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Diachronic Clues to Synchronic Grammar
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The EPP, fossilized movement and reanalysis

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This paper addresses the question of whether all operations of movement necessarily have a clear morphological, semantic or pragmatic motivation, and how the EPP is to be understood as a trigger/motivation for syntactic movement. Considering patterns in Thai, Taiwanese and other languages of east and southeast Asia, it is argued that certain applications of movement have no genuinely understandable motivation when considered from a purely synchronic point of view, and that the use of EPP features to trigger movement is a formal mechanism made available by the grammar for the legitimization of a movement whose genuine semantic, pragmatic or morphological trigger has become lost over time.

1.   Introduction

This paper sets out to provide answers to the questions below concerning movement and its motivations:

(A) Do all operations of movement necessarily have a motivation which can be identified and clearly understood in morphological, semantic or pragmatic terms, or are there also real occurrences of movement without such an identifiable trigger?

(B) How is the EPP to be understood as a trigger/motivation for syntactic movement?

Considering patterns found in Thai, Taiwanese and other languages of east and southeast Asia, it will be argued that certain applications of movement really have no genuinely understandable motivation when considered from a purely synchronic point of view, and that the use of EPP features to trigger movement is a formal mechanism made available by the grammar for the (continued) legitimization of a movement whose genuine semantic, pragmatic or morphological trigger has become lost over time. In Sections 2–4 evidence is presented

suggesting that when the original motivation for a movement disappears from a construction, this may generally *not* cause any simple discontinuation/loss of the movement and an automatic retreat to an earlier pre-/no-movement patterning as might be expected, but instead results in a significant *reanalysis* of the movement structure in two possible ways. One potential form of the reanalysis is suggested to be the reinterpretation of an original movement structure as new *morphology*, with an element previously moved to a second, higher position in the syntax being re-interpreted as a new affix base-generated in the higher position. Elsewhere however, when such reanalysis is not permitted, a second outcome is suggested to be the simple continuation of the original movement via the introduction of EPP features on an appropriate functional head as a blind/semantically meaningless *replacement* for the original (lost) trigger of movement. The broad consequences which follow on from this conclusion are that there may in fact be many cases of movement which have become "fossilized" in this way and have lost any original understandable (i.e. non-EPP) motivation, and secondly that once initiated in a regular way, applications of movement may possibly never be truly lost from a structure, unless they are converted into new morphology.

The structure of the paper is essentially as follows. Section 2 first reviews data and arguments in Simpson (2001) for a focus-based analysis of a particular modal construction found in Thai and other southeast Asian languages. Section 3 then shows how such an analysis is further supported by complex tone sandhi patterns in Taiwanese present with the same modal element, but where focus significantly does not occur as part of the interpretation. Comparing Thai with Taiwanese and other varieties of Chinese, Section 4 then argues for the main conclusion of the paper that movement may indeed survive the loss of its original morpho-syntactic/semantic motivation and continue to occur synchronically in a construction for no clear reason as an occurrence of EPP-driven "fossilized" movement. Finally in Section 5, the paper examines other consequences of the possibility that movement is never diachronically lost from a construction even when its original motivation disappears and attempts to show how certain cases previously categorized as instances of loss of movement might in fact synchronically still be (disguised) movement structures.

2.   Post-verbal modals in southeast Asia

Standard Thai together with a variety of other southeast Asian languages (e.g Vietnamese, Hmong, Khmer) has been noted in Simpson (2001) and other works to show an unusual modal paradigm in which a single modal meaning 'to be able' consistently appears in a post-verbal position, as in (1). This post-verbal positioning is unexpected as these languages are all head-initial SVO languages with modal verbs that otherwise occur in a regular pre-verbal position, as shown in Thai (2):

(1)   *khaw khian dai.*
      he   write can
      'He can write.'

(2)   *Daeng aat-ca/doong/khong   maa.*
      Daeng may/must/is-sure-to   come
      'Daeng may/must/is sure to come.'

As plausible arguments can be given which relate the post-verbal potential modal in Thai to that in other neighbouring languages (Huffman 1973; Simpson 2001), the widespread occurrence of such an unexpected pattern of post-verbal modals is assumed to most naturally be the result of borrowing and transfer among Thai and the other languages of the region.

Attempting to probe the underlying structure of the modal construction, Simpson (2001) then identifies a number of key properties of the patterning in Thai. First of all it is pointed out that the post-verbal modal is not simply a morphological suffix as it occurs following not only lexical verbs but also other VP-internal elements such as objects and PPs, as shown in (3). The correct generalization of the pattern in Thai would therefore seem to be that the modal *dai* 'to be able' is *VP-final* rather than simply "post-verbal":

(3)   *khun pai kap   khaw phrung-nii dai.*
      you go with him tomorrow   can
      'You can go with him tomorrow.'

A second relevant observation is that there is evidence indicating that the modal is (somehow) in a structurally higher position than the lexical verb and the VP. Yes-no questions in Thai are commonly answered in the affirmative by repetition of the highest verbal element present in a head position in the main projection line of a clause, and it is found that it is indeed the modal element *dai* which is used to answer yes-no questions, not the lexical verb which precedes it, as seen in (4):

(4) *khaw phuut phasaa   thai dai mai?*
he   speak language thai can Q
'Can he speak Thai?'
A1: *dai*   A2: **phuut*
      can   speak
'Yes'

In addition to this patterning, the positioning and scope of constituent negation provides further evidence for the high structural position of the modal *dai*. As illustrated in (5), if the negative element *mai* 'not' precedes the lexical verb it may only take scope over the verb and/or other VP-internal elements, and importantly can *not* take scope over *dai*. This suggests that the negation in (5) c-commands the verb and other VP-internal elements but not *dai*, so that *dai* itself must be assumed to occur in a position which is hierarchically higher than the VP:

(5) *khun mai pai kap khaw dai.*
you NEG go with him can
'You can (choose) not (to) go with him.'

One possible way of reconciling the above patterns is potentially to suggest that the sequence of elements which precedes the modal *dai* actually comprizes a sentential subject as in (6a), with a meaning similar to the English sentential subject form in (6b). In such a structure constituent negation will not scope over the modal and the modal will be the structurally highest verbal element in the clause:

(6) a.

IP
├── IP
│   *khun mai pai kap khaw*
│   you NEG go with him
└── I'
    └── I
        └── *dai*
            can
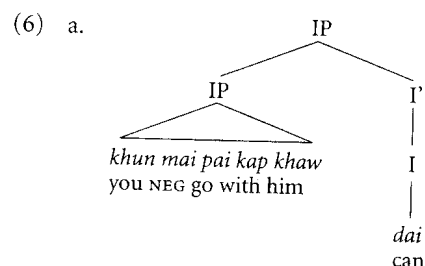
b. [That you do not go with him] is permissible/possible.

