T$ se]   khong   doc   sach
                he   FUT   NEG   read   book
                'he will not read books'

More excamples can be given, but I will stop here. The point is that in terms of observational adequacy, (134) seems to do as good a job as the analysis given for polarity questions in 3.

Moreover, (134) answers all the questions raised in the preceeding three subsections, i.e. those in (140).

(140)   a.   why are there mophological resemblances between interrogative Cs and Ts on the one hand, and elements of declaratives, i.e. negative and expletive verbs, on the other?
        b.   why does the pair ([$_C$ KHONG], [$_T$ CO]) yield a tense-neutral and the pair ([$_C$ CHUA], [$_T$ DA]) a perfect aspect question?
        b.   why can the VPs headed by negative verbs not merge with interrogative Ts?

The answer to (140a) is that there are no interrogative Cs and Ts per se. In other word, interrogative Cs and Ts resemble elements of declaratives because they are elements of declaratives. This is also the answer to (140b) and (140c). If CO is the expletive verb (*co*), and DA is PERF (*da*), then the relevant meanings follow automatically. And since there is no expletive (*co*) in negative sentences, and PERF (*da*) cannot be combined with negative verbs, VP headed by the latter cannot merged with *co* and *da*.

The question now is why the complicated analysis, when such a simple statement as (134) seems to capture it all. There are more than one reasons.

One is that (134) does not capture it all. We have seen that there are facts which receive an explanation in terms of the analysis given for questions in 3, i.e. in terms of feature movement from T to C and XP movement of TP to [Spec, C]. Moreover, (134) fails when we consider the stress pattern of polarity questions. According to (134), the main stress in (141) would fall on the T head *co*, since this is how an affirmative sentence is pronounced. But this is not the case: *co* cannot be stressed in polarity questions.

(141) *no   *co*   doc   sach   khong
        he   co   read   book   khong
        ('does he read books')

Thus (141) is evidence that a polarity question is not derived according to (134). Apart from this, (134) poses a serious challenge: it contradicts the basic conception of grammar that we assume, in the following senses.

First, it does not say what the structural position of the sentence-final element is, but gives a linear description only, in such terms as "the end of the sentence". Therefore it can be seen as structure-independent.

Second, it is restricted to one language, Vietnamese, and it makes crucial reference to grammatical constructions, such as "polarity questions" or "affirmative declarative sentences." In other word, it is both language and construction specific.[97]

Third, it is transderivational to an extreme degree. We have seen that some economy principles do compare different derivations, provided these belong to the same reference set, thus in some sense are derivations of the 'same sentence.' But (134) derives a sentence in terms of two different sentences, whose derivations cannot be considered to belong to the same reference set, if this notion is to have any significance.

In light of all these facts, I will propose the following. Let us say that (134) exists, but as a rule of the periphery. In terms of core grammar, a polarity question **is** derived by merging a VP with an interrogative T, forming a TP, then merging this TP with an interrogative C etc, with every step following UG principles, which are language general and construction non-specific. The core grammar, however, overgenerates in the sense that it allows for derivations whose realizations as expressions are perceived to be deviant, although perfectly intelligible. This deviance comes about through speakers' knowledge of the periphery rule.

Extensive discussion of the core-periphery distinction would go beyond the scope of this paper. Nevertheless, I will quote a relevant passage from Chomsky (1981).

"[...] it is hardly to be expected that what are called "languages" or "dialects" or "idiolects" will conform precisely or perhaps even very closely the systems

determined by fixing the parameters of UG. This could only happen under idealized conditions that are never realized [...] each actual "language" will incorporate a periphery of borrowings, historical residues, inventions, and so on, which we can hardly expect to – and indeed would not want to – incorporate within a principled theory of UG [...]" (Chomsky (1981: 7 – 8).[98]

A case can be made that rule (134) is a "historical residue." Let us assume that polarity questions in Vietnamese originate as alternative questions, whose conjuncts are affirmative sentences, one positive, one negative, as (142).[99]

(142) no [$_T$ co] doc sach hay no [$_T$ khong] doc sach
       he   HAVE read book or   he   NEG   read   book
       "he does read books or he doesn't read books?"

Alternative questions in Vietnamese can undergo a deletion rule, applied to various portions of the second conjunct. Thus all of the sentences in (143) are well-formed alternative questions.

(143) a.   no co doc sach hay no khong doc ~~sach~~
       b.   no co doc sach hay no khong ~~doc sach~~
       c.   no co doc sach hay ~~no~~ khong doc sach
       d.   no co doc sach hay ~~no~~ khong doc ~~sach~~
       e.   no co doc sach hay ~~no~~ khong ~~doc sach~~

Let us say that at some point in the history of Vietnamese, the most extensive deletion pattern of alternative questions, namely (143e), is grammaticalized, or conventionalized into polarity questions. Grammaticalization results in three things: (a) the conjunction hay ('or') is dropped, (b) *co* is reanalyzed as an interrogative T head and looses its affirmative stress, and (c) utterance final *khong* is reanalyzed as an interrogative C head.[100]

However, the history of polarity question is not totally lost yet. It makes itself felt in the periphery rule (134). I will leave the obvious question of how (134) is learned form exposure to language data, or what is the general nature of periphery rules, to further research.

4.2   Embedding questions

We have seen that in Vietnamese, embedding a CP under the verb *phai* ('right') is a strategy employed to cope with constraints on the possibility of forming polarity questions containing certain elements such as overt tense heads, e.g. FUT, or lexically tensed verbs, e.g. COP or PERF. Our assumption has been that *phai* is a normal verb, just like other main verbs such as *doc* ('read').

It turns out that there are facts about polarity questions with *phai*, henceforth *phai* questions, that shows that these are different from other polarity questions. They are given below.

First, whereas other VPs can be bracketed by either *co...khong* or *da...chua* to form polarity questions, the latter option is not available for VPs headed by *phai*. I will assume, maybe wrongly, that there is no problem with the meaning of (144b).

(144) a.   no   da   doc   sach   chua
                 he   DA   read   book   CHUA
                 'has he read books'
      b.   * da   phai   no   doc   sach   chua
                 DA   right   he   read   book   CHUA
                 'has is been true that he reads books'

Second, it is not possible to omit the interrogative T head *co* in an embedding question, as it is possible in non-embedding ones.

(145) a.   no   ~~co~~   doc   sach   khong
                 he   ~~CO~~   read   book   KHONG
                 'does he read books'
      b.   * ~~co~~   phai   la   no   la   giao-vien   khong
                 ~~CO~~   right   that   he   COP   teacher   KHONG
      c.   * no   ~~co~~   phai   giao-vien   khong
                 he   ~~CO~~   right   teacher   KHONG
                 'is it right that he is a teacher'

However, when a *phai* question is used as a tag question, interrogative T can be omitted in speech, as already seen in 3.3.

(146) no   doc   sach   ~~co~~   phai   khong
        he   read   book   ~~CO~~   right   KHONG
        'he reads books, right?'

This suggests the following. Let us say that in the lexicon, two constructional templates are stored as irreducible units.[101]

(147) a.   [co phai [...] khong]
      b.   [phai khong]

The two patterns of tag questions seen above, one with and one without omission of *co*, are instantiation of (147a) and (147b), respectively.

There is independent evidence that in the case of *phai* questions, we are dealing with lexically stored units. At the begining of section 3, we see two kinds of yes-no questions, i.e. polarity and checking questions. The latter consist of a

declarative followed by the question particle *a*. We have seen various differences between these two kinds of questions. But there is one major difference we have not looked at, and that is the answers that they expect, specifically, the positive answers, i.e. the correspondent of 'yes'.[102] Assuming that John does read books, a true answer to the question in (149a) is *co*, and a true answer to that in (149b) is *vang*. The important point is that the (positive) answers cannot be exchanged.

(149) a.   A: no   co   doc   sach   khong
                   he   CO   read   book   KHONG
        B: co/*vang
     b.   A: no   doc   sach   a
                   he   read   book   Q
        B: vang/*co

However, if the query is framed as an embedding *phai* question, the answer can be both *co* and *vang*.

(150) a.   A: co   phai   no   doc   sach   khong
                   CO   right   he   read   book   KHONG
     b.   B: co/vang

The same is true if the querry is effected by a tag question.

(151) a.   A: no   doc   sach   (co)   phai   khong
                   he   read   book   (CO)   right   KHONG
        B: co/vang

This suggests that a polarity question containing *phai…khong* can be understood both as a checking question and a polarity question. The first option would not have been available if the derivation of a *phai* question is totally regular, i.e. just like the derivation of other polarity questions, but would be available if we assume that the lexical units in (148) takes on similar meaning as the question particle *a*.[103] On the other hand, if (148) is the whole story, then we cannot explain the possibility of the second option, i.e. that of understanding a *phai* question as a regular polarity question. This possibility suggests that there is a regular derivation of *phai* questions.

