Draft (December, 2007)

An Argument for the Derivational Reformulation of the Proper Binding Condition[*]

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Explaining the observation that a sentence-final particle *le* blocks certain instances of movement in terms of the CED, Lin (2006) proposes that in Chinese, *v*P moves to Spec, AspP, whose head is *le*, so that the surface head-final order is derived from the head-initial one. I point out that Lin's analysis has two problems, which concern with VP-fronting and an exceptional behavior of subject-extraction. To solve these problems maintaining Lin's idea that AspP in Chinese is head-initial, I propose that what moves to Spec, AspP is VP, and that Lin's observations should be explained by the derivational PBC (Saito 2003).

1. Introduction

Investigating some surface head-final structures in Chinese, recent studies on Chinese syntax argue that the language is underlyingly head-initial, and the apparent head-final orders are derived by movement (*contra* Huang 1982, Li 1990, among others; see Mulder and Sybesma 1992 for VP; Cheng and Sybesma 1999, Simpson 2005, Saito, Lin and Murasugi 2006 for DP; Simpson and Wu 2002, Hsieh and Sybesma 2007 for CP).

In response to this line of research, this paper discusses a sentence-final particle (henthforth SFP) *le*, which is exemplified in (1). Stative predicates like *hong* 'red' in (1a) come to have a change-of state meaning when *le* appears, as shown in (1b). [1,2]

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[1] In this paper, I treat the sentence-final *le*, which is sometimes called le_2, and I do not discuss the other, namely the verbal affix type *le*, which is called le_1 (see Shen 2004 and references cited therein for le_1 and le_2). Following Shen (2004), I assume that these two *le*s are different elements. As shown in (i), they can co-occur and occupy different positions.

(i)   Women   chi-**le**   fan   **le**.
       we   eat-le_1 meal le_2
       'We have had meal.'   (Shen 2004:143)

[2] Although Lin (2006) glosses *le* as PERF, which stands for perfective, I use SFP for it hereafter.

(1) a. Zhe-duo hua   hong __.
         this-cl   flower red
         'This flower is red.'

     b. Zhe-duo hua   hong **le**.
         this-cl   flower red   SFP
         'This flower has become red.'   (Based on Lin 2006:2-3)

     c. $[_{AspP} [_{vP} \ldots V^0 \ldots] [_{Asp}{}^0 le_{[+d]}]]$

Shen (2004) proposes that *le* is a head of Aspect Phrase (henthforth AspP), which has a [+ dynamic] feature and it takes *v*P as its complement, as illustrated in (1c). Note that in this structure, AspP is assumed to be head-final.

     Recently, Lin (2006) argues that AspP is in fact head-initial, and the surface head-final order is derived by Complement-to-Spec movement (Kayne 1994) of *v*P to Spec, AspP. Let us call this *the vP-movement analysis*. Then, he observes that *le* blocks some movement, and explains the observations in term of the Condition on Extraction Domains (Huang 1982, henthforth CED).

     I point out that although Lin's (2006) general idea that AspP is head-initial is preferable, the *v*P-movement analysis is not without problems. Specifically, it is pointed out that the analysis is not compatible with Huang's (1992) hypothesis on VP-fronting, and it has to stipulate that extraction of subjects is exempt from the CED-effect. I argue that these problems can be solved by proposing that what moves to Spec, AspP is VP, not *v*P. I show that under this VP-movement analysis, Lin's (2006) observations on blocking effects are explained by Saito's (2003) derivational Proper Binding Condition (henthforth the derivational PBC), supporting the derivational PBC.

     This paper is organized as follows. Section 2 briefly summarizes the *v*P-movement analysis. In Section 3, I point out some problems of the *v*P-movement analysis. To solve these problems, I propose a VP-movement analysis. Section 4 shows that this VP-movement analysis provides an argument for the derivational PBC. Section 5 is a conclusion.

2. The *v*P-movement Analysis

Lin (2006) proposes that the SFP *le* is the head of AspP, which takes *v*P as its complement, and the surface head-final order is derived by movement of *v*P to Spec, AspP. For instance, (2a) has the schematic structure illustrated in (2b).

(2) a. Zhangsan mai shu le.
         Z   buy book SFP
         'Zhangsan has bought the book.'   (Lin 2006:2)

     b. $[_{AspP} [_{vP}$ *Z. buy book*$] [_{Asp'} le \ t_{vP}]]$

Then, Lin (2006) argues that since *v*P is in Spec, AspP, extraction from *v*P should be prohibited by the CED, as shown in (3a). On the other hand, he claims

that if *le* does not appear in a sentence, *v*P can remain in a complement position, so that extraction should be allowed, as in (3b).