However, there is also evidence that *dai*-modal forms do not have the underlying structure in (6a) either. First of all, sentential subject structures in Thai show regular CED/island restrictions on the extraction of an element from within sentential subjects in topicalization and relative clause formation, yet it is perfectly acceptable to topicalize or relativize an element from the sequence

which precedes *dai*, as shown in (7) and (8) below. This suggests that there is a significant difference between sentential subject structures and *dai*-sentences:

(7) **phuu-chaai O_i thii [loon khop t_i] mai dii   ko   khuu...*
man   REL she see   NEG good then be
'The man who that she associates with is bad is...(e.g. John)'

(8) *phuu-chaai O_i thii [loon khop t_i] mai dai ko   khuu...*
man   REL she see   NEG can then be
'The man who she may not date/see is ... (John)'

Secondly, where there is more than a single modal in a *dai*-sentence, it is possible for an epistemic modal element such as *naa-ca* 'should' which precedes the VP and *dai* to actually take scope over *dai* as shown in (9). If it is necessary for such an element to c-command *dai* in order to take scope over *dai*, this indicates that the linearly first modal cannot be contained within a sentential subject structure such as (6a):

(9) *khaw naa-ca pen pheuan kan   dai.*
they should be friend together can
'They should be able to be friends together.'

The analysis ultimately suggested in Simpson (2001) to account for the above and various other properties of *dai*-structures is that the VP in *dai*-sentences actually originates as a regular rightward complement to *dai* and then undergoes movement to a surface position to the left of *dai*, as indicated in (10). In such a derivation the subject is taken to be selected by *dai* and to also undergo leftward raising:[1]
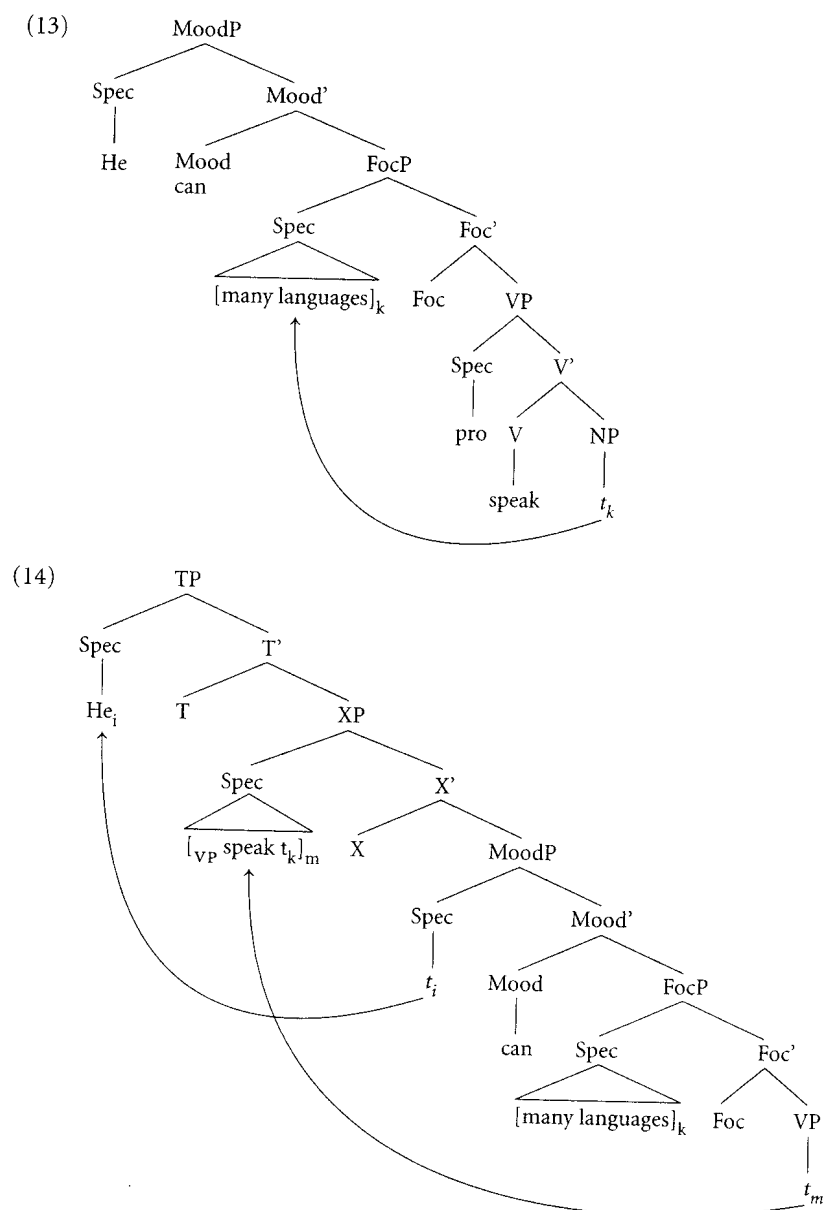
(10)
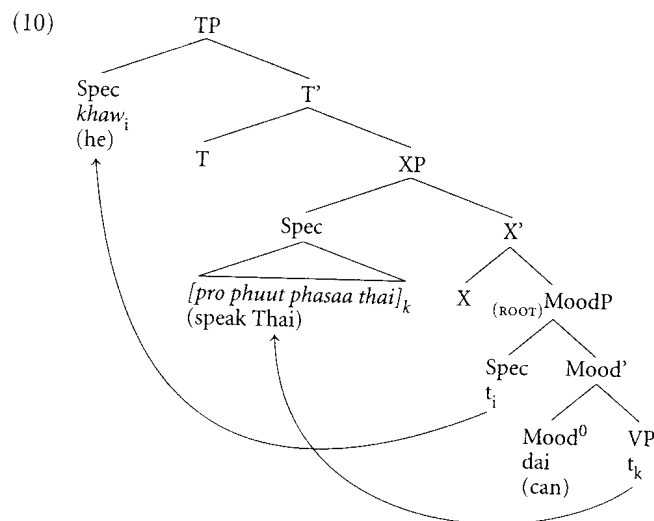
Such an analysis is shown to be able to capture all of the important properties of *dai*-sentences. In the structure in (10), *dai* is the highest verbal element in a head position in the main projection line of the clause resulting in the yes/no question answer patterns (4), and *dai* in the underlying structure will c-command (but not be c-commanded by) the VP resulting in the restricted scope of negation attached to a fronted VP (5). The underlying regular complement position of the VP will allow for an account of the differences in extraction possibilities from pre-*dai* sequences compared with regular sentential structures, and the scope of higher modals over *dai* can be captured in hierarchical structures such as (11) below (using English words to represent sentences such as (9)). The higher modal *naa-ca* 'should' can be taken to head an epistemic Mood projection in (11) located higher than the XP in (10) and so will c-command *dai* 'be able to' in its lower root Mood position.

(11)
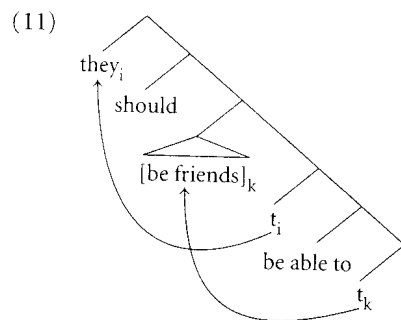
Turning now to the *motivation* for the movements suggested to underlie *dai*-sentences, it can be noted that *dai*-sentences might seem to be regularly associated with some kind of *focus* interpretation, and that this may explain the special syntax of such constructions. Focus interpretations essentially show up in two forms with *dai*. First of all under certain circumstances it is found that the object of the lexical verb in *dai*-sentences can actually occur clause-finally following *dai*, as in (12). This is however only possible if the object is itself clearly focused:

(12)   *khaw   phuut   dai   laai   phasaa.*
        he   speak   can   many languages
        'He can speak MANY languages.'