It is possible that knowledge of constructional templates belong to the periphery, and that this knowledge accompanies, or influences, core grammatical computation in certain ways.[104] Again, I will leave this issue to further research.

5   Conclusion

In conclusion, we have investigated various aspects of clause structure in modern standard Vietnamese. It turns out that the syntactic distribution of tense and verbal heads of this language is susceptible to a minimalist analysis. This analysis, in turn, can serve as basis for an account, also formulated in the minimalist framework, of curious facts about polarity questions, e.g. that a simple, monoclausal formation of these is unavailable to certain propositional contents such as that expressed by future or copula sentences. The account poses a problem when applied rigorously to empirical data, namely, that it overgenerates. This problem is overcome when certain additional rules are allowed to apply. However, the formulation of these rules is adverse to the minimalist conception of grammar. A solution is proposed which relegates the relevant rules to the periphery component.

Notes

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[1] It does not matter in this analysis whether the complement of T is notated as VP or vP.

[2] There are cases where the subject does not raise to [Spec, T], for example when the subject is a negative polarity item (NPI). Because NPIs must be c-commanded by Negation at S-structure, and Negation is below Tense, the subject in this case must remain in [Spec, V].

(i) a. se   khong   ai   doc   sach
         FUT   NEG   anyone read   book
     b. *ai   se   khong   doc   sach
         anyone FUT   NEG   read   book
         ('nobody will read books')

See Li (1992) for a similar constraint in Chinese.

[3] It can be argued that *se* is a modal verb which raises to T. Syntactic evidence will be given below that this is not the case. Semantically, the morpheme *se* seems to be a tense marker with possible modal value rather than a modal verb with future tense meaning. Thus it is possible to understand (1a) without any modal connotation.

Cao (2001: 537 – 549) argues that Vietnamese generally has no tense, but he concedes that "only the word *se* can be reasonably called tense" (Cao (2001: 569), my translation). Nguyen (1995), quoted in Cao (2001: 569), notices that *se* is the only "modal verb with tense meaning" which is used "even in cases where the location of the event in time is clear from the utterance context" (my translation).

Here I will not attempt to give a formal definition of future tense, or of tense generally. For the purpose of this paper, I will just assume Comrie's informal definition of tense, namely, that "tense locates the time of a situation relative to the situation of the utterance" (Comrie 1976: 2).

[4] Phonological stress is marked by **boldface**. I assume that the stressed element carries an abstract feature [+stress] in the sense of Chomsky and Halle (1968), whose realization usually takes the form of greater length and amplitude.

A context in which sentence (2a) sounds most natural is (i).

(i) bao   no   se   khong   doc   sach   la   sai,   no   **se**
     say   he   FUT   NEG   read   book   COP   wrong he   FUT
     doc   sach
     read   book
     'to say he will not read books is wrong, he **will** read books'

[5] Of course, (2b) is well-formed with the reading 'he will **read** books (not **write** them)', i.e. with emphasis on the semantic content of *read*.

[6] The perfect aspect marker *da* is glossed as PERF. As with tense, I will not attempt to give an exact and formal definition of 'perfect aspect'. For my purpose here, it suffices that we assume, as in Comrie (1976: 44), that the perfect "expresses a relation between two time-points, on the one hand the time of the state resulting from a prior situation, and on the other the time of that prior situation."

In Cao (2001: 477 – 487, 546 – 564) it is argued that *da* is a perfect aspect marker. Specifically, it is pointed out that a *da* sentence, although it talks about an event that takes place before the point of speaking or some other point of reference, is really about something at the present. For example, the speaker of (i) below is really saying that he is now full and has no wish for food.

(i)   toi   da   an   sang   roi
         I   PERF   eat   morning   already
         'I have eaten breakfast'

This 'current relevance' effect is one of the features of the perfect aspect, as this term is generally understood (Comrie (1976: 52), Comrie (1985: 32)).

Cao (2001: 486, note 10) also points out the incompatibility of *da* with time adverbials such as *hom-qua* 'yesterday' and remarks that *da* in Vietnamese is "very similar" to "a form in English which is called present perfect" (my translation).

(ii)   *hom-qua   toi   da   an   sang   roi
          yesterday   I   PERF   eat   moring already

Although incompatibility with such time adverbials as 'yesterday' is generally considered to be a specific characteristics of the English perfect (Comrie 1976: 54), the fact that a morpheme M in another language is also incompatible with 'yesterday' does not make M less likely to be a perfect morpheme. Rather, the opposite is true, since the property 'incompatible with time adverbials' is assumed to identify a (proper) subset of the set of perfect constructions across languages. Similarly, the fact that in some languages, e.g. German and French, the perfect construction can also be interpreted without current relevance (Comrie 1976: 53) does not mean that those constructions which do have current relevance as an intrinsic component of their meaning are less likely to be perfect constructions.

Furthermore, it seems to me that 'incompatibility with time advebials' should be understood in a more fine-grained manner. Thus English seems to tolerate *yesterday* in perfect sentences, provided the adverb is predicate-internal, not sentence-initial (Ben Shaer, p.c.). In this respect, it parallels German perfect sentences with *schon* (Andreas Haida, p.c). We come back to this issue below (see note 29).

In this connection, two things should be pointed out about (ii). First, it contains the adverb *roi* ('already'). Second, the time adverbial *hom-qua* ('yesterday') is sentence-initial. These facts will be discussed below.

[7] See Chomsky (1957), among others.

[8] Of course, (7) is good without stress on the verb.

(i)   no   doc   sach
         he   read   book
         'he reads books'

[9] Note that (8) sounds very bad without stress.

(i)   *no   co   doc   sach
          he   HAVE   read   book
         'he does read books'

[10] Lasnik (1981: 164) proposes the 'stranded affix filter', given here in (i).

(i)   a morphologically realized affix must be a syntactic dependent of a morphologically
         realized category, at surface structure

It is reasonable to assume that AF is a morphologically realized affix, since it has an effect on PF.

[11] The lexical meaning of *co* is illustrated in (i).

(i)   no   co   tien
         he   have   money
         "he has money"

See Chomsky (1957, 1991), Lasnik (1981, 1999, 2000), Bobaljik (1994) for similar analyses of
English do-support. For an alternative, see Baker (1991).

[12] I assume that the expletive verb HAVE is adjoined to T before AF is, so that we have HAVE
adjoined to T and then AF adjoined to [$_T$ HAVE T]. The reason for this is that if the order of
adjunction is reversed, AF would adjoin to (null) T, not [$_T$ HAVE T], and we would have to qualify
'adjunction' in order to maintain the simple hypothesis that AF results in phonological stress on the
element to which it adjoins, or we would have to change or complicate this hypothesis.

[13] There are analyses that take the expletive verb in do-suport constructions to be the head of an
independent phrase which is the locus of sentence polarity. Two that I know are Duffield (2004)
and Laka (1990). I do not follow these analyses.

[14] There are also obvious differences in meaning between these morphemes. However, difference
in meaning does not preclude base generation under the same node in the syntactic tree.

[15] The meaning of 'he has not read books' is expressed by (i).

(i)   no   chua   doc   sach
         he   NEG$_{PERF}$ read   book
         'he hasn't read books (yet)'

The morpheme *chua* marks a negated perfect sentence. Its meaning is similar to that expressed by
have not …(yet) in English. It is glossed here as NEG$_{PERF}$.

It should be noted that (10b) is grammatical in the preterite reading, i.e. it means 'he did not read
books.' We come back to this below.

[16] There is a difference in degree of acceptability between (11a) and (11b). The former is better
than the latter. This fact will be ignored here. What is certain is that (11a) is not perfect. All
speakers agree that (i) is a much better way to express the intended meaning.

(i)   no   khong   phai   (la)   giao-vien
         he   NEG   right   (COP)   teacher
         'he is not a teacher'

More will be said about (i) below.

[17] Of course, it should not be excluded a priori that the semantics of COP and PERF is somehow
incompatible with that of NEG. But this view is hard to maintain because there are ways to negate
perfect and copula sentences (see note 15 and 16), so it cannot be that the problem lies in the
meaning.

[18] I assume that Neg heads its own projection and NegP is not an adjunct. We come to the categorial feature of Neg below. I also assume that the copula verb occupies a position lower than the verb which expresses perfect aspect.