(3)   a.   [XP ... [... [AspP [*v*P ... α ...]][Asp' *le* t*v*P]]]]

b.   [XP ... [... [*v*P ... α ...]]]

Lin (2006) shows this prediction is borne out. The first evidence comes from VP-fronting (based on Lin 2006:11).

(4)   a.   **Youyong**ᵢ, Zhangsan neng *e*ᵢ __.
swim   Z   can
'[As to] swimming, Zhangsan can [do it].'

b.   * **Youyong**ᵢ, Zhangsan neng *e*ᵢ **le**.
swim   Z   can   SFP
'[As to] swimming, Zhangsan has become able to [do it].'

The contrast in (4) indicates that VP-fronting is blocked if *le* appears. (4a) and (4b) are analyzed to have the following structures, respectively.[3]

(5)   a.   [XP *swim*ᵢ [IP ... [*v*P ... tᵢ ...]]]   (= (4a))

b.   * [XP *swim*ᵢ [IP ... [AspP [*v*P ... tᵢ ...]][Asp' *le* t*v*P]]]   (= (4b))

The second evidence concerns with *wh*-questions. As the contrast in (6) indicates, *wh*-adverbials like *zenmeyang* 'how' cannot co-occur with *le*.

(6)   a.   Zhangsan **zenmeyang** xiu   che __?
Z   how   repair car
'How does Zhangsan repair the car?'

b.   * Zhangsan **zenmeyang** xiu   che **le**?
Z   how   repair car SFP
'How did Zhangsan repair the car?'   (Based on Lin 2006:4)

Note, however, that *le* can appear in *wh*-questions with nominal *wh*-phrases, as shown in (7).

(7)   a.   Zhangsan xiu   **shenme** __?
Z   repair   what
'What does Zhangsan repair?'

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[3] Lin (2006) is not explicit about whether *v*P or VP moves. I will come back to this point in Section 2.2.

b. Zhangsan xiu **shenme le**?
Z repair what SFP
'What did Zhangsan repair?' (Based on Lin 2006:4)

Following Tsai (1994) and Reinhart (1998), Lin (2006) assumes that *wh*-nominals like *shenme* 'what' can be licensed without movement via unselective binding by the Q-operator in CP, while *wh*-adverbials like *zenmeyang* 'how' have to move to Spec, CP to be licensed. Given this assumption, examples in (6) and (7) have the following structures, respectively.

(8) a. [$_{CP}$ … [$_{IP}$ … [$_{vP}$ … *how* …]]] (= (6a))

b. * [$_{CP}$ … [$_{IP}$ … [$_{AspP}$ [$_{vP}$ … *how* …]] [$_{Asp'}$ *le* t$_{vP}$]]] (= (6b))

c. [$_{CP}$ Q-Op [$_{IP}$ … [$_{vP}$ … *what* …]]] (= (7a))

d. [$_{CP}$ Q-Op [$_{IP}$ … [$_{AspP}$ [$_{vP}$ … *what* …]] [$_{Asp'}$ *le* t$_{vP}$]]] (= (7b))

Among these configurations, only (8b) involves extraction out of a CED-island.
Finally, (9) shows that topicalization of *wh*-phrases behaves in the same way (based on Lin 2006:10-11).

(9) a. **Shenme dongxi**$_i$, Zhangsan fang *e*$_i$ zai chuang-dixia __?
what thing Z put at bed-under
'(Lit.) What things, Zhangsan put [them] under the bed?'

b. * **Shenme dongxi**$_i$, Zhangsan fang *e*$_i$ zai chuang-dixia **le**?
what thing Z put at bed-under SFP
'(Lit.) What things, Zhangsan has put [them] under the bed?'

Given that topicalization of *wh*-elements is syntactic movement, examples in (9) are analyzed to have the following structures.[4]

(10) a. [$_{XP}$ ***what thing***$_i$ [$_{IP}$ … [$_{vP}$ … t$_i$ …]]] (= (9a))

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[4] Lin (2005) argues that topicalization of *wh*-elements is syntactic movement, based on the observations that it induces the island effect as shown in (ia), and that it can license parasitic gaps, as indicated in (ib) (exp = experiencer aspect, mod = modifier marker).