Secondly, if no focused object follows *dai* and *dai* is final in the clause then *dai* itself naturally carries a focal stress (e.g. in examples (1), (5), (9) etc.). Simpson (2001) therefore suggests that the motivation and function of the proposed VP-raising in *dai*-sentences is critically to *de-focus* the VP predicate by moving it away from the final focus position in *dai*-structures, allowing for either *dai* itself or alternatively an object following *dai* to receive the clause-final focus intonation and interpretation. *Dai*-sentences are then suggested to emphasize the possibility, ability or permission of carrying out a certain action (with stress on *dai* itself) or to emphasize a particular element relating to this possible action (with stress on a final object as in (12)), and the VP predicate is taken to represent pre-supposed/old information contrasting with the final focused modal/object. Syntactically, when a focused object occurs following *dai*, *dai* in ROOTMoodP is suggested to select for a Focus projection to whose specifier the object raises prior to VP preposing, as in the remnant movement sequence in (13–14), using English words for the derivation in (12) for ease of exposition:[2]

(13)

```
                    MoodP
              _____|_____
            Spec         Mood'
             |        ____|____
            He      Mood       FocP
                    can     ____|____
                          Spec       Foc'
                        ___|___    ___|___
                  [many languages]_k  Foc   VP
                                          ___|___
                                        Spec     V'
                                         |      __|__
                                        pro    V    NP
                                               |     |
                                             speak   t_k
```

(14)

```
              TP
         _____|_____
       Spec         T'
        |        ____|____
       He_i     T        XP
             _____|_____
           Spec              X'
        ____|____        _____|_____
   [_VP speak t_k]_m    X        MoodP
                             _____|_____
                           Spec       Mood'
                            |       ____|____
                           t_i    Mood       FocP
                                   |       ____|____
                                  can    Spec       Foc'
                                      ____|____    __|__
                                [many languages]_k Foc  VP
                                                         |
                                                        t_m
```

Ultimately then a principled account of the syntax of the Thai modal construction is argued to be possible as well as a clear functional explanation of why the hypothetical syntactic derivation occurs. Having now established the basic

properties of such an account for Thai as suggested in Simpson (2001), Section 3 will now move on to consider a related modal patterning in Taiwanese and show how the analysis suggested to underlie object-final modal-focus sentences such (12) is in fact well supported by quite independent data from Taiwanese. Section 4 then compares the patterns in Thai and Taiwanese and also Cantonese and early Chinese and shows how the global paradigm associated with this exceptional modal element leads to interesting conclusions concerning the triggers for movement in the various languages considered.

3.   Taiwanese, tone sandhi and post-verbal potential modals

Chinese is another set of languages in the east Asian area where a post-verbal modal with the same potential 'can/be able to' interpretation is found as in Thai, Vietnamese etc., and there are also arguments (presented in Simpson 2001) that the post-verbal modal construction found in the latter southeast Asian languages may indeed have originated in (early and middle) Chinese. In this section I would like to examine the patterning found with the modal as it occurs in the Taiwanese variety of Chinese, previously unexamined in earlier accounts, and show how Taiwanese adds further interesting evidence for the basic derivation outlined in (13) and (14) above.

The critical evidence from Taiwanese relates to the odd and rather puzzling patterns of *tone sandhi* found in modal sentences such as (15) formed with the post-verbal modal element *tit* 'can', and requires a certain initial explanation about the phenomenon of tone sandhi and its general relation to syntactic structure in Taiwanese.

(15)   *Li   e   ki   tit   goa   e   mia   be?*
        you   will   remember   can   I   GEN   face   Q
        'Do you remember my face?'

Taiwanese is a variety of Chinese commonly described as having eight tones. In addition to these there are also syllables which do not carry any tone, this sometimes being referred to as "neutral tone" NT. In the phenomenon of *tone sandhi*, the lexically-listed "citation" tone of a syllable undergoes modification according to fully regular rules when preceding some other tone-bearing syllable in the same tone sandhi domain. For example, if a syllable with tone 3 precedes another tone-carrying syllable in the same tone sandhi domain, the tone 3 will change into a tone 2, as illustrated in (16):

(16) *khi3* *pak8kiang*1 → *khi2* *pak8kiang*1
    go   Beijing
    'go to Beijing'

Tone sandhi does not occur in a syllable if it precedes a syllable which has only neutral tone/no tone, hence *zau* in (17) does not change its tone-2 when occurring before the toneless element *a*:

(17) *zau2* *a*-NT → *zau2* *a*-NT
    run already
    'already ran'

Similarly, a syllable generally does not undergo tone sandhi if it occurs sentence-finally, hence in (18), the sentence-final *ho* does not change its citation tone-2 even though followed by a syllable (*Kia*) which does carry tone because the latter syllable occurs in a separate sentence.[3] Note that from this point on for simplicity of representation tone sandhi change is indicated by means of a simple bolded dot following the relevant syllable. Thus if a syllable is followed by a bolded dot, this indicates that it undergoes tone sandhi change, and if a dot is absent, no tone sandhi change is possible. In (18) sentence-final *ho* is therefore not followed by a bolded dot as no tone sandhi change occurs in the sentence-final position:

(18) *Anke chin•* ho.   *Kia ma• chin• ho.*
    Anke very good Kia also very fine
    'Anke is fine, and Kia is also fine.'

Sentence-internally there would also seem to be other tone sandhi/TS domains relevant for the operation of tonal change, and broadly-speaking every syllable in such a domain will change its tone unless it is the last tone-bearing syllable in the domain. Significantly also, tone sandhi change in Taiwanese appears to relate to and reveal the underlying syntactic structure in a way which is not found in tone sandhi phenomena in Mandarin, Shanghainese and certain other varieties of Chinese. Here three generalizations noted in Simpson and Wu (2001) can be pointed out:

(19) *A head and its complement occur in the same TS domain*
    The presence of an overt complement consistently triggers tone sandhi on its selecting head, indicating that a head and its complement are in a single TS domain.

(20) *A head and its specifier do not occur in the same TS domain*
    A head does not trigger tone sandhi on the final syllable of its spec-

ifier. Consequently the specifier of a head constitutes an independent TS domain.

(21) *Adjuncts are self-contained TS domains*
    The final syllable of an adjunct does not undergo tone sandhi even when followed by other tone-bearing syllables.

These general properties of tone sandhi in Taiwanese now give rise to an interesting puzzle when one considers sentences involving the modal element *tit*. In their text book on colloquial Taiwanese, Ko and Tan (1960) carefully describe the tone sandhi patterns which occur in spoken Taiwanese and observe the following patterns in sentences with *tit*. When the modal element *tit* occurs following a lexical verb in clause-final position as in (25) it is noted that: (a) the lexical verb does *not* undergo tone sandhi, and (b) the modal element *tit* does undergo tone sandhi, hence:

(25) *Anke be• ki*   *tit•*
    Anke NEG remember can
    'Anke does not remember.'

