Successive Feature Inheritance, θ-Features and the Crossed-Control Construction in Standard Indonesian

Abstract: This paper proposes a new analysis of the crossed-control construction in Standard Indonesian observed by Kaswanti Purwo (1984) and Gil (2002) and recently analyzed by Polinsky and Potsdam (2002). Indonesian verbs of wanting such as *mau/ingin* 'want' behave as ordinary subject-control verbs but when they embed a passive complement, they exhibit a "crossed-reading"; the matrix subject is thematically related to the embedded verb whereas the embedded oblique phrase is construed as the agent of the matrix verb in apparent violation of the standard locality constraint on θ-role assignment. Adopting the theory of feature inheritance (Chomsky 2007, 2008) and the recent analysis of θ-roles as formal features (see Bošković and Takahashi 1998, Hornstein 1999, inter alia), we propose that θ-features can be inherited from a verbal phase onto another as long as there is no other phase boundary in between. Our analysis correctly predicts that the crossed-control reading becomes unavailable once overt phase heads such as the C *untuk* 'for' and the *v* prefix *meN-* intervene between the higher verb of wanting and the subordinate verb.

Keywords: feature inheritance, θ-feature, phase theory, phase impenetrability condition, crossed-control construction, standard Indonesian

1.   Introduction

This paper investigates the *crossed-control construction* (hereafter CCC) observed in the Malay/Indonesian literature (Kaswanti Purwo 1984; Sneddon 1996; Arka 2000; Musgrave 2001; Gil 2002) and recently analyzed by Polinsky and Potsdam (2008) (hereafter P&P). The central issue raised by the CCC is simple. The Indonesian verbs of wanting, such as *mau* 'want' and *ingin* 'want', behave like ordinary subject control verbs, as illustrated in (1).[1]

(1)   Anak itu   mau/ingin   men-cium   ibu.
        child DEM want   AV-kiss   mother
        'The child wants to kiss the mother.'

<div align="right">(P&P, p. 1617)</div>

However, once these verbs embed a passive complement, an additional, rather unpredictable interpretation obtains. To illustrate this point, consider example (2).

(2)   Anak itu   mau/ingin   di-cium   oleh ibu.
        child DEM want   PV-kiss   by   mother

        a.   'The child wants to be kissed by the mother.'
        b.   'The mother wants to kiss the child.'

<div align="right">(P&P, p. 1618)</div>

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[1] The following abbreviations are used in the data section of this paper: ACC, accusative; APPL, applicative; AV, active voice; COMP, complementizer; DEF, default agreement; DEM, demonstrative; EMPH, emphatic marker; ERG, ergative; FEM, feminine; INF, infinitive; PERF, perfective; PL, plural; PV, passive voice; SG, singular; 1/3, first/second persons.

The second interpretation for the sentence in (2), paraphrased in English as in (2b), involves an unusual association of the arguments (i.e., *anak itu* 'the child' and *oleh ibu* 'by the mother') with the two verbs (i.e., *mau/ingin* 'want' and *di-cium* 'kissed'). More specifically, the experiencer/wanter argument of the matrix verb appears as the oblique element within the embedded clause whereas the theme argument of the embedded verb appears as the surface subject within the matrix clause. Thus, the alignment involved in the interpretation in (2b) is "crossed". The CCC appears to be cross-linguistically unusual. It is unavailable in relatively well-studies languages such as English, Italian, Dutch, German and Japanese. Thus, the English sentence shown in (3), for example, only allows the normal control reading, which results from the predictable association of the experiencer/theme NPs with their respective local predicates.

(3)   The child wants to be kissed by the mother.

      a.   'The child wants to be kissed by the mother.'
      b.   * 'The mother wants to kiss the child.'

<div align="right">(P&P, p. 1618)</div>

The purpose of this paper is to propose a new analysis of the CCC within Phase Theory (Chomsky 2000, 2001, 2004, 2007, 2008). Adopting the recent influential theory of θ-features (Bošković and Takahashi 1998; Hornstein 1999) coupled with Chomsky's (2007, 2008) theory of phase-based feature inheritance, we propose that the θ-features of *v* can optionally be inherited down onto lower verbal heads as long as there is no intervening phase boundary between them. Our analysis not only directly solves the apparent long-distance experiencer/wanter role assignment to the embedded NP by the matrix control verb but also correctly predicts that the crossed-control reading becomes unavailable once the matrix and embedded verbs are separated by strong phase heads (either overt Cs such as untuk 'for' or the active voice prefix *meN-*). The unavailability of the CCC in English also falls out from our analysis given the standard assumption in the literature that *want*-class verbs selects the CP complement; the phasal C head, then, blocks the inheritance of the external θ-feature from the matrix verb onto the lower verb.