(i) a. * Shenme yu$_i$, Laowang yu-guo [[*e*$_j$ xihuan *e*$_i$ de] ren$_j$]?
what fish L meet-exp like mod person
'What fish is it such that Laowang met persons who like it?'

b. Shei$_i$, Laowang [zai huijian *pg*$_i$ zhiqian] jiu kaichu-le *e*$_i$?
who L at meet before already fire-le$_i$
'Which person is it who Laowang fired before meeting?' (Based on Lin 2005:300)

b. * $[_{XP}$ ***what thing***$_i$ $[_{IP}$ … $[_{AspP}$ $[_{vP}$ … t_i … $]$ $[_{Asp'}$ *le* t_{vP}]]]]   (= (9b))

Summarizing so far, it was shown that the *v*P-movement analysis correctly predicts that the presence of *le* requires *v*P to move to its Spec position, so that extraction out of *v*P is blocked due to the CED.

3. Problems of the *v*P-movement Analysis and a Solution

In what follows, I point out that the *v*P-movement analysis has two problems, which concern VP-fronting and exceptional behaviors of extraction of subjects. Then, I propose a solution to these problems.

3.1 Problems

First, let us reconsider what moves in the ungrammatical VP-fronting case, repeated in (11).

(11) a. * **Youyong**$_i$, Zhangsan neng e_i **le**.   (= (4d))
           swim   Z   can   SFP
           '(Lit.) [As to] swimming, Zhangsan has become able to [do it].'

      b. * $[_{XP}$ *swim*$_i$ $[_{IP}$ … $[_{AspP}$ $[_{vP}$ … t_i … $]$ $[_{Asp'}$ *le* t_{vP}]]]   (= (5d))

In order to rule out (11a) by the CED, what moves in (11b) should be smaller than *v*P. Then, let us assume what moves to the sentence-initial position is VP.

This assumption, however, contradicts with what has been observed on VP-fronting. Huang (1993) observes that the matrix subject in (12b) cannot bind the anaphor contained in a fronted predicate, unlike the case of *wh*-movement in (12a). (12c) indicates that the same pattern is observed in Chinese.

(12) a. Which picture of himself did John think Mary saw t?

      b. * Criticize himself, John thinks Mary would not t. (Huang 1993:107)

      c. Piping ziji de pengyou, Zhangsan zhidao wo juedui   bu hui.
          criticize self's friend   Z   know I   definitely not will
          'Criticize my/*his own friend, Zhangsan knows I definitely will
          not.'   (Huang 1993:118)

Based on this observation, Huang (1993) proposes that what is fronted is *v*P, which contains the trace of the embedded subject, and the trace blocks the binding relation between the matrix subject and the anaphor.

Notice that if VP can also move in VP-fronting, Huang's (1993) explanation of the paradigm in (12) would be lost. On the other hand, if what moves to the sentence-initial position in (11) is *v*P, the sentence should be grammatical, because the CED no longer blocks movement of *v*P.

The second problem concerns with the extraction of subjects. As in (13a), *ren* 'person', which is the argument of the unaccusative verb *si* 'die' can stay in the object position.

(13) a.   Si-le   ren   le.
               die-le$_1$ person SFP
               'Some one is dead.'   (Based on Liu 2007:197)

        b.   Ren   si   san-tian le.
               person die three-day SFP
               'The person has been dead for three days.'   (Barry Yang, p.c.)

        c.   [$_{IP}$ *person*$_i$ [$_{AspP}$ [$_{vP}$ *die* t$_i$ *three-day*] [$_{Asp'}$ *le* t$_{vP}$]]]

On the other hand, (13b) indicates that it can move to the subject position. Note that in this example, the SFP *le* appears. This indicates (13b) has the structure in (13c), where the subject moves out of the moved *v*P. The fact that (13b) is grammatical suggests that under the *v*P-movement analysis it should be assumed that movement of subjects is exempt from the CED-violation. This assumption, however, is clearly problematic because it is unclear why it should be the case.

3.2 A solution

To solve those problems of the *v*P-movement analysis, I propose the following analysis, which I call *the VP-movement analysis*.

(14)   What moves to Spec, AspP is **VP**, not *v*P.