This pattern is actually the opposite to what one might expect, and puzzling for the following reasons. First of all one might expect that the sentence-final element *tit* would not undergo any kind of tonal change as it occurs in final position in its tone sandhi domain. Secondly, it might be expected that the tone-bearing element *tit* following the lexical verb *ki* would indeed trigger tone sandhi on the latter in the same tone sandhi domain, yet Ko and Tan note that this does not happen (whereas in other cases where there are sequences of two verbal elements, the second verbal element in a series does regularly trigger tone sandhi on the element which precedes it).

This patterning with *tit* is made all the more interesting by the observation in Ko and Tan that when an object occurs following the verb-modal sequence, this is noted to cause tone sandhi to occur on the lexical verb as in (26), although tone sandhi does not occur in the lexical verb in (25):

(26) *Anke be• ki•*   *tit• Kia.*
    Anke NEG remember can Kia
    'Anke does not remember Kia.'

Again this is not anticipated and it is unclear why the introduction of an element in object position should result in tone sandhi occurring in an element that is non-adjacent to the object (i.e. the lexical verb *ki*), as tone sandhi is nor-

mally triggered by a tone-bearing element on the syllable which immediately precedes it.

Such patterns can however arguably be explained if it is assumed (a) that tone sandhi may apply *during the course of* a syntactic derivation, and (b) sentences with the modal *tit* such as (25) and (26) have an underlying syntax essentially parallel to that of Thai *dai* structures. The first assumption is justified at length in Simpson and Wu (2001) on the basis of a study of sentence-final particle constructions in Taiwanese, with tone sandhi being argued to occur mid-derivationally as part of cyclic Spell-Out (Chomsky 2000–2001). The second hypothesis that Taiwanese *tit* and Thai *dai* might share a common underlying syntax will be mostly justified by its ability to explain the tone sandhi patterns here, but is also supported by other indications *tit* and *dai* belong to the same wider paradigm of east and southeast Asian post-verbal potential modals: *tit* is the only post-verbal modal which occurs in Taiwanese, paralleling *dai* in Thai, *tit* and *dai* share the same potential meaning 'to be able to', and diachronically both *tit* and *dai* may well relate to the same modal *de(i)* found in early/middle Chinese.

Supposing now that sentences such as (25)–(26) do relate to a derivation such as that in (10) and (13)–(14), it can be shown that the tone sandhi patterns found can be straightforwardly explained as follows. In the underlying structure, the VP containing the lexical verb *ki* may be assumed to be selected by the modal *tit* in the canonical rightward direction, as with all other modals in Taiwanese, and *ki* will therefore occur base-generated to the right of *tit* as in (27), modeling first the derivation of (25):

(27)   *Anke   be   tit   [*$_{VP}$* ki]*
         Anke   NEG   can   remember

Supposing the tone sandhi rules were to apply to the structure *at this pre-movement point*, the occurrences of tone sandhi noted in (25) would be correctly produced: the modal *tit* would be followed by a tone-bearing element *ki* and so *tit* would undergo tone sandhi, whereas the lexical verb *ki* would be in sentence-final position and so not be eligible to undergo tone sandhi. Following pre-movement application of the tone sandhi rules, the VP containing just the verb would raise leftwards to produce the surface attested form in (25).[4]

Considering (26) where an overt object is present in the structure, the underlying structure may be assumed to be (28), with both the lexical verb and the object in situ in the VP positioned to the right of the modal *tit*:

(28)   *Anke   be   tit   [*$_{VP}$* ki   Kia]*
         Anke   NEG   can   remember   Kia

Again, if the tone sandhi rules are applied at this point they will correctly output the patterns of tone sandhi noted in the surface form: (i) *tit* will be followed by a tone-bearing syllable and so undergo tone sandhi, (ii) the object will be in sentence-final position and so its final syllable will not undergo tone sandhi, and (iii) the lexical verb will here be followed by a tone-bearing syllable in its tone sandhi domain and so in this case itself undergo tone sandhi (unlike in (27)). If the derivation essentially follows the sequence of syntactic movements in Thai *dai* object-final sentences, there will be two further post-tone sandhi applications of movement transforming (28) into (26): first the object *Kia* will raise to a position higher than the VP but below the modal *tit* as in (29), and then the VP-remnant will raise higher to its surface position preceding the modal as in (30):

(29)   *Anke   be   tit   [Kia]*$_i$*   [*$_{VP}$* ki t*$_i$*]*
         Anke   NEG   can   Kia   remember

(30)   *Anke   be   [*$_{VP}$* ki t*$_i$*]*$_k$*   tit   [Kia]*$_i$* t*$_k$
         Anke   NEG   remember   can   Kia

The account outlined above is clearly able to make principled sense of the puzzling patterns of tone sandhi noted in (25) and (26), and it is not at all obvious how these output forms could otherwise be accounted for assuming that tone sandhi applies in a regular way. If this is indeed the correct way to interpret the patterns noted here, then we now have a second rather different set of data pointing to the same two-step derivation of post-verbal modal sentences that has been hypothesized for Thai, hence adding potential support to the analysis of Thai in Section 2. In Section 5 we will shortly see how it is useful to compare the Thai and Taiwanese modal patterns further still and how this leads to certain interesting general conclusions. First, however, I would like to add a third set of related patterns from Cantonese to the set of data to be considered.

4.   Cantonese

Cantonese is another variety of Chinese that shares the striking property of many languages of the region of having a single post-verbal modal verb which turns out to have the meaning 'can/be able to' – the element *dak*. Because *dak* is the only modal element to occur in post-verbal position in an otherwise dom-

inantly head-initial SAuxVO language, it poses the same kinds of problems in its analysis as *dai* does in Thai, occurring in a quite unusual position given other properties of the language. Similar to Thai *dai* Cantonese *dak* can also not be analyzed away as a verbal suffix as *dak* can occur alone and unsupported in answers to questions:

(31) ngo tai   dak nei-bun-syu   maa?
      I   read can your-CL-book Q
      'Can I read your book?'
      A: *dak*.
      can
      'Yes.'

Consequently, if *dak* is not a suffix and is assumed to be located in a functional head position (ROOTMood), it might seem that one needs to assume that the lexical verb itself undergoes some kind of repositioning in order to consistently occur in a position adjacent to and preceding the modal.

If one furthermore considers complex sequences of lexical verb, *dak* and an aspectual verb such as *jyun* as in (32), one finds that the latter aspectual verb is positioned to the right of *dak*. Such a left-right Mood>Aspect ordering of the modal verb *dak* and the aspectual verb *jyun* is precisely what one would expect in a head-initial language, according to Cinque (1999), if both these elements are in their base-generated functional head positions, with Mood cross-linguistically being higher in the functional structure than Aspect:

(32) ngo m   tai   dak jyun bun-syu.
      I   NEG read can ASP   CL-book
      'I can't finish reading the book.'

Making the common assumption that a projection of Aspect dominates and selects the VP predicate of a clause, the VP is therefore expected to be projected to the right of the aspectual verb *jyun* in Asp as diagrammed in (33):

(33) [Mood *dak* [Asp *jyun* [VP ...]]]

However, as the lexical verb instead surfaces to the *left* of the modal *dak*, this suggests that the verb occurs in its surface location as the result of some leftward repositioning, and there is no way that a VP complement to Aspect could be simply base-generated to the left of *dak* if Mood is higher in the functional structure than Aspect as in other languages.