      The present paper is organized as follows. In the next section, we review the recent analysis of the CCC presented by P&P and point out a number of conceptual problems that arise under their lexical semantic treatment of the agent role. In section 3, we propose a new phase-theoretic analysis of the CCC that draws on the featural theory of θ-roles coupled with Chomsky's (2007, 2008) mechanism of feature-inheritance. We propose that the experiencer/wanter role can be assigned by the lower verb to the oblique NP in the subordinate clause as a consequence of the phase-to-phase inheritance of the external θ-feature. Given that this inheritance is subject to the Phase Impenetrability Condition (Chomsky 2000, 2001, 2004), we predict that the crossed-control interpretation should be unavailable when a phasal head intervenes between the original v phase head and the lower verbal head(s) to which the θ-feature is transmitted. We show that this prediction is indeed borne out. Section 4 is the conclusion.

2.   The Syntax and Semantics of the CCC in Standard Indonesian

This section reviews P&P's analysis of the CCC. P&P propose that *mau/ingin* are raising verbs with no external argument. According to their analysis, the derivation of the sentence in (2) with the crossed-reading proceeds as shown in (4).

(4)
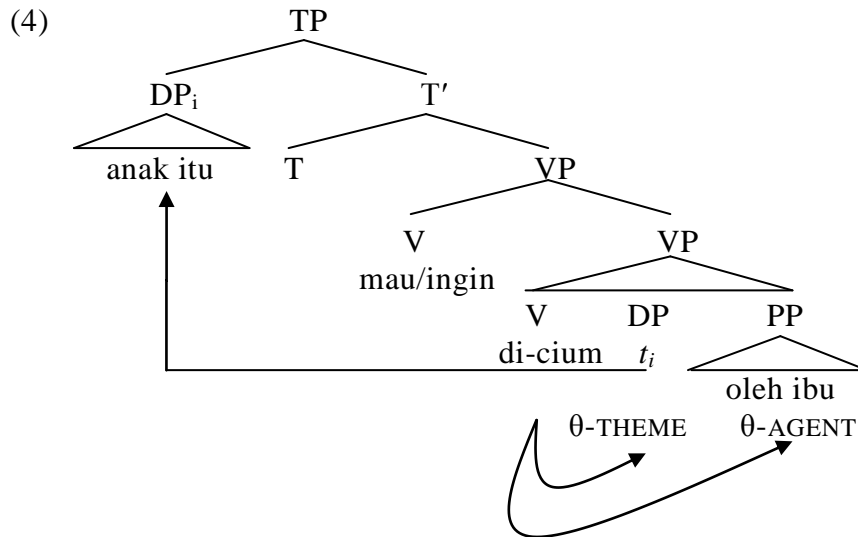
(P&P, p. 1629, with minor modifications)

This derivation has two components to be noted. One is that the verbs *mau/ingin* select the bare verbal complement. The other is that the theme argument of the embedded verb, *anak itu* 'the child', undergoes A-movement into the matrix subject position. P&P present independent evidence in favor of both aspects of the derivation, which we rehearse below. The Indonesian verbs m*au/ingin* share signature properties with raising/finite auxiliaries in languages such as English, which P&P suggest follow from their raising analysis with bare VP complementation. These properties are listed in (5-11) below with some illustrative examples.

(5)   *Mau/ingin* do not passivize.
        * Rumah   ini   di-ingin   oleh   mereka.
         house   DEM   PV-want   by   3PL
         'This house is wanted by them.'

(P&P, p. 1622)

(6)   *Mau/ingin* do not embed under a control complement.
        * Anak   itu   men.coba mau di-ajar   Bahasa   Inggris oleh   Ali.
         child   DEM AV-try   want PV-teach language English by   Ali
         'The child tried for Ali to want to teach him English.'