It seems that (13) poses an obvious problem for semantic interpretation, assuming that negation is a sentence operator and that semantics is interpretive and compositional. We come back to this below (note 25).

[19] See Travis (1984: 131).

[20] It could well be that the syntactic combination of PERF and NEG is ruled out by the existence of the lexical item *chua* which allows for the expression of the same meaning with a shorter form (see note 15). If this is true, then (10a) will contain two violations, namely violation of (14), which is still needed to explain the incompatibility of PERF and FUT, as will be seen in (15), and violation of whatever principle blocks the use of regular forms in favor of irregular ones. The deviance of (10a) will thus be predicted to be more severe. This seems indeed to be the case.

[21] Actually there are situations in which (16a) can be uttered, for example when we are planning a play and give someone the role of a teacher. I will assume that there are two verbs with the same phonology in Vietnamese, one is the copula, the other meaning something like 'play the part of' or 'function as'. The copula is what concerns us here.

While this assumption works for (16a), it does not explain the fact that in all other contexts, the non-copula *la* is subject to the same restrictions as the copula verb, e.g. it is also incompatible with negation. I have no explanation for this fact.

[22] Of course, the data in (15)- (17) are compatible with (6b), i.e. the assumption that PERF, COP, FUT are all base generated in T. But (6b) begs the question why PERF and COP are incompatible with NEG, whereas FUT is not, as we have seen.

[23] Assuming that PERF must move to T to check some features (see 2.2), the configuration in (21) still allows this checking to take place, adopting the specific definition of 'checking domain' of Chomsky (1993: 98).

[24] The lexicon is standardly assumed to be "a list of basic irregularities" (Bloomfield (1935: 274), (see also Chomsky (1965: 87) and subsequent works). More precisely, if something is irregular, then it is assumed to be stored in the lexicon, but not necessarily vice versa.

[25] Questions arise about how a negative sentence is interpreted. We have assumed that the negative verbs are sentence operators, i.e. they take meaning type t as arguments and yield meaning type t. If semantics is interpretive and compositional, and functional application in semantics applies to sister nodes in syntax, as standardly assumed (see Krifka (2003)), the negative verbs should c-command TP, which is not the case.

We can follow the method used in Krifka (2003) for sentential operators such as *and, or* and deal with this problem in the following way. Let us say that *khong* and *chua* are of the category NEG. Let us say that they are NEG$_1$ and NEG$_2$, respectively. Now let us define the meaning of two sentence operators, NEG$_1$ and NEG$_2$.

(i)   a.   NEG$_1$ = $\lambda p[\exists r. \neg\exists e. \text{ p at r,e}]$
          b.   NEG$_2$ = $\lambda p[\exists r. \neg\exists e. e \leq r. \text{ p at r,e}]$

If p is 'propostion', r the event time and s the reference time relative to which the truth value of p is evaluated, then (i-a) and (i-b) can roughly be seen as the basic meaning of *khong* and *chua*, respectively. Now we define the notion of 'negation-compatible types', i.e. types that can be argument to $\underline{\text{NEG}_n}$, i.e. NEG$_1$ or NEG$_2$.

(ii)   a.   t is negation-compatible
       b.   if τ is negation-compatible, then $\langle\sigma,\tau\rangle$ is negation-compatible

$\underline{\text{NEG}_n}$ itself will be defined as follows.

(iii)   a.   if A is of type t, then $\underline{\text{NEG}_n}(A) = \text{NEG}_n(A)$
       b.   if A is of negation-compatible type $\langle\sigma,\tau\rangle$, then $\underline{\text{NEG}_n}(A) = \lambda X[\text{NEG}_n\,(A(X))]$, where X is a variable of type σ which does not appear in the description of A

This means that the negative verbs can in principle combine with any semantic category that ends in t – i.e. with all semantic categories, assuming names are generalized quantifiers – and still be interpreted as sentential negation. The constraint on their syntactic distribution will be accounted for by syntactic features, e.g. subcategorization.

The above solution presupposes that the negative verbs are sentential operators, i.e. that they have semantic scope over the whole TP. However, this could be incorrect. In Laka (1990: 81 – 83), it was pointed out that if negation has scope over Tense, there is no reason why (iv-a) cannot have the reading (iv-b), as (v-a) can (v-b).

(iv)   a.   John *didn't* read books
       b.   it is not the the past that John reads books (= not possible with iv-a)
(v)   a.   John did *not* read *books*
       b.   it is not books that John read

Laka (1990: 39 – 42) proposes a universal condition on syntactic representations, the Tense C-command Condition (TCC). The TCC dictates that Tense must c-command Negation at s-structure. If s-structure is input to LF, it is hard to make sense of this condition if Negation is semantically a sentential operator.

[26] The answer 'not Darwin' can also be expressed as in (i).

(i)   khong   phai   Darwin
         NEG   right   Darwin

What is crucial here is that NEG must precede a *predicate*.

[27] This difference between English *not* and Vietnamese NEG (*khong*) extends to cases of sentential categories, i.e. IPs and CPs. In English, sentences such as those in (i) are possible.

(i)   a.   I said that John read Chomsky, not that John read Jackendoff
       b.   not "John read Chomsky", but "John read Jackendoff"

In (i-a), *not* attaches to a CP. It could be questioned whether we can say that *not* attaches to an IP in (i-b), since what follows *not* is a quote. Nevertheless, it is significant that Vietnamese does not allow such sentences as (i-a) and (i-b).

(ii)   a.   *toi   noi   la   John   doc   Chomsky,   khong   la
               I   said   that   John   read   Chomsky,   NEG   that

	John	doc	Jackendoff
	John	read	Jackendoff
b.	*khong	"John	doc	Chomsky",	ma	"John	doc

| | NEG | "John | read | Chomsky", | but | "John | read |

Jackendoff"
Jackendoff"

If the predicate *phai* ('right') is inserted after NEG (*khong*) in (ii-a) and (ii-b), the sentences become grammatical.

It should be noted that although the lexical item not is categorically an adverb, it is not always functionally an adjunct. For example, when not is generated in the head position of NegP, it is not an adjunct.

[28] Sells (2001) describes a similar situation in Korean. In this language there are three forms of negation, one among which is the so called long form negation (LFN). In LFN, the 'negative verb' *anh-ta* takes a verbal complement, as in (i).

(i)   ilke   poci   anh-ta
      read   try   NEG
      'not try to read'

[29] The fact that the preterite reading is forced in (29) is evidenced by the impossibility of (i).

(i)   *cho-den   nay,   no   da   khong   doc   sach
      until   now   he   DA   NEG   read   book

[30] Although it is not generally true that time adverbials cannot appear in perfect sentences, I assume that they are impossible sentence-initially without focal accent. (Hans-Martin Gärtner (p.c.) said that even (ii-a) is bad without focal stress on *gestern*.)

(i)   a.   [?]John has already seen Mary yesterday
      b.   *yesterday John has already seen Mary

(ii)   a.   Hans hat Maria gestern schon gesehen
      b.   *Gestern hat Hans Maria schon gesehen

The same applies to Vietnamese. When we disambiguate a sentence containing [da] by adding the adverb *roi* ('already'), thus giving the sentence an unambiguously perfect interpretation, time adverbials such as *hom-qua* ('yesterday') are possible only inside the predicate.

(ii)   a.   no   da   doc   sach   hom-qua   roi
      he   PERF   read   book   yesterday   already
      'he has already read books yesterday'
      b.   * hom-qua   no   da   doc   sach   roi
        yesterday   he   PERF   read   book   already

So the fact that *hom-qua* ('yesterday') is able to *precede* (30a), yielding (30b) with the corresponding meaning can be considered evidence that there is a morpheme PAST which is pronounced [da].

[31] Actually, *da* is often omitted when the adverb *roi* is present. The latter is on its way to become the sole marker of the perfect aspect. This plus the fact that PERF and PAST is phonologically identical (i.e. [da]) seem to fit nicely into a historical account. A plausible hypothesis would be

that over time, an increasing number of positive perfect sentences in Vietnamese come to be understood without their 'current relevance' meaning until they were reanalyzed by language learners as belonging to a different category, namely positive simple past sentences. In other word, the verbal aspect morpheme *da* in these senteces is reanalyzed as a tense element, on a par with the future tense morpheme *se*. As the result, *da*, in this new reading, becomes compatible with sentence negation. This, however, lead to ambiguity in positive sentences with *da*, namely, they can be understood as perfect or past sentences. So when a *da* sentence is meant to be perfect, the adverb *roi* was added to emphasize perfectivity. Overtime, *roi* takes on the function of expressing perfectivity itself, and the original perfect aspect marker *da* becomes optional. We can imagine the day when it will become extinct.