Under the VP-movement analysis, the example in (2a), repeated in (15a), is derived in the following manner:

(15) a.   Zhangsan mai shu le.   (= (2a))
               Z   buy book SFP
               'Zhangsan has bought the book.'

        b.   [$_{AspP}$ *le* [$_{vP}$ *Z.* [$_{VP}$ *buy book*]]]

        c.   [$_{AspP}$ [$_{VP}$ *buy book*] [$_{Asp'}$ *le* [$_{vP}$ *Z.* t$_{VP}$]]]

        d.   [$_{IP}$ *Z.*$_i$ [$_{AspP}$ [$_{VP}$ *buy book*] [$_{Asp'}$ *le* [$_{vP}$ t$_i$ t$_{VP}$]]]]

At the point where Asp^0, namely *le*, is introduced to the derivation as in (15b), VP moves to Spec, AspP, as in (15c).[5] Then, in (15d), the subject moves to Spec,

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[5] I assume the following definition of the Phase Impenetrability Condition (cf. Chomsky 2001:14).

IP. Notice that the VP-movement analysis immediately solves the second problem of the *v*P-movement analysis. Since subjects are located outside of the VP (or, can be moved to that position in the case of unaccusatives/passives), VP-movement to Spec, AspP does not block movement of subjects to Spec, IP.

Let us now turn to the first problem. Under the proposed analysis, the example (4d), repeated in (16a), has the derivation illustrated in (16b)-(16c).

(16) a. * **Youyong**$_i$, Zhangsan neng e_i **le**. (= (4d))
      swim   Z   can   SFP
      '(Lit.) [As to] swimming, Zhangsan has become able to [do it].'

   b. $[_{AspP} [_{VP} swim] [_{Asp'} le [_{vP} Z. t_{VP}]]]$

   c. $[_{IP} Z._{-i} [_{AspP} [_{VP} swim] [_{Asp'} le [_{vP} t_i t_{VP}]]]]$

Following Huang (1993), I assume that in VP-fronting, the only available option is to move *v*P. Then, it is impossible to derive the surface order in (16a) from (16c) because *v*P contains only traces.

Then, how can the proposed analysis rule out the other ungrammatical cases? First, let us consider the following schematic derivation.

(17) a. $[_{AspP} le [_{vP} \alpha\ v^0 [_{VP} \dots t_\alpha \dots]]]$

   b. $[_{AspP} [_{VP} \dots t_\alpha \dots] [_{Asp'} le [_{vP} \alpha\ v^0 t_{VP}]]]$

   c. $[_{XP} \alpha [\dots [_{AspP} [_{VP} \dots t_\alpha \dots] [_{Asp'} le [_{vP} t'_\alpha\ v^0 t_{VP}]]]]]$

Suppose that α can make use of the edge of *v*P before VP moves, as illustrated in (17a). Then, even though the moved VP becomes a CED-island as in (17b), α can move further, as shown in (17c). In other words, the CED no longer blocks extraction from VP under the VP-movement analysis.

Now, I claim that Saito's (2003) derivational PBC in (18) plays a crucial role.

(18) a. α is subject to Merge only if α is a complete constituent.

   b. α is a complete constituent $=_{df}$ (i) α is a term, and (ii) if a position within α is a member of a chain γ, then every position of γ is contained within α. (Saito 2003:507-508)

(i)   The domain of a strong phase HP is not accessible to operations at the next higher strong phase ZP; only H and its edge are accessible to such operations.

Since Asp^0 is not a strong phase, it can attract VP, which is located in the domain of *v*P.

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Put simply, the derivational PBC forbids to Merge/Move a constituent which contains only a subpart of a chain. Hence, the step in (17b), where the moved VP contains only the trace of α, violates this condition. The cases of covert *wh*-movement in (6b), repeated in (19a) has the derivation in (19b)-(19c).

(19) a. * Zhangsan **zenmeyang** xiu   che **le**?   (= (6b))
            Z   how   repair car SFP
            'How did Zhangsan repair the car?'

      b. [$_{vP}$ *<how>* … [$_{VP}$ … *how* …]]

      c. * [$_{AspP}$ [$_{VP}$ … ***how*** …]] [$_{Asp'}$ *le* [$_{vP}$ *<how>* … t$_{VP}$]]]

As in (19b), the *wh*-adverbial covertly moves to the edge of *v*P.[6] Then, the derivational PBC blocks movement of VP in (19c), hence the derivation crashes.

The case of topicalization of *wh*-elements in (9b), repeated in (20a), is ruled out in the same manner.