This conclusion that the verb reaches its surface position from a VP base-generated to the right of *jyun*/Aspect now seems to face a serious problem

however. If it is assumed that the verb simply raises out of the VP to the right of Aspect up to its position to the left of *dak*/Mood, such long head movement over two intervening, filled head positions is clearly expected to violate the Head Movement Constraint and be illicit, yet sentences such as (32) are perfectly well-formed. One possible way to avoid the conclusion that *dak*-sentences should consistently cause HMC violations is now to suggest that what undergoes movement to the left of *dak* is actually not just the V^0 alone, but a larger XP-constituent which will not be subject to the HMC – the entire VP containing the verb. It can be suggested that the object of the verb first raises leftwards out of the VP and then the VP remnant constituent containing just the verb raises higher to its surface position to the left of *dak*, landing in either a higher specifier or XP-adjoined position, as schematized in (34):

(34) a. [Mood *dak* [Asp *jyun* [OB_i [VP V t_i]]]]
      b. [VP V t_i]$_k$ [Mood *dak* [Asp *jyun* [OB_i] t_k]]

Such a solution to the HMC problems posed by such structures may also account for the fact that more than just the verb/V^0 is sometimes carried along to the pre-*dak* position, and one also finds cases where constituent VP negation/a NegP occurs raised with the verb as in (35), suggesting that this movement to the pre-*dak* position is again raising of a larger XP-type unit rather than simply X^0-movement:

(35) nei [m   lai]   m   dak.
      you NEG come NEG can
      'You can't not come' = 'You must come.'

Consequently, to the extent that these different problems raised by the post-verbal modal in Cantonese are again solved by assuming basically the same two-step derivation as posited in Thai and Taiwanese, we now have a third reason for assuming that such a derivation may perhaps be a general property of the post-verbal modal which has spread through various east and southeast Asian languages.

5. Triggers for movement, fossilization and the EPP

In Sections 2–4 we have examined a range of evidence in different languages all converging on the conclusion that a single basic two-step derivation underlies the post-verbal potential modal construction in these languages. The general syntax of this construction and the way it appears to have spread throughout

China and southeast Asia is very interesting and worthy of fuller description, but here I would like to focus on one particular aspect of the construction and see how it can be argued to lead to conclusions which directly address the issue of movement and its synchronic motivations. Specifically, we will now consider just a little more closely what triggers the two-step movement operation in the languages considered.

In introducing the modal construction with an examination of Thai, it was argued that it is possible to identify a clear functional/pragmatic trigger behind the movements which occur with *dai*. Observing that *focus* is commonly part of the semantic force of the modal construction it was argued that VP-preposing in Thai is carried out in order to de-focus the predicate and cast the modal *dai* into focus in prominent sentence-final position. Such VP-preposing can therefore be understood to be a case of the wider phenomenon of p-movement discussed in Zubizarreta (1998), where various elements are raised out of a prominent focus position in order to cast a second element into focus and allow for this element to receive a natural focus-stress.

When an object occurs focused in the modal construction in Thai, it was argued that this triggers raising of the object out of the VP to a dedicated FocusP selected and induced by the modal before (defocusing) p-movement of the VP-remnant. Both movements involved in such structures were therefore straightforwardly explained in terms of their contribution to the realization of focus in the modal construction.

Following our consideration of Thai, we then continued on to look at the post-verbal modal patterns in Taiwanese and Cantonese, and in both cases found evidence of different types pointing towards the same kind of explanation for its odd post-verbal position and the conclusion that the verb in such cases reaches its pre-modal position via an operation of VP-remnant movement occurring after raising of the object out of the VP. What was however *not* mentioned in Sections 3 and 4 is the important fact that focus is actually *not* a critical part of the meaning of the modal construction in Cantonese and Taiwanese and there need be no interpretation of focus present in the structure. Furthermore, considerations of focus do not govern the positioning of the *object* in Cantonese and Taiwanese and objects of all types are *always* positioned following the modal, whether focused or not, unlike in Thai where only heavily focused objects may occur in this position. The question now is therefore how one should attempt to make sense of this potentially important difference between Thai and Cantonese/Taiwanese. Is focus something which is isolated to just the Thai construction, and if it is indeed only present in Thai, how can the

movement of the VP and the object in Taiwanese and Cantonese be motivated in the syntax?

If we briefly now look back a little in the history of Chinese, there might seem to be interesting evidence that a focus patterning similar to that in Thai was in fact also present in earlier forms of Chinese. In middle Chinese, for example, one finds that objects which are not focalized do occur raised to the left of the post-verbal modal *de* exactly as in modern Thai, as shown in example (36), and objects which are clearly focused occur to the right of the modal, again as in modern Thai, as shown in (37):

(36) *shi   qie   [yao shou] bu   de.*
cause wife   wave hand   NEG   can
'It caused the wife not to be able to wave her hand.'   (Hanshu)

(37) *cheng   de   ge   shenme-bian   shi?*
succeed can   CL   what   matter
'What can one accomplish?'   (Zutangji 3/105/7)

One also finds that the VP complement of the modal *de* in early Chinese occurred consistently on its *right*, as is significantly assumed to be the underlying base-generated position of the VP in modern Thai/Taiwanese/Cantonese, and then went through a period in middle Chinese when it was *optionally* raised to the left of *de* as a stylistic variant of the in situ form (see Sun 1996). Given this evidence for an underlying base position of the VP to the right of the modal and the positioning of focused objects after the modal and non-focused objects before, raised leftwards within a defocused VP, it can be suggested that middle Chinese indeed had a critically focus-based modal construction parallel to that in modern Thai, but that this role of focus has since *disappeared* from the modal construction in modern varieties of Chinese such as Cantonese and Taiwanese.

If this is so, then we now have the case of a construction which *used* to have a clear stylistic force and function, but where this force has arguably been lost over time. What is highly significant for our present interests is that the syntactic movements associated with this construction appear to have significantly remained present in the modal construction through to modern Cantonese/Taiwanese *despite* the loss of stylistic force. This is a particularly important observation which can be argued to be potentially very revealing.

If we reconsider the two movements commonly assumed to be involved in the modal construction, namely the movement of the object and the preposing of the VP, supposing there was indeed loss of the focus interpretation from the structure in Chinese it might be possible to suggest that the object movement

attested could have perhaps been reinterpreted by speakers in some way as occurring for some other non-focus reason such as Case, and been reanalyzed as overt raising to a low Agreement Phrase for licensing of accusative case-features. However, once all necessary focus interpretation has been lost from the modal construction, it seems impossible to see how the original defocusing p-movement of the VP could be similarly reinterpreted in any plausible non-focus way. As there is however synchronic evidence and arguments that such VP-preposing nevertheless continues to occur in modern Chinese, it seems that we have here now identified an operation of movement which can genuinely be described as having no clearly understandable semantic, pragmatic or morphological motivation when viewed from a purely synchronic point of view.[5] Viewed from a privileged diachronic or cross-linguistic perspective, a certain clear insight into the situation is indeed available, but from the isolated language learner's position, it seems that a speaker will be confronted with evidence for a movement operation in the modern Chinese modal construction whose motivation he/she will never be able to understand, as its original, genuine motivation has simply been lost in time.