The loss of the 'current relevance' component in the meaning of perfect sentences as well as the use of the perfective marker as a pure past tense marker seem to be a wide-spread phenomenon among languages (see Heine & Kuteva (2002: 231) and references therein). The development of *roi* as an emphatic adverb into a functional category, replacing the original element of which it used to be a modifier, resembles the so called Jespersen's cycle in the history of English negation (see Fischer et al. (2000: 305 – 310) and references therein).

[32] Thus we predict that *chua*, being a negative verb just like *khong*, can follow *da*, yielding a negated perfect sentence in past tense. This prediction is borne out.

(i)   no   da   chua   doc   sach
        he   PAST   NEG$_{PERF}$ read   book
        'he had not read books'

Actually this fact can be considered decisive evidence that there are two different morphemes PAST and PERF, both pronounced [da]. If there is only one *da*, which is PERF, we will have to assume that PERF can be combined with NEG$_{PERF}$, which is exactly its semantic negation, yielding this meaning.

(ii)   it has been the case that it has not been the case that he reads books

Suppose (ii) is a legitimate meaning, we will have to explain why (i) does not have this meaning. If (ii) is not a legitimate meaning, we will have to explain why the form (i) is possible. On the other hand, if we assume that *da* in (i) is a past tense morpheme base generated in T, none of the problems arises.

[33] In Cao (2001: 558 – 559), it is noted that the ambiguity of a *da* sentence has been recognized by the Russian linguist V.S. Panfilov. Specifically, Panfilov points out that (i) has two meanings, corresponding to the Russian translations in (ii-a) and (ii-b), respectively.

(i)   no   da   di
        he   DA   go
(ii)   a.   он шёл
        b.   он пошёл (и сейчас идёт)

Furthermore, Panfilov observes that (ii-a) is negated by (iii-a), and (ii-b) by (iii-b). The meaning of (iiia-b) is given in the original Russian translation.

(iii)   a.   no   da   khong   di
                he   DA   NEG   go
                'он не шёл'
        b.   no   chua   di
                he   CHUA   go
                'он ещё не пошёл'

The only difference between Panfilov's analysis and mine is that whereas I assume two lexical entries PERF and PAST which have the same phonetics, Panfilov assumes that *da* is a single morpheme which expresses the perfect aspect but which "can mean different things when placed outside the utterance context" (quoted in Cao (2001: 478) in Vietnamese, my translation into English), the preterite interpretation being presumably one of these "different things."

Cao (2001: 559) argues that Panfilov is wrong, asserting that "past tense cannot be expressed with *da…roi*" (my translation). While it is indeed true that past tense cannot be expressed with *da…roi*, this does not make Panfilov wrong, because none of Panfilov's examples, as they are cited in Cao (2001), contains *roi*. This crucial fact escaped Cao, who insists on the view that *da* is exclusively an aspect marker, and that Vietnamese has no tense. I would not hesitate to say that Cao is clearly mistaken about *da*. One simply cannot deny that (i) is ambiguous and that (iiia) is exclusively preterital. The latter fact is not discussed by Cao at all.

[34] The same applies to NEG$_{PERF}$.

(i)   a.   *no   *co*   chua   doc   sach
              he   HAVE   NEG$_{PERF}$ read   book
       b.   no   *chua*   doc   sach
              he   NEG$_{PERF}$ read   book

In fact, (i) sounds worse than (36). What alleviates the degradedness of (36) might be the possibility of incorporating NEG into the VP 'read book', turning 'not read book' into a complex negative predicate, of which nothing raises to T. We can imagine that this possibility is not available in the case of NEG$_{PERF}$ (*chua*), since the meaning of NEG$_{PERF}$ is already complex.

[35] The fact that English and Vietnamese differ with respect to the category of Negation should not be surprising, since this is the common situation crosslinguistically. Movement of the head of NegP to T is also found in Finnic languages, for example. Specifically, the negative marker in Finnish bears Tense and Agreement features, while the main verb does not raise and does not bear these features. The following example is taken from Bobaljik (1994: 6, note 4).

(ii)   a.   minä   ota-**n**   tätä
             I   take-1sg   this
             'I will take some of this'
       b.   minä   e-**n**   ota   mitätän
             I   NEG-1sg   take   what
             'I will not take anything'

[36] In other words, Vietnamese has three classes of verbs with respect to their feature specification when they enter the derivation, or more precisely, when they enter the numeration. They are (a) those that are always untensed (main verbs), (b) those that are alsway tensed (COP and PERF), and (c) those that can be tensed or untensed (the negative verbs).

Lasnik, in his (1999a, 2000) analysis of English verbs, also divides these into the three types above. Specifically, he proposes that main verbs always enter the derivation without inflectional features; the auxiliaries *have* and *be*, when they are finite, enter the derivation fully inflected; and the modals are defective in that they lack infinitival forms, i.e. they are always inflected (thus Vietnamese is similar to English in having these sets of verbs, but differs from it with respect to specific members of these sets). Lasnik accounts for the difference in distribution of verbal heads between French and English by assuming that whereas English has these three classes of verbs, all French verbs are like English *have* and *be*.

An important point to note is that Lasnik's explanation also requires that it be possible for verbs to get together with affixes either by syntactic movement or by morphological merger. My account of Vietnamese here also makes use of this choice, as we will see below.

These options may just be irreducible facts about grammatical variation, both among languages or among structures in a single language. Thus Chomsky (1995: 238) says that "Features that are associated with the verb but not predictable from the lexical entry have two possible sources: they might be chosen arbitrarily as the verb enters the numeration, or they might be the result of operations that form complex words by association with other elements (e.g. adjunction to T). These could be operations of the overt syntax or the phonological component (including morphology)[…] The answer could vary across or within languages."

[37] See Lasnik (1999a: 120 – 145).

[38] See Chomsky (1993, 1995). In particular, Chomsky (1995: 219 – 220).

[39] See Lasnik (1981: 164) for the ‚stranded affix filter' (note 8). (43a) says basically the same thing.

[40] This assumption, I think, is implicitly made in analyses. For example, in Lasnik (1999a, 2000), it is said that "inflectional features" on V are uninterpretable, where it is clear that "inflectional features" consist of tense and agreement features. Tense features on T are interpretable, of course.

For an analysis that takes tense features on T to be interpretable and tense features elsewhere to be uninterpretable, see Pesetsky and Torrego (2000).

[41] See Chomsky (1993: 178). Chomsky's definition also allows elements adjoined to specifiers or adjuncts to be in the checking domain of the head. Later, he proposes the principle that nothing can adjoin to an adjunct, specifier, or complement (Chomsky (1995: 234)), so that these options do not come into consideration.

Because the notion 'maximal projection of X' is not defined for X a feature, the option of F being a specifier or adjunct is ruled out. Thus Move F, without pied-piping, is only adjunction of a feature to a head (Chomsky (1995: 270 – 271)).

[42] See Lasnik (1999a, 2000), Bobaljik (1994). It is assumed, in these works, that adjuncts are not relevant for determining adjacency. Bobaljik (1994: 11, note 8) says that "If trees are represented in three dimensions with adjuncts "sticking out" this could account for the structural effects (scope, etc…) of adverbs, as well as their linear positions, while other processes (head-movement in the syntax, adjacency in morphology) would "see" only two dimensions and thus be blind to adjuncts." Although I do not deal with adjuncts in this paper, I also assume here that adjuncts do not block adjacency.

[43] See Chomsky (1995: 277): "Among the Interpretable features are categorial and Φ-features of nominals." That tense features of T, e.g. [+PAST], are interpretable has never been constested, to my knowledge. In Chomsky (2001b: 9), it is even suggested that "[…] T should be construed as a substantive rather than functional category, falling together with N and V."

[44] See Lasnik (1999a, 2000) for a similar analysis of English main verbs. The question is begged as to why the expletive HAVE (co) must be inserted when the affimative morpheme AF is adjoined to T. If T and V are merged in PF, why can the complex [[AF T] V] not receive an accent. The same question arises in Lasnik's accounts. I have no answer here, just a speculation. It could be that AF somehow blocks the linear adjacency between T and V, so that morphological merger of these items cannot take place.

[45] I will assume that uninterpretable tense features on verbs, i.e. [+uT], enter the derivation unvalued. When they are checked against the interpretable tense feature of T, i.e. [+T], they are valued and eliminated from the derivation. This is the view of Chomsky (2001b), except that there Chomsky uses Agree instead of the checking mechanism of Chomsky (1993, 1995).