(20) a. * **Shenme dongxi**$_i$, Zhangsan fang e_i zai chuang-dixia **le**?   (= (9b))
            what   thing   Z   put   at bed-under   SFP
            '(Lit.) What things, Zhangsan has put [them] under the bed?'

      b. [$_{vP}$ *what thing*$_i$ … [$_{VP}$ … t$_i$ …]]

      c. * [$_{AspP}$ [$_{VP}$ … **t**$_i$ …]] [$_{Asp'}$ *le* [$_{vP}$ *what thing*$_i$ … t$_{VP}$]]]

Summarizing so far, it was shown that the VP-movement analysis can solve the problems of the *v*P-movement analysis in a compatible way with Huang's (1993) proposal that what moves in VP-fronting is *v*P and Lin's (2006) idea that AspP is also head-initial. Then, it was argued that the other ungrammatical cases are ruled out by the derivational PBC.

One might claim that the derivational PBC wrongly rules out sentences with unaccusative verbs like (13b), where the fronted VP contains the trace of the deep object. Saito (2003), however, assumes that A-movement does not leave a trace (Lasnik 1999), so that the trace of A-movement does not induce the PBC-effect. Then, the grammaticality of (13b) follows.

Besides, the proposed analysis further solves one potential problem of the *v*P-movement analysis. Under the *v*P-movement analysis, what rules out covert *wh*-movement is the CED. Originally, however, the CED is a constraint on overt syntax (Huang 1982, Lasnik & Saito 1992), and recent studies try to reduce it to some mechanism of linearization (see Uriagereka 1999, Nunes & Uriagereka 2000, among others). Then, it becomes unclear how the CED can constraint *covert* movement. On the other hand, the derivational PBC, which

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[6] Following Nissenbaum (2000) and Chomsky (2004), I assume the model where overt and covert operations succeed each other. I will indicate covertly moved elements as <xyz> for ease of exposition.

plays a crucial role under the proposed analysis, is a constraint on derivation. Hence, it is natural to expect that it interacts with covert operations.[7]

4. Consequences

This section shows that the proposed analysis provides an argument for the *derivational* PBC in two respects: (i) the PBC should be considered as a constraint on derivation, and (ii) it is necessary as an independent condition.

4.1 The PBC as a constraint on derivation

Saito (2003) proposes that the PBC should be considered as a constraint on derivation, rather than a LF-condition, based on the paradigm in (21).

(21) a. $[_{TP}$ Taro-ga $[_{CP}$ Hanako-ga $[_{PP}$ Sooru-ni] iru to] omotteiru].
          T. -nom H.   -nom Seoul-in be that think
          'Taro thinks that Hanako lives in Seoul.'

      b. $[_{TP}$ $[_{PP}$ Sooru-ni$]_i$ Taro-ga $[_{CP}$ Hanako-ga t_i iru to] omotteiru].
          '(Lit.) [In Seoul]$_i$, Taro thinks that Hanako lives t_i.'

      c. $[_{TP}$ $[_{CP}$ Hanako-ga $[_{PP}$ Sooru-ni] iru to$]_i$ Taro-ga t_i omotteiru].
          '(Lit.) [That Hanako lives in Seoul]$_i$, Taro thinks t_i.'

      d. * $[_{TP}$ $[_{CP}$ Hanako-ga t_i iru to$]_j$ $[_{PP}$ Sooru-ni$]_i$ Taro-ga t_j omotteiru].
          '(Lit.) [That Hanako lives $t_i]_j$ [in Seoul]$_i$, Taro thinks t_j.'

(21b) and (21c) are derived from (21a) by scrambling of PP and CP, respectively. Although both operations are possible, it is impossible to scramble the PP out of the CP first, and then to scramble the remnant CP, as in (21d).

Saito's (2003) point is that given the radical reconstruction property of scrambling (Saito 1989), the LF-representation of (21d) is equivalent to that of (21a). Then, if the PBC would apply to the output of derivation, that is, the LF-representation of (21d), it is predicted that (21d) is grammatical, contrary to fact. Then, Saito (2003) argues that the PBC should apply derivationally. That is, (21d) is ungrammatical because the derivational PBC prohibits scrambling of CP, which contains only the trace of PP.

Now, let us reconsider the Chinese cases. (22a) is the step where the remnant VP, which contains only the tail of the *wh*-adverbial chain, is fronted to Spec, AspP. Suppose that the derivation proceeds to the step where the *wh*-adverbial (covertly) moves from the edge of *v*P to Spec, CP, as in (22b).