This now importantly leads us to an initial answer to the original question (A) that we started the paper with and the significant conclusion that certain operations of movement may continue to occur in a language's syntax long after their genuine motivations have disappeared, remaining on as "fossils" of an earlier period of the language when a genuinely understandable trigger did exist for such movement.

The conclusion that cases of "fossilized movement" do indeed exist also immediately raises two other related and simple questions, namely (i) *why* is it the case that movement may fossilize instead of disappearing with its original motivation, and (ii) how is such movement formally licensed within a synchronic grammar? Concerning the first broad question, a natural expectation might be that when the semantic/pragmatic/morphological trigger behind a particular movement becomes lost over time, the movement itself would also cease to take place and there would simply be a return to a state in which no movement occurs in the relevant environment. Here one can certainly only speculate a little, but the conclusion that there is fossilization of the type described here may be interpreted as indicating that speakers may prefer to blindly mimic an aspect of language/movement present in their neighbours' speech which they do not fully understand rather than choose the more radical alternative of changing their speech to a non-movement form for no stylistic gain. Quite possibly imitation/mimicry is simply perceived as an easier and less risky option than innovation to a new form which involves the

drastic, *negative* step of undoing a regularized movement operation, and it may be that languages do not tolerate such purely backward steps, favouring instead innovation in more positive ways via reanalysis wherever possible. Mimesis/mimicry and "matching behaviour" has indeed been recently noted to be a cognitive trait which is particularly highly developed in humans and early learning processes displayed by children (Stern et al. 1985; Meltzoff & Moore 1993), and has also been implicated as being the critical distinctive quality leading to the evolution of language in humans rather than other species (Vihman & Depaolis 2000). If there is indeed some in-built tendency for mimesis and matching, and fossilization essentially results because of this, addressing question (ii) above, it can now be suggested that the syntax actually makes available a formal mechanism to respond to the desire for mimesis, and this is precisely what the much-discussed but poorly understood EPP/use of generalized EPP features ultimately is – a purely formal mechanism provided by the grammar for the continued legitimization of movements whose original characteristics have undergone change and loss, synchronically imposed as a feature-checking requirement on a relevant functional head, triggering "blind" movement (i.e. movement with no genuinely understandable motivation) to the specifier or (possibly) head position of the functional projection.

Exploring the Thai/Cantonese/Taiwanese patterns thus leads to a set of possible answers to the original question (A) whether all operations of movement necessarily have a clearly understandable motivation, and question (B) what the role of the EPP may be as a trigger for syntactic movement. Such questions are essentially quite simple but nevertheless important as the answers to them significantly affect the way we engage in syntactic analysis. Whenever syntactic evidence is presented for an analysis of movement, the question is commonly asked *why* the hypothesized movement takes place, and if no obvious motivation can be identified, the analysis of movement may often be considered implausible and unlikely to be correct, despite the accompanying syntactic evidence in its favour. The contention of the current paper is however that maybe it is simply *not possible* to find a genuine, understandable synchronic motivation for certain real syntactic movements because the original semantic/pragmatic triggers for such movements have been lost in time. In cases where there is good syntactic evidence or theoretical reason for assuming the existence of an occurrence of movement, the lack of a clearly identifiable trigger for the movement should therefore NOT be seen as sufficient reason to reject the likelihood that movement does occur.

The conclusions reached above also bring with them a final question concerning the *direction* of linguistic change. If the grammar makes available a

mechanism such as the EPP, and if there is indeed a conservative preference amongst speakers for *reanalysis* of a fossilized movement structure via the introduction of EPP features so that movement continues to be (blindly) made rather than discontinued, is it the case that language ever simply goes "into retreat" and reverts back to an earlier state (i.e. pre-/no-movement), or is it the case that all linguistic development must necessarily be in a forward direction, building on and reanalyzing existing structure rather than reducing it via the direct loss of features such as movement operations? Section 6 now closes the paper with a brief consideration of certain consequences of the possibility that language might in fact not license or tolerate purely negative, reversal-type changes.

6.   Reversal or reanalysis?

If it is supposed that language does not readily go into simple retreat, then there may indeed be many instances where applications of movement once performed for stylistic reasons have undergone fossilization and continue to be triggered by semantically-empty EPP-features. Before we consider this issue further, it can be suggested that there may also be a second alternative outcome to the fossilization of movement, and that movement structures which have lost their original semantic/pragmatic triggers may perhaps also allow for reanalysis and conversion into *morphology* if the linguistic environment permits this. Reflecting on the case of the modal construction in Cantonese, the element *dak* now regularly occurs right-adjacent to the lexical verb but is syntactically distinguished as a free morpheme in a functional head position in virtue of (a) occurring as an unsupported answer form as in (31), (b) occurring separated from the lexical verb in double negation structures such as (35), and (c) due to the sequencing of morphemes in structures combining *dak* with a lexical verb and an aspectual element as in (32). Because of such data, it was argued that one needs to assume an analysis in which the object of the verb first raises out of the VP and then the VP-remnant raises higher beyond *dak*. However, if the patterns in (a–c) became rarer and disappeared, there would be nothing in the patterning of *dak* to block a reanalysis of this element as being base-generated as a suffix on the lexical verb. Were this to happen, there would no longer be any need to assume either object-raising or VP-remnant movement and the semantically/pragmatically redundant movement operation(s) licensed by EPP features could be fully eliminated from Cantonese, re-absorbed into the language via the creation of new verbal morphology. In Taiwanese were the tone

sandhi patterns to undergo certain changes then a similar result could be effected here too, and many modern speakers of Taiwanese may in fact seem to have made such a change. Reanalysis of movement as new morphology in this way would however not be the simple negative reversal of an earlier movement form to a state of non-movement (which would produce sequences such as [Subject Modal V Object] rather than [Subject V-Modal Object]), but instead result in the positive creation of a new morphological form and hence constitute a significantly forward development and evolution of the input form (here the modal paradigm).

Where such reanalysis of movement as new morphology is however not possible, the view that linguistic change should always involve some kind of positive development leads one to expect that fossilized, EPP-driven movement should continue on until it can eventually be reanalyzed in some positive way, and importantly there should not be any simple *loss/discontinuation* of movement. Such a view, if plausible, now suggests that an interesting avenue of future research may be to carefully reconsider those instances where there does seem to be evidence for a direct loss of movement and to ask whether the relevant evidence may have possibly been mis-analyzed and might perhaps be open to other interpretations. Here I will briefly mention just two prominent sets of cases that have commonly been referred to as involving movement loss/reversal – (a) the "loss" of verb-movement in certain west European languages, and (b) "loss" of *wh*-movement.

The first phenomenon is in fact considered in some depth in Haeberli (2002) and also Alexiadou and Fanselow (2002), which re-examine the development of verb-second structures in Old English (OE) into SVO forms during the Middle English period (ME). Haeberli points out that OE actually shows two distinct patterns in the clause-initial placement of subjects and verbs when some other (non-operator) XP occurs in first position in the sentence. When a non-pronominal subject is present, this most commonly follows the verb resulting in a V2 pattern: [XP V Sub...]. However, when the subject is a pronoun, this actually precedes the verb, resulting in a V3 type pattern: [XP Sub$_{pronoun}$ V...]. Haeberli proposes that this difference in distribution of pronominal and non-pronominal subjects is due to the former raising to a higher subject position than the latter: pronoun subjects in OE would therefore occur in SU$_1$ in (38), and non-pronominal subjects in SU$_2$. The verb itself would be raised to the Agr position between these two subject positions:

(38)   [$_{CP}$ XP C [$_{AgrP}$ SU$_1$ Agr SU$_2$...]]