The point is that it is immaterial what the specific value of [+T] is. What matters here is feature dimensions, not feature values.

[46] I assume that right adjunction is excluded.

[47] Chomsky (1995: 262) proposes the following "natural economy condition" on pied-piping, which can be considered a consequence of Last Resort.

(i)   F carries along just enough material for convergence

(i) may also account for Lasnik's generalization, i.e. "[…] V can raise to I[nflection] only if I is an affix; V can't raise to I if the I is a freestanding lexical item […]" (see Lasnik (2000: 153)).

[48] This fact is reflected in the orthography of Vietnamese: morphemes of a "word" are written as seperately from each other as words are.

[49] See Chomsky (1993), Reinhart (1998), among others. Chomsky (1995) tries to capture transderivational economy considerations, which are taken to induce high-order computational complexity, in terms of intraderivational computation. One example is the incorporation of the Minimal Link Condition into the definition of Move/Attract (see below). But there are cases where transderivational contraints seem unavoidable, as will be seen.

[50] Conflicts arise between these two demands in such cases as successive-cyclic wh-movement. However, we can understand (51b) as favoring derivations that construct shorter chain links. Following Chomsky (1993: 181 – 182), we can assume that the basic transformational operation is Form Chain, which counts as a single step. Thus a derivation in which a wh-phrase moves successive-cyclically has the same number of steps as one in which the wh-phrase skips intermediate [Spec, C] but shorter links, and is thus favored over the latter.

[51] This definition of non-distinctness is taken directly from Nakamura (1998: 297). I make one single modification. Whereas Nakamura only says "interpretable features", I say "LF-interpretable features". This modification is only for the purpose of exposition here and does not change the meaning of non-distinctness intended by Nakamura at all. He says explicitly that "[…] uninterpretable features include phonological features, Case features, the Φ-features of verbs, and affixal features […]" (page 297), and that "[…] the differences […] in terms of phonology and Case are immaterial for the purpose of the reference set" (page 298). In fact, his account requires that phonological features do not affect the non-distinctness of numerations. So there is no question that by "interpretable features" he means "LF-interpretable".

Reinhart (1998, 2005) and Fox (1998) also takes the reference set to be derivations with the same interpretation. The difference in sound is irrelevant in these accounts.

[52] It seems that "interpretation-sensitive economy", to borrow a term from Fox (2000), is unavoidable. See Fox (1998, 2000), Reinhart (1998, 2005). I use Nakamura's theory because it seems most handy for the present account, but the theories of Fox and Reinhart will serve the purpose as well.

Chomsky (1995: 294) proposes the economy principle (i) (= Chomsky's (76)), which in essence is an instance of "interpretation-sensitive" economy.

(i)   α enters the numeration only if it has an effect on output

Given some definition of "effect on output", (i) will prevent [+uT] to be introduced into the numeration as a feature of COP in the first place. This principle, coupled with the assumption that it applies exclusively to the computational system, in particular to the operations that construct the numeration, but does not access the information about lexical idiosyncrasies of individual morphemes, can also account for (49). But below we will encounter cases that can be accounted for by Takamura's theory, but not by (i), so I will adopt Takamura's theory here.

[53] Given what is said here, a well-formed expression will be a pair (π, λ) constructed by a derivation which is convergent, economical and realistic, i.e. realism must be introduced into the notion of well-formedness, along with convergence and economy.

[54] See Fanselow & Féry (2002) for other examples and a definition of ineffability. There it is assumed that "syntactic representations are *abstract* entities, and they have to be interpreted by concrete words (as in *distributive morphology*). This interpretation by concrete words takes place *independently* of the identification of the optimal candidate in the syntactic evaluation" (Fanselow & Féry (2002: 29)). Ineffability arises either because there are more than one lexical candidates that are equally good (or bad), hence no 'best' candidate can be found, or because "the lexicon offers *no realization at all* for an abstract morpheme in a syntactic structure."

Although formulated in optimality-theoretic terms, this account has in common with mine the encapsulation of syntactic economy computation from lexical information.

[55] The Elsewhere Condition goes back to Panini (Uriagereka 1998: 429). It was first used in phonology by Kiparsky (1973), as pointed out by Lasnik (1981: 169) (see also Kenstowicz (1994: 216 – 219)). For the lexico-semantic aspect of this principle, see Uriagereka (1998: 445). Lasnik, I think, was the first to apply it to syntax.

[56] It is not obvious how the Elsewhere Condition, as formulated in Lasnik (1981), is to be captured in minimalist terms. I think that is why Lasnik refrained form making explicit reference to this condition in his minimalist works, but spoke only of a notion of 'morphological blocking.' Thus Lasnik (2000: 193) says "[…] the possibility of […] *it is not raining* should preclude [*it does not be raining*], rather in the way the existence of an irregular verb form (e.g. *brought*) precludes the existence of the corresponding regular form (e.g. *bringed*). But I don't see how to make this precise at the moment."

In Lasnik (2000: 119, note 20), he says "[…] the question is why there cannot be an alternative merger derivation of *is*, alongside the lexicalist one. I suspect that the answer lies in the domain of what is often termed morphological blocking."

I try to translate Lasnik's Elsewhere Condition as (62), but acknowledge that this is certainly not the end of the story.

[57] This accords well with Lasnik's (1999a, 2000) account of do-support. There it is assumed that do-support applies to rescue a derivation which otherwise would crash for PF reason, namely, that the main verb cannot be merged with Inflection because linear adjacency is disrupted.

[58] Within this work, it is crucial that we assume that the PPB is not part of syntax, but applies only to the outputs of the syntactic component. If it were part of syntax, then simple declarative such as (44), repeated here in (i), will be ineffable, given the notion of well-formedness defined in note 53.

(i)   no   doc   sach
         he   read   book

We have assumed that (i) is constructed by a derivation D in which the main verb doc ('read'), as forced by the grammar of Vietnamese, enters the derivation as bare verb. If the PPB were to apply in the syntax, it would dictate that (i) be blocked by another derivation D' in which the main verb enters the derivation with tense feature, i.e. [+uT]. But since this option is not available in Vietnamese, D' would be an unrealistic derivation. (i) would thus be ineffable, just as (54).

However, if the PPB does not decide which of the convergent derivations is economical, but rather chooses among equally economical derivations churned out by the syntax, the problem presented above would not arise.

[59] Note that the requirement that NEG must carry [+uT] applies up to convergence. Thus it does not rule out the derivation represented by (63) and (64a), since the assigment of [+uT] to NEG would lead to crash at LF because [+uT] on COP would not get checked.

[60] This is the definition of Chomsky (1995). (66) and (67) are (51) and (82) of Chomsky (1995), respectively.

[61] Sublabels of K are features of K or of elements adjoined to K (see Chomsky (1995: 268 – 269)).

[62] Different analyses have been proposed to deal with (69). Chomsky (1991) accounts for movement of V across negation to T by assuming an intervening Agr head that can later be deleted. This analysis has a number of problems, as pointed out in Lasnik (1999a: 99 – 102). For example, it allows lowering and LF deletion of members of well-formed chains. It is also not clear how it would deal with movement of auxiliaries, which should be base generated above Agr_o, and copula verbs, which should not project Agr_o. Chomsky (1993) eliminates lowering, but other problems remain, as pointed out in Lasnik (1999a: 102 – 104, 2000: 185 – 187). Lasnik (1999a, 2000) do not deal with (69) directly. However, Lasnik (1999a: 108) suggests that the problem be solved in the manner of Roberts (1994). The latter takes *not* and V to be heads of different sorts (A' vs A). *Not* would then not block movement of V, assuming some version of Relativized Minimality. This analysis is the closest to mine. Another approach is Bobalijk (1994), which takes *not* to be a specifier, hence a maximal projection. Bobalijk assumes that overt specifiers block adjacency, whereas covert specifiers and adjuncts do not.

[63] Arguments against the HMC as an independent principle are given in Chomsky (1991), Chomsky (1995), Lasnik (2000: 146 – 159), Lasnik (1999a: 118, note 13), among others.

[64] Although he does not cite any specific example, Chomsky acknowledges that there is the problem of ruling out cases that are excluded by the HMC but allowed by Move F. Thus after the lines quoted in the second to last paragraph on page 23, he goes on to say that "[…] it is still necessary to bar unwanted cases of long head raising […] The situation remains unsatisfactory" (Chomsky (1995: 307)).

[65] In this respect, polarity questions and truth questions in Vietnamese are similar to A-not-A questions and questions with the particle *ma* in Chinese, respectively (see Li & Thompson (1979), among others).