(22) a. $[_{AspP}$ $[_{VP}$ … t_{wh} …]$[_{Asp'}$ *le* $[_{vP}$ *wh* … t_{VP} …]]]   (cf. (19c))

      b. $[_{CP}$ *wh* …[…$[_{AspP}$ $[_{VP}$ … t_{wh} …] $[_{Asp'}$ *le* $[_{vP}$ t'$_{wh}$ … t_{VP} …]]]]]]

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[7] In fact, Saito (2006, 2007) suggests that the derivational PBC is also operative in covert Merge.

Notice that in the representation in (22b), all the traces can be bound by the *wh*-phrase in Spec, CP. Hence, if the derivational PBC would apply at LF, it is wrongly predicted that the example is grammatical. On the other hand, the derivational PBC rules out the step in (22a). Therefore, the proposed analysis supports the claim that the PBC should apply derivationally.

4.2 Beyond Müller's generalization

Observing that remnant movement is possible in some circumstances, Müller (1996) proposes the generalization in (23).

(23)   Remnant XPs cannot undergo a certain type of movement if the antecedent of the unbound trace has undergone the same type of movement.   (Müller 1996:375)

Kitahara (1997) provides an explanation of this generalization in terms of the Minimal Link Condition (Chomsky 1995). He also suggests that if scrambling is also feature-driven, the paradigm in (21) can be explained in the same way.
        Arguing that scrambling is not feature-driven, however, Saito (2003) points out that there is one case where Müller-Kitahara's theory cannot explain whereas the derivational PBC can. (24) is the relevant paradigm.

(24) a.   Hanako-ga Taro-ni [PRO Sooru-made iku koto]-o   meizita.
           H.   -nom T. -to   Seoul-to   go N -acc ordered
           'Hanako ordered Taro to go to Seoul.'

     b.   Hanako-ga [Sooru-made]$_i$ Taro-ni [PRO t$_i$ iku koto]-o meizita.
           '(Lit.) Hanako, [to Seoul]$_i$, ordered Taro to go t$_i$.'

     c.   [PRO Sooru-made iku koto]$_i$-ga   Taro-ni t$_i$ meizirareta.
                  Seoul-to   go N -nom T. -to   ordered-was
           '(Lit.) [To go to Seoul]$_i$ was ordered Taro t$_i$.'

     d. * [PRO t$_i$ iku koto]$_j$-ga [Sooru-made]$_i$ Taro-ni t$_j$ meizirareta.
           '(Lit.) [To go t$_i$]$_j$, [to Seoul]$_i$, was ordered Taro t$_j$.'

As in (24b), PP can be scrambled out of the infinitival complement. Besides, because of its nominal nature, the infinitival complement can be passived, as in (24c). The ungrammaticality of (24d) indicates that it is impossible to scramble the PP prior to passivization of the complement. Notice that Müller-Kitahara's theory fails to explain the ungrammaticality of (24d), because the relevant types/features are different. On the other hand, the derivational PBC correctly rules out (24d) because the passive subject contains only the trace of the PP.
        Returning to the Chinese cases in (6b) and (9b), it is obvious that the relevant features are different which are involved in the first movement to the edge of *v*P in (25a) and the second movement where VP moves to Spec, AspP in (25b).

(25)   a. $[_{vP}$ *wh/topic*$_i$ … $[_{VP}$ … t_i …]]   (cf. (19b)/(20b))

       b.   * $[_{AspP} [[_{VP}$ … t_i …]]$[_{Asp'}$ *le* $[_{vP}$ *wh/topic* … t_{VP}]]]   (cf. (19c)/(20c))

The first movement is driven by [+wh]/[+topic], whereas the second one involves [+dynamic] (Shen 2004, Lin 2006). Hence, whatever the precise characterization of [+dynamic], Müller-Kitahara's theory cannot rule out the step in (25b). In contrast, the derivational PBC can rule out this step. In this way, the proposed analysis provides further evidence for the derivational PBC.

5. Conclusion

In this paper, I pointed out that Lin's (2006) *v*P-movement has some problems, although the analysis is conceptually preferable in light of the hypothesis that Chinese is strictly head-initial. Specifically, I pointed out that the analysis is not compatible with Huang's (1993) analysis of VP-fronting, and that it has to stipulate that movement of subjects are insensitive to the CED. To solve these problems, I proposed that what moves to Spec, AspP is VP, and that Lin's (2006) observations should be explained by Saito's (2003) derivational PBC, maintaining Lin's (2006) general idea that the surface head-final order is derived from the head-initial one. Then, I showed that the proposed analysis supports the derivational PBC in that it should be considered as a condition on derivation, and that it is necessary as an independent condition.

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