Haeberli makes the interesting suggestion that non-pronominal subjects are able to stay lower in SU_2 in OE because SU_1 can be filled by an expletive pro which satisfies the EPP in SU_1, and provides convincing argumentation for the existence of such an element in OE. The critical change from verb-second patterns to SVO forms is then argued to have resulted from a simple *loss* of the expletive pro from English, and the necessity for not only pronoun subjects but also non-pronominal subjects to occur raised into SU_1 to satisfy the EPP. Such a change from verb-second to SVO sequences has elsewhere been described as a loss of verb-movement to the position preceding (non-pronominal) subjects, as it appears that a V2 pattern [XP V_k Sub..t_k...] has developed into sequences where the verb occurs in a lower position: [XP Sub V..] (considering only the occurrence of non-pronominal subjects). However, reanalyzed in the way that Haeberli suggests, the change from verb-second to fully regular SVO forms would *not* in fact have resulted from any loss of verb-movement but from the *introduction of movement* of non-pronominal subjects to a higher position, SU_1 (hence: [XP Sub_i V_k t_i .. t_k ..]), to compensate for the loss of expletive pro in this position (and the verb would continue to raise to the Agr position as in OE). In such an analysis there is consequently a very plausible account of the development of "V2" into SVO patterns which allows one to significantly maintain a "no-reversal" view of movement, and that movement is not simply discontinued in language change causing structures to revert to some earlier pre-movement state.[6]

Concerning the second set of cases mentioned above and the loss of *wh*-movement, this has been assumed to be a recent (optional) development in colloquial French which now allows a *wh* in situ strategy in direct questions whereas only *wh*-movement was possible in the past, and has also been hypothesized as a full development in Japanese (Watanabe 2002).[7] Although cases such as French and Japanese might therefore be suggested to show the development of *wh* in situ out of *wh*-movement forms and hence a simple loss of movement, against this one can suggest that certain new perspectives on *wh* in situ and movement in general may also allow for plausible alternative interpretations of the patterning found. Following work in Bošković (2002), Simpson and Bhattacharya (2003), and Fujimoto (2001), at least four different perspectives of the "loss" of *wh*-movement might be argued to be available. In Simpson and Bhattacharya (2003) it is argued at length that a language previously categorized as *wh* in situ (Bangla/Bengali) is actually a language with regular overt *wh*-movement. Failure to notice the occurrence of such movement in the past is suggested to be due to the fact that *wh*-movement in Bangla is heavily disguised by the occurrence of other, secondary movements and the

topicalization of all non-*wh* arguments and adjuncts to clause-initial positions preceding the landing-site of *wh*-movement. The existence of such movement is however clearly revealed in restrictions on *wh* scope and long-distance *wh*-clausal pied piping. If languages may therefore sometimes appear to be *wh* in situ on the surface but in fact have regular overt *wh*-movement disguised by other movement operations, it is possible that French and Japanese might actually *not* have developed new *wh* in situ possibilities, but instead have developed question-forms like Bangla where regular overt *wh*-movement has come to be hidden by other topicalization operations. In such a view, *wh*-movement would therefore not be "lost" but simply come to be disguised by other new movement operations.

A second, potential view of the "loss" of *wh*-movement which maintains that movement is actually not lost from *wh*-questions is to consider the possibility that what undergoes change in a language is perhaps the *size* of constituents that undergo *wh*-movement. Assuming that the pied piping of non-*wh* material in *wh*-questions is licensed by *wh*-feature percolation, if *wh*-features came to be able to percolate to higher nodes in a syntactic structure than in previous stages of the language and identify larger constituents as *wh*-phrases eligible for *wh*-movement, a language might come to have *wh*-movement of CP clauses, IPs, and other major constituents containing *wh*-phrases where prior to this only smaller DP-like phrases might have undergone *wh*-movement. In languages such as Japanese with apparently loose pre-verbal word order, it could therefore be that the occurrence of clausal *wh*-movement (i.e. movement of a CP containing a *wh*-phrase which has percolated its *wh*-features to the CP-node from a position embedded within the CP) could go unnoticed as *wh*-movement and give the language the appearance of having developed *wh* in situ questions (as in Bangla, cf. Simpson & Bhattacharya 2003). Again as with the first alternative view of *wh* in situ considered, here *wh*-movement would not be lost but simply disguised by an independent development, here a potential increase in the size of XP undergoing *wh*-movement, so that *wh*-movement would no longer be so obviously noticeable as when restricted to smaller constituents.

A third possible account of changes within a language which appear to lead to a loss of *wh*-movement might perhaps attempt to attribute new "*wh* in situ" patterns to *phonological* factors. Bošković (2002) offers persuasive evidence that in certain Slavic languages *wh* in situ patterns sometimes occur for purely phonological reasons, and that in such cases overt *wh*-movement actually takes place, but it is the lower copy of the movement chain which is phonetically spelt-out giving the *appearance* of *wh* in situ. If the spell-out of

wh-phrases in low chain internal "in situ" positions is possible in certain instances and caused by phonological factors, it is also possible that phonological changes in a language could result in such a low spell-out strategy becoming standardized so that the language might seem to develop *wh* in situ from *wh*-movement. However, if there actually is *wh*-movement preceding this spell-out phenomena as suggested by the Slavic patterns, then such a change would again not constitute a loss of movement, just a difference in the phonetic realization of the resulting movement chain.[8]

Finally, there is also the possibility that claims of loss of *wh*-movement in a language may not be correct for the simple reason that a particular language actually may have never had genuine *wh*-movement in the first place. Such a proposal is made in Fujimoto (2001) for Japanese in an interesting reconsideration of patterns examined in Watanabe (2002). Whereas Watanabe (2002) suggests that classical Japanese had *wh*-movement to a clause-initial position and this has been lost in modern Japanese, Fujimoto (2001) argues that the relevant *wh*-structures in classical Japanese were actually reduced bi-clausal *wh*-cleft structures in which there was no movement of the *wh*-phrase, and that the change to modern Japanese has been simply a reanalysis of the bi-clausal cleft as a mono-clausal structure. *Wh*-movement is therefore argued not to have occurred in classical Japanese and also not to be present in modern Japanese. Consequently, in such a reanalysis of the *wh*-patterns, Japanese would again *not* be a case where *wh*-movement would have simply been lost.

Given the availability of the above alternative possibilities of analysis to explain the "loss" of *wh*-movement in French, Japanese and other languages, and the fact that such explanations may in principle be available to explain other non-*wh* cases of movement "loss", it can perhaps not so easily and automatically be concluded that there really are cases where movement has been lost from an earlier structure. To this it can be added that the most commonly cited and well-accepted examples of loss of movement are indeed the verb-movement and *wh*-movement cases discussed, hence cases where there are now plausible reasons to be skeptical of a simple movement loss analysis. Furthermore, if one attempts to catalogue the number of cases of loss of movement reported cross-linguistically, one finds that the general number of such cases is in fact surprisingly and suspiciously few, and a minute fraction of the set of cases where movement has evolved from an earlier non-movement structure. If movement can apparently develop so commonly in languages, and if movement can also be lost from a structure, it is not at all clear why there should be such a tremendous difference in the number of cases of development of movement vs. loss of movement. All of this may therefore instead seem to support

the interesting alternative possibility that languages may only tolerate positive type changes, as suggested, and indicate that simple reversals and loss of movement perhaps may not occur. If this is indeed so, and if future research is able to offer good alternative explanations of cases of apparent loss of movement, such a conclusion will clearly lead to a helpful and significant narrowing of the type of diachronic change that may consequently be assumed to be possible in natural language.