[66] See Quirk & Greenbaum (1973: 193), also Romero & Han (2004).

67 Again, in this respect the Vietnamese question particle *a* behaves similarly to the Chinese question particles *ma* (Yi-chun Yang (p.c.)) and *ne* (Li (1992: 153, note 16)), in that questions containing it cannot be embedded.

68 In fact, *a* does not even have to follow a sentence. It can follow any expression, including proper name.

(i)   John   a?
       John   Q

One can say (i) when one hears someone knocking on the door and wants to check if it is John who is knocking. In other words, (i) is the Vietnamese counterpart to English (ii).

(ii)   John? (with rising intonation)

This fact might allows us to say that in (78), the string preceding *a* is not used, but mentioned. That is, the phonetic sequence [John co doc sach khong] is considered a name. (78) checks whether the relevant polarity question has this name, just as (i) checks whether the person in question has the name 'John'.

We can say that *a* plays the role of the rising intonation in English. Indeed, checking questions are best translated as declaratives with rising intonation in English. For example, (iii-a) would be most appropriate when the speaker has always assumed that John does not read books, but now sees John taking out books from the library. (iii-b) is not as good in this situation.

(iii)   a.   John reads books? (with rising intonation)
         b.   does John read books?

What is significant here is that this rising intonation seems to be able to detach itself from any lexical expression. Thus in English, it is possible to implement just this intonation alone with the help of a meaningless and maximally simple syllable, i.e. that with [h] onset and schwa nucleus.

(iv)   huh? (with rising intonation)

This 'surprise' intonation might fit the description of what Jackendoff calls a "holistic vocal gesture". Jackendoff proposes that early hominid language, i.e. a kind of "proto-language", consisted in an open list of such gestures. Since evolution builds upon existing structures, it is expected that our modern language retains remnants of the earlier stages, given the assumption that the language faculty evolves. Among these remnants are expressions that have sound and meaning but no syntax. Since *huh* has no syntax, i.e. it cannot be integrated into any kind of syntactic tree, we could say that it is one of the elements of the "proto-language". It should be noted that such elements are not rare. They also include such expressions as "hello" or "shh", which are also holistic vocal gestures (see Jackendoff (2002: 231 – 264) for a discussion of this issue).

As Vietnamese is a tone language, it is possible that the function of the rising surprise intonation is fulfilled by a segment, in this case *a*. Viewing *a* as a "holistic vocal gesture" might explain both its ability to combine with any syntactic category, and its inability to be part of an expression lesser than the matrix sentence, i.e. its inability to appear embedded.

69 The complementizer which introduces propositional complements is homonymous with the copula in Vietnamese; both are phonologically realized as [la]. It will be glossed as "that".

(i)	no	nghi	la	toi	doc	sach
	he	think	that	I	read	book

"he thinks that I read books"

[70] See Cheng, Lisa Lai Shen (1991) for the Clausal Typing Hypothesis, which states that clauses must be typed by C.

[71] Note that according to this consistently synchronic account, the phonetic similarity between the C heads *khong* and *chua* on the one hand and the negative verbs *khong* (NEG) and *chua* (NEG$_{PERF}$) on the other is accidental. Therefore we do not use the symbol NEG and NEG$_{PERF}$ to gloss *khong* and *chua* in their function as interrogative C heads, but we will use the symbols KHONG and CHUA. As for the interrogative T heads *co* and *da*, we will use CO and DA.

The assumption is that the semantics of KHONG, CHUA, CO and DA can be worked out such that structures containing the pair (KHONG, CO) will receive the neutral tense interpretation and those containing the pair (CHUA, DA) will receive the perfect aspect interpretation.

We see that to analyze polarity questions from a consistently synchronic point of view is obviously unsatisfying. We come back to this question below.

[72] See Kayne (1994). The same is true if we adopt the bare phrase structure framework (see Chomsky (1995: 334 – 340)).

[73] I assume, following Chomsky (1995: 253), that a chain created by movement must be "uniform with regard to phrase structural status". This assumption excludes movement of T to [Spec, C].

[74] We can say that T cannot adjoin to C because head adjunction is affixation, and words cannot be affixed to eachother as a principle of morphology.

Pearson (2001), proposes a similar account for Malagasy. In this language, TP also moves to one of the specifier postions in the C-domain, specifically [Spec, Topic], because the option of T to C head movement is not available due to morphophonological reasons. I have not been able to read Pearson's dissertation, but have only read the abstract.

One possible objection to the TP to [Spec, C] movement analysis is that C will be merging with its complement twice. Pesetsky and Torrego (2000) regards this state of affair as something that the computational system avoids, and proposes the Head Movement Generalization, which says basically that movement to X from the complement of X is always head movement. This is the flip side of Travis (1984)'s Head Movement Constraint, which says that head movement must always be from one head to the next higher head.

As answer to this, I will make two points. First, I see no conceptual reason why a head should not be able to merge with its complement twice. One would think that a recursive system which does not prohibit this option is more optimal than one that does. Second, Pesetsky & Torrego's Head Movement Generalization is just what it is, a generalization. A generalization describes the way things are, but it says nothing about the conditions that must be met for things to be the way they are. We would expect that if the relevant conditions are not fulfilled, things will turn out differently. Thus we can say that one condition for Pesetsky's generalization to be true is that head movement to X from its complement must be possible, i.e. must not violate other principles of grammar. This means, in our case, that if the T head cannot adjoin to the C head for some reason or other, T to C movement will be XP movement of TP to [Spec, C].

[75] I assume that Vietnamese is a pro-drop language, i.e. there is small pro, which can serve as an expletive to satisfy the EPP requirement of T. This assumption is plausible, considering the fact

that Vietnamese is morphologically uniform in the sense that it has no overt inflectional endings throughout. According to Jaeggli & Safir (1989), *pro* is licensed only in those languages with morphologically uniform paradigms (see Webelhuth (1995: 226)).

[76] See Law (2001) for a similar analysis of Cantonese *hai-m-hai* questions. Specifically, these are taken to be normal A-not-A questions, with the verb *hai* as the A element, and the clause following the *hai-m-hai* cluster as the CP complement of the verb *hai*.

[77] The QP can occupy the subject position of a declarative sentence.

(i)   vai   nguoi   doc   sach
        some   people   read   book
        ('a number of people read book')

It can also appear in a polarity question, provided it is below the T head CO, e.g. in questions with *phai*.

(ii)   co   phai   vai   nguoi   doc   sach   khong
        CO   right   some   people read   book   KHONG
        'is it right that a number of people read books'

[78] Pesetsky's examples include the paradigm below (see Pesetsky (2000: 60)). The grammaticality of the examples are judged only with respect to the pair-list reading.

(i)   a.   [which person]$_1$ t$_{wh1}$ did not read [which book]$_2$
        b.   [which book]$_2$ did [which person]$_1$ not read t$_{wh2}$
        c.   [which person]$_1$ t$_{wh1}$ didn't read [which book]$_2$
        d.   *[which book]$_2$ didn't [which person]$_1$ read t$_{wh2}$

Assuming that pair-list readings result only when both instances of [+wh] are in the C-domain, and having argued convincingly that covert movement of wh$_1$ to C must be featural (see Pesetsky (2000: 39 – 58), Pesetsky concludes that only **featural** movement is blocked by scope bearing elements such as Negation. Other kinds of covert movement, i.e. **phrasal** covert movement, are not subject to this constraint, as can be seen in the grammaticality of (ic), in which wh$_2$ undergoes **phrasal** covert movement to C.

Pesetsky also suggests that what is called feature movement might be movement of part of a word, in this particular case, movement of /h^w/ in *what*, *who*, etc (Pesetsky (2000: 53 – 56)). He also suggests, considering German examples, that the said intervention effect might come about through the seperation of the semantic restriction from the quantifier by a scopal element which results when only the [+wh] feature of a wh-phrase moves to C, crossing negation or other quantified expressions and leaving the rest behind (Pesetsky (2000: 67 – 70)). It is obvious that our account of T to C movement in Vietnamese can be made compatible with this idea.

[79] See Law (2001) for a similar treatment of A-not-A questions in Cantonese.

[80] This formulation is taken from Müller (1996: 376, footnote 13). The formulation of Unambiguous Domination in the main text, i.e. on page 375, is as follows.

(i)   an α-trace must not be α-dominated

Müller notes that (i) is a constraint on representations. He then proposes, in footnote 13, that it can be reformulated as a derivational constraint. I adopt the derivational version of the constraint, which is (99).

Müller considers the possibility that Unambiguous Domination applies to all kinds of movement, not only remnant movement (page 388 – 396). But it turns out that although most instances of ill-formed non-remnant movement are ruled out by Unambiguous Domination, they are also ill-formed for other, independent reasons. Thus "[…] it turns out that most of the configurations now excluded are ill-formed anyway, due to a violation of other principles of grammar […]." And "[…] it seems that though the Unambiguous Domination requirement can safely be assumed to hold for bound traces [i.e. non-remnant movement] as well, but vacuously so."

Keeping to the working hypothesis that language is non-redundant, we assume here that Unambiguous Domination is a constraint on remnant movement only. That also seems to be what Müller intends, as suggested by the title of his paper.

[81] Nothing in this analysis would change if we take the movement of TP to [Spec, C] to be 'tucking-in', resulting in TP attaching to CP below the wh-phrase. The derivation will still be ruled out by Unambiguous Domination.

[82] The possibility of the second movement, i.e. that of the wh-phrase to [Spec, C], being tucking-in is excluded here. If *gi* tucks in under TP, it will not c-command its trace.

[83] See Ochi (1999: 83 – 84). The exact words in the text are "[…] PF cannot delete non-head members of a chain if uniformity is not observed […]."

[84] This entails that a moved category is an island. See Lasnik & Park (2003) for the derivation of the Subject Condition from the condition on chain linearization and the assumption that the Subject raises from [Spec, V] to [Spec, T], i.e. the EPP.

[85] Interpretation of wh-questions would have to resort to in-situ strategies such as that proposed in Reinhart (1998). There it is assumed that in-situ wh-phrases are variables ranging over choice functions. These variables are bound by an existential operator arbitrarily far away. The choice functions apply to the set represented by the restriction of the wh word, i.e. the N-set, and yield an individual member of this set. The semantics of choice functions is such that they cannot apply to sets which are not N-sets, thus wh-adverbs cannot be interpreted in-situ.

Adopting this analysis of wh in-situ, we can account for two facts about Vietnamese wh questions. First, there is no island effects with respect to argument wh-phrases. This is expected since existential closure of the choice function variable can be arbitrarily far away. Second, wh-adverbs such as *tai-sao* ('why') must be sentence-initial.

[86] Law (2001) describes a similar configuration in Cantonese *hai-m-hai* questions, namely, that the subject of the clause which is embedded under the verb *hai* can raise to a sentence-initial position. However, Law takes this movement to be topicalization.

[87] See Chomsky (1995: 279 – 286). There we are led, under plausible assumptions about interpretability of features, to the conclusion that "[…] the EPP is divorced from Case […]", and that "[…] a single DP can enter into multiple satisfaction of the EPP […], but not multiple case relations […]."

[88] See Chomsky (1993: 174 – 175), among others. Note that once we assume that there is no Agr_S, which mediates the case and agreement relation between T and Subject, we have to assume that there is no Agr_O, which mediates the relation between V and Object, since Agr_S and Agr_O are not two seperate categories, but just "[…] informal mnemonics to distinguish the two functional roles of Agr […]" (Chomsky (1993: 174)). Thus any piece of evidence showing that there is no Agr_O can be taken to be evidence that there is no Agr_S.

[89] The derivation in (110) converges despite the fact that V has not raised. The reason is that overt head movement of V is driven by a strong feature of V. Assuming, following Chomsky (1993), that an unchecked strong feature is an illegitimate PF object, "we correctly derive the result that deletion of (a category containing) an item with an unchecked strong feature salvages the derivation. The portion of the structure that would have caused a PF crash is literally gone at that level" (Lasnik (1999a: 161)).

See Lasnik (1999a, 1999b), Ochi (1999), Boeckx & Stjepanović (2001) for details and revisions.

[90] As Arthur Stepanov (p.c.) points out, there are languages which do not have pseudo-gapping but do have Agr. This fact, however, does not prevent the non-existence of pseudo-gapping in Vietnamese to be **evidence** (not proof) that this language does not have Agr.

[91] The data could be accounted for by saying that in both Vietnamese and English there is object raising to [Spec, Agr], but that whereas English allows deletion of Agr', Vietnamese does not. However, we assume that deletion, as well as other processes, applies only to heads or maximal projections (see Chomsky (1995), among others).

[92] For example (i).

(i)   ~~have~~ you seen the film?

[93]   The constraint (118) might be responsible for the deviance of such English words as *friendlily*.

[94] In note 16, it is said that a negated copula sentence has the following pattern.

(i)   no   khong   phai   (la)   giao-vien
         he   NEG   right   (COP)   teacher
         "he is not a teacher"

We can now give the analysis of (i). With *la*, it is (iia), and without *la*, it is (iib).

(ii)   a.   [$_{TP}$ no khong phai [$_{CP}$ ~~la~~ [$_{TP}$ t$_{no}$ la giao-vien]]]
         b.   [$_{TP}$ no khong phai [$_{SC}$ t$_{no}$ giao-vien]]

Of course, there is another possibilty, namely, that the subject stays inside the embedded TP.

(iii)   a.   khong phai (la) no la giao-vien
         b.   [$_{TP}$ pro khong phai [$_{CP}$ (la) [$_{TP}$ no la giao-vien]]]

[95] So in this respect, *phai* is just like *right*, as seen in the English translation of the sentences in (125). Above, we noted that phai is similar to stimmen in German, which takes CP complements. And *stimmen* can also be used without complements, e.g. *stimmt es?*

[96] To convey this meaning, a *phai* question is used.

(i)   co   phai   no   chua   doc   sach   khong
         CO   right   he   NEG$_{PERF}$ read   book   KHONG
         'is it right that he has not read books'

Much depends on whether (i) is neutral or biased. If it is necessarily biased, then the impossibility of the sentences in (132) and (133) can have a pragmatic explanation, as follows. Let us say that negation-containing polarity questions cannot be neutral, since a neutral question can be asked

more economically, i.e. without negation. If normal *co…khong* structures are "reserved" for neutral questions, biased ones being taken care of by *phai* and particle structures, then it follows that normal *co…khong* structures are not to be used in the case of negation-containing polarity questions.

I do not agree with this explanation, since for me, (i) **can** have a neutral reading.

[97] The fact that other languages employ similar strategies of forming polarity questions (see Schaffar (2000)) does not affect the language specificity of (134), since languages can have specific rules that resemble each other.

[98] See Baker (1991) for the argument that "there is a serious risk […] in pressing too hard to view every particular linguistic fact as epiphenomenal, that is, to insist on believing that everything follows from general principles. The danger is that we will develop a theory of core grammar containing many principles that do not belong there, a theory that will require qualification and augmentation in virtually every encounter with new linguistic data." Baker proposes an account for the distribution of English *not* which makes crucial use of peripheral rules. These latter are allowed to be both language and construction specific.

[99] Questions arise of why the alternative questions that are candidate for grammaticalization (a) have the positive sentence preceeding the negative one, and (b) consist of two affirmative sentences. I do not answer this question here.

Another question is whether we should take polarity questions to be eliptical alternative questions. The answer seems negative, for reasons similar to those given in Huang (1991). Specifically, an alternative question can appear inside an island, whereas a polarity question cannot.

(i)	John	gap	nguoi	thich	no	hay	khong	thich	no
	John	met	person	like	him	or	NEG	like	him

"which person did John meet, one who likes him or one who does not like him"

(ii)	*John	gap	nguoi	co	thich	no	khong
	John	met	person	CO	like	him	KHONG

"which x∈{does, doesn't}: John met the person who x like him"

[100] See McCawley (1994) for a similar account of Mandarin Chinese A-not-A questions. Specifically, McCawley argues that a full analysis of A-not-A questions cannot ignore the fact, or the hypothesis, that these are conventionalized alternative questions. Moreover, he notes that the account "would […] strictly speaking be transderivational in the sense of Lakoff (1973): the well-formedness of one class of derivations would be contingent on the well-formedness of a related class of derivations." This is exactly the sense in which (134) is transderivational.

[101] See Jackendoff (2002: 152 – 195) for the argument that units larger than words are stored in the lexicon.

[102] The negative answer to both types of questions is *khong*.

[103] However, we will have to assume that the [*co phai … khong*] construction lacks the inherent biased meaning of the question particle a (see footnote 92).

[104] This dilemma can perhaps be overcome if we can find an appropriate division of labor between Construction Grammar and Minimalism.