7.   Concluding remarks

This paper set out to examine the two questions (A) and (B) relating to the potential motivations for movement:

> (A) Do all operations of movement necessarily have a motivation which can be identified and clearly understood in morphological, semantic or pragmatic terms, or are there also real occurrences of movement without such an identifiable trigger?
> (B) How is the EPP to be understood as a trigger/motivation for syntactic movement?

Investigating differences in the manifestation of a modal paradigm present in various east and southeast Asian languages it was argued that it is indeed possible to identify movements in syntax which do not have any clear synchronic trigger in obvious semantic, pragmatic or morphological terms. Broadly it was suggested that when an initial semantic, pragmatic or morphological trigger for a movement disappears over time, speakers may in fact continue to effect the original movement with a different purely formal trigger in the form of an EPP feature-checking requirement. The introduction of such an EPP feature-checking requirement on a relevant attracting functional head was therefore suggested to be a purely formal mechanism which grammars allow themselves for the continued legitimization of movements whose original characteristics have undergone change and loss, movements which can synchronically be viewed as "automatic fossilized reflexes" of earlier stages of the language and hence described as "fossilized movement". Such conclusions from the study of diachronic patterns are potentially significant for the study of synchronic syntax because they suggest that it will simply not be possible to identify clearly understandable motivations for certain genuine synchronic movement in syntax and hence if syntactic evidence supports the assumption of an occurrence of movement but no deep explanation for the movement can be found, this

should *not* necessarily cause one to doubt the hypothesis that movement does indeed take place. Certain syntactic movements may become embedded and fossilized in a language as the result of diachronic change and synchronically occur for no reason other than a purely formal and semantically vacuous EPP trigger. The paper also suggested that the introduction and use of EPP features in a construction may correspond to a preference in speakers to blindly mimic a syntactic movement present in the speech of others whose motivation is poorly/not understood rather than to innovate with a discontinuation of such movement, and that possibly languages may not tolerate fully negative reversal-type changes such as the loss/discontinuation of movement. A consequence of this latter conjecture was noted to be that it may now be appropriate and interesting to re-examine cases which have been commonly assumed to be instances of loss of movement to see if synchronically they may in fact still contain movement disguised in certain ways.

Notes

1. Note that the landing-site of the movement is essentially left unspecified in (10). Movement of the VP is assumed to be to the specifier of some higher clausal functional projection located lower than TP (or perhaps alternatively be adjunction to MoodP or some other functional projection higher than MoodP). Note also that a pro subject is assumed to occur in SpecVP, controlled by the overt subject generated in SpecMoodP and raised to SpecTP.

2. Note that, generally, certain sequences of extraction and remnant movement have been argued to give rise to Proper Binding Condition violations (e.g. when an element XP is scrambled out of a constituent YP, and then YP is scrambled higher), whereas other sequences of extraction and remnant movement are commonly well-formed (e.g. scrambling of XP out of YP followed by topicalization of YP, as in the case of German VP remnant movement). The basic typological observation/claim made in Müller (1996) and Tsujioka (2001) relating to such cases is that if movement of the extracted XP and the remnant YP is of the *same* type (e.g. both are instances of scrambling), then the sequence of extraction and remnant movement is ill-formed. If, however, the initial extraction of the XP and the subsequent movement of the remnant YP are essentially *different* types of movement (e.g. scrambling vs. topicalization), then extraction of XP followed by remnant movement of YP is (frequently) permitted. In the case under consideration here, it can be suggested that the *focus*-movement of the object is sufficiently different from p-movement/de-focusing/scrambling of the VP that no Proper Binding Condition violation occurs in the sequencing in (13) and (14).

3. One exception to this is the case of the sentence-final particle *kong* whose special syntactic properties are examined at length in Simpson and Wu (2001).

4. Note that the range of patterns discussed in Simpson and Wu (2002) are argued to lead to the conclusions that (a) Cyclic Spell-Out applies at the *clausal*-phase level when a TP is

built together with the C position which selects it, and not at the sub-clausal *v*P-phase level, and (b) that movement can apply to elements which have already been given a phonetic interpretation by Cyclic Spell-Out. In (25), (26) and other cases here, the occurrences of movement described are therefore assumed to take place following application of Cyclic Spell-Out at the clausal level.

5. What is meant by an "understandable morphological motivation" is a trigger for a movement which results in the licensing/checking of some clearly identifiable morphological specification such as Case, tense, number etc.

6. Alexiadou and Fanselow (2002) similarly argue that verb-movement is not discontinued in the switch from V2 to SVO patterns, and that all indications of verb-movement such as the position of adverbs relative to the verb commonly remain the same following the change to such an SVO order. See also Julien (2002:263–273) who re-examines the distribution of finite verbs, adverbs and objects in Modern English and argues that Modern English in fact continues to show evidence of overt verb-movement to the tense position.

7. A reviewer of the paper asks about the change of OV word order to VO as a third possible case of movement loss, perhaps requiring the assumption that object shift is lost in the switch to a regularized VO ordering. Unfortunately, space requirements do not allow for a proper discussion or investigation of OV/VO shifts here. However, an obvious potential alternative analysis to attempt to explore, which would avoid the conclusion that movement is lost, would be the possibility that new VO sequences are produced not by any loss of object shift/movement, but rather by an innovation of verb-movement to a higher position over the object. As the development of verb-movement to a higher clausal head is a fairly frequently attested change in language, it is not unlikely that it could result in VO sequences developing out of earlier OV forms. In addition to this, it can be noted that the occurrence of object-shift/movement in OV sequences has in fact been seriously questioned in Pintzuk (2002) (for Old English), and OV/VO forms are argued to be related to each other by a mechanism which does not involve any kind of movement. Following the presentation of a wide range of evidence, Pintzuk proposes an analysis based on competition between head-initial and head-final structures which similarly avoids the conclusion that movement is lost in the emergence of VO forms from OV sequences.

8. A reviewer asks what the difference might be between "real" *wh* in situ and "apparent/phonological" *wh* in situ of the type described in Bošković (2002). Here one can note that data in Bošković (2002) show that there are clear syntactic effects indicating movement of the *wh* constituent to SpecCP in the cases of "phonological" *wh* in situ described, for example the licensing of parasitic gaps. Such effects are not anticipated to be present if there is no movement of the *wh*-phrase, and would be expected to be absent in instances of "real" *wh* in situ. For all purposes of interpretation and the licensing of syntactic relations, "real" *wh* in situ is therefore anticipated to pattern as if no movement to a higher position has taken place (as discussed in Simpson 2000, Chapter 1), whereas "phonological" *wh* in situ is expected to show signs that the *wh*-phrase can license syntactic relations/interpretations from a higher Comp position.

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