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Zusammenfassung auf Deutsch

In dieser Arbeit werden grammatische Phänomene im modernen Vietnamesischen mit Werkzeugen der minimalistischen Syntaxtheorie analysiert. Die Arbeit ist in fünf Teile gegliedert. Der erste Abschnitt ist die Einleitung. Im zweiten Abschnitt wird die Distribution der temporalen und verbalen Elemente im Aussagesatz beschrieben und erklärt. Die Struktur der Entscheidungsfrage wird im dritten Abschnitt untersucht, und im vierten Abschnitt werden einige übrig gebliebene Fragen behandelt. Der fünfte Abschnitt ist das Schlusswort.
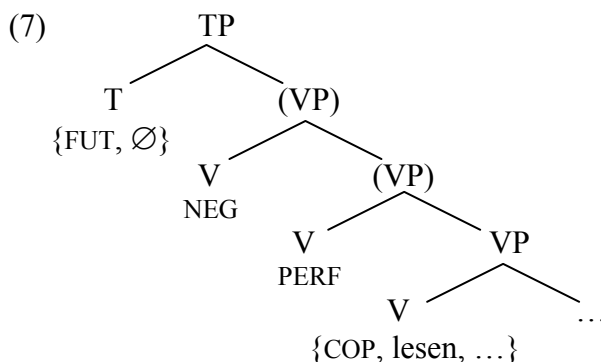
Die Distribution der temporalen und verbalen Elemente im Vietnamesischen weist eine Anzahl von Kookkurrenzbeschränkungen auf. Erstens kann die Kopula COP (*la*) bzw. das den Perfektaspekt anzeigende Verb PERF (*da*) nicht zusammen mit der Satznegation NEG (*khong*) auftreten.

(1) a. no   (* khong)   la   giao-vien
          er   NEG   COP Lehrer
     b. no la (*khong) giao-vien
(2) a. * no   (* khong)   da   doc   sach
            er   NEG   PERF lesen Buch
     b. * no da (* khong) doc sach

In komplementärer Distribution stehen COP und PERF ebenfalls mit dem Futurmorphem FUT (*se*), als auch mit einander. FUT und NEG sind aber mit einander verträglich.

(3) a. no (* se) la giao-vien
     b. no la (* se) giao-vien
(4) a. no (* se) da doc sach
     b. no da (* se) doc sach
(5) a. * no da la giao-vien
     b. * no la da giao-vien
(6) no se khong doc sach

Die Daten werden wie folgt analysiert. Der Satz wird als eine Projektion von T betrachtet. NEG, PERF und COP werden als Verben analysiert. Für Sätze ohne ein overtes Tempusmorphem wird das leere Morphem ARB (∅) als T angenommen. Das Ergebnis ist die folgende Struktur.

(7)
```
              TP
          ┌────┴────┐
          T        (VP)
      {FUT, ∅}   ┌──┴──┐
                 V    (VP)
                NEG  ┌──┴──┐
                     V     VP
                   PERF  ┌──┴──┐
                         V    …
                   {COP, lesen, …}
```

Es werden dann drei Klassen von Verben definiert. Nenne A die Klasse der defekten Verben, B die der flektierbaren Verben, und C die der unflektierbaren Verben.

(8) a. A = {x | x muss flektiert in die Derivation gehen}
     b. B = {x | x kann flektiert oder unflektiert in die Derivation gehen}
     c. C = {x | x muss unflektiert in die Derivation gehen}

Es wird angenommen, dass grammatische Variation, zwischen Sprachen und zwischen Strukturen innerhalb einer Sprache, u.a. darauf zurückzuführen ist, welche Verben zu welcher Klasse gehören. Die Optionen in (8) können deswegen als Parametersetzungen betrachtet werden.

Über die Morphosyntax des Vietnamesischen werden folgende Annahmen gemacht.

(9) a. PERF und COP sind defekt
     c. NEG ist flektierbar
     d. Hauptverben sind unflektierbar
     e. ARB ist ein PF-affix

Diese Annahmen interagieren dann mit weitgehend unkontroversen UG-Prinzipien, die die Ökonomie von Derivation und Representation zu Richtlinien haben und die in dem Sinne modularisiert sind, dass sie die Satzableitung ohne Berücksichtigung sprachspezifischer Eigenschaften beschränken. Das Ergebnis ist u.a. folgende Theoreme. Verben, die flektiert in die Derivation gehen, werden als $V^{[+T]}$ bezeichnet.

(10) a. wenn T ein Wort ist, ist kein $V^{[+T]}$ möglich
      b. wenn T ein Affix ist, ist genau ein $V^{[+T]}$ möglich
      c. $V^{[+T]}$ muss das höchste Verb im Baum sein

Es zeigt sich, dass diese Theoreme zusammen mit den Annahmen in (9) den beobachteten distributionellen Fakten im Vietnamesischen gerecht werden.

Unter der Standardannahme, dass Aussagesätze grundlegender sind als Fragesätze, kann die im zweiten Abschnitt gewonnene Analyse gewisse syntaktische Beschränkungen der Entscheidungsfrage erklären, die sonst schwer zu verstehen sind. Dies bildet den Stoff des dritten Abschnittes.
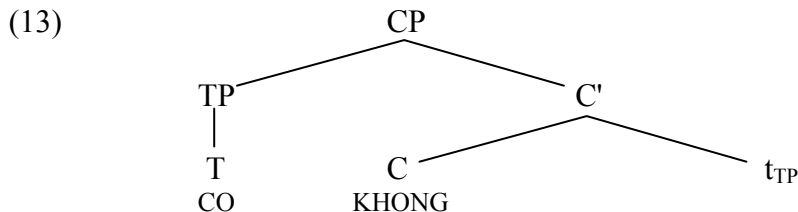
Die Entscheidungsfrage wird im Vietnamesischen so konstruiert, dass das Prädikat durch die Morpheme *co* und *khong* geklammert wird.

(11) a. no   doc   sach
          er   lesen Buch
      b. no   co   doc   sach   khong
          er   CO   lesen Buch   KHONG
          'liest er Bücher?'

Diese Regel ist aber blockiert, wenn das Prädikat COP, PERF, oder FUT enthält.

(12)   a.   * no co la giao-vien khong
      b.   * no co da doc sach khong
      c.   * no co se doc sach khong

Zur Erklärung dieser Tatsache wird für Entscheidungsfragen folgende Struktur angenommen.

(13)

```
                        CP
                 _____/  _____
               TP                 C'
               |            _____/  _____
               T           C                 t_TP
               CO          KHONG
```

D.h. in Entscheidungsfragen wird T durch das Morphem CO und C durch das Morpheme KHONG besetzt. CO und KHONG tragen das Merkmal [+Q], das den Satz als eine Frage markiert. Es gibt zudem overte Bewegung von TP nach [Spec, C]. Weil das Morphem CO ein Wort ist, ist nach (10a) kein $V^{[+T]}$ im Satz möglich. Dies erklärt die Ungrammatikalität von (12a) und (12b). Unter Standardannahmen der Morphologie und der Syntax ist auch die Kookkurrenz von CO und FUT ausgeschlossen, d.h. sie sind komplementär. Also ist (12c) ungrammatisch.

Im vierten Abschnitt wird auf einige Eigenschaften von Entscheidungsfragen eingegangen, die im dritten offen bleiben. Z.B. wird beobachtet, dass NEG nicht im Prädikat einer Entscheidungsfrage enthalten sein kann.

(14) $^{??}$no   co   khong doc   sach   khong
      er   CO   NEG   lesen   Buch   KHONG

Die Theoreme in (10) schließen aber (14) nicht aus, denn NEG muss nicht als $V^{[+T]}$, sondern kann auch unflektiert in die Derivation gehen. Es stellt sich heraus, dass die Abweichung von (14) mit folgender Regel erklärt werden kann.

(15)   eine Entscheidungsfrage wird dadurch gebildet, dass einem betonten positiven Satz S dasjenige Morphem nachgestellt wird, das sonst die T-Position des entsprechenden betonten negativen Satz ¬S von S besetzt, unter der Bedingung, dass S und ¬S unterschiedliche Ts haben

Diese Regel widerspricht aber der Grammatikkonzeption, die die Analysen der vorangegangenen Abschnitte voraussetzen. Sie ist sprach- und konstruktionsspezifisch, sowie transderivationell. Ein Ausweg ist darin gefunden, dass (15) betrachtet wird als eine Regel der Peripherie, nicht der Kerngrammatik. Sie ist historisch entstanden und in der Sprachgemeinschaft tradiert. Die Natur der Peripherieregeln, sowie die Art und Weise, wie sie mit den Prinzipien der Kerngrammatik interagieren, sind der zukünftigen Forschung überlassen.