(P&P, p. 1630)

(7)   *Mau/ingin* do not form an imperative.
        * Ingin(-lah) di-baca   surat ini!
         want-EMPH PV-read   letter this
         'Be willing to read this letter!'

(P&P, p. 1630)

3

(8)   *Mau/ingin* do not combine with other auxiliaries
       * Mereka   sempat/bisa/perlu/boleh/suka   mau di-tolong   oleh   Ali.
       3PL   have the opportunity/can/must/may/like want PV-help   by   Ali
       'Ali has an chance/can/must/may/like to want to help them.'

                                                                          (P&P, p. 1630)

(9)   *Mau/ingin* do not allow an independent temporal specification for its complement.
       * Kemarin rumah itu mau/ingin di-hancurkan oleh mereka minggu depan.
       yesterday house DEM want   PV-destroy   by   3PL   week   next
       'Yesterday they wanted to destroy that house next week.'

                                                                          (P&P, p. 1621)

(10)   *Mau/ingin* do not allow the complementizer untuk in complement clauses.
       * Bagian   kalimat   ini   mau   (*untuk)   di-tegaskan-nya.
       section   sentence   DEM   want   COMP   PV-emphasize-3SG
       'He wants to emphasize this part of the sentence.'

                                                                          (P&P, p. 1631)

(11)   *Mau/ingin* do not allow the complement clause to be fronted.
       * [Di-cium   oleh   ibu]   (yang) mau/ingin   anak   itu.
       PV-kiss   by   mother   COMP want   child DEM
       'The mother wants to kiss the child.'

                                                                          (P&P, p. 1631)

Firstly, the ungrammaticality of (5) follows if *mau/ingin* are raising verbs, which are independently known to resist passivization. Secondly, (6) shows that *mau/ingin* cannot be embedded under a control verb, just like raising verbs. Thirdly, *mau/ingin* cannot be used as an imperative sentence, as shown in (7). This fact is also attributable to the incompatibility of imperatives with the semantics of raising predicates. Fourthly, *mau/ingin* cannot combine with other auxiliaries such as *bisa* 'can', *perlu* 'must', and *boleh* 'may', as shown in (). This co-occurrence restriction follows if *mau/ingin* are auxiliaries and if there is only one dedicated position for each auxiliary. Fifthly, (8) illustrates that the CCC permits only one temporal specification for the two verbs. This property falls out naturally from the VP complement structure shown in (9). Sixthly, the complement clause of *mau/ingin* cannot contain the complementizer *untuk* 'for', as shown in (10). This is again a natural consequence if these verbs are subcategorized for the VP complement. Finally, as illustrated in (11), the complement clause of *mau/ingin* cannot be fronted. The immovability of this clause is parallel to that of the corresponding clause selected by raising verbs in languages like English.

       P&P also provide evidence that the surface subject in the CCC exhibits characteristics suggestive of its A-movement into the specifier of TP. Although space limitations prevent us from reproducing relevant examples from P&P (see their (35-43), pp. 1627-1629), the initial DP in the CCC behaves similarly to grammatical subjects in Indonesian. Specifically, the initial DP 1) can be non-specific or quantificational, 2) must occur after the *yes-no* question particle –*kah*, 3) can undergo clefting, 4) disallows the *wh*-in-situ strategy, 5) licenses the depictive secondary predicate, and 6) permits the VOS word order.

The remaining issue raised by the CCC, then, is how the experiencer/wanter interpretation for the embedded oblique element in the CCC can be obtained, if *mau/ingin* are raising verbs without an external argument. The contrast between (12a) and (12b) shows that the CCC does impose selectional restrictions on the oblique PP. Note that in (12b), the inanimate DP, *api* 'fire', is not acceptable.

(12) a. Anak itu di-bunuh   oleh api.
          child DEM PV-killo   by   fire
          'The child was killed by fire.'
      b. # Anak itu mau/ingin di-bunuh oleh api.
          child DEM want   PV-kill   by   fire
          'Fire wants to kiss that child.'

                                              (P&P, p. 1625, with a slight modification)

P&P suggest that the apparent experience/wanter role for the oblique NP arises through the lexical semantics of the verbs *mau/ingin*. Specifically, these verbs ascribe the experiencer interpretation to a volitional participant of the event selected by them, *regardless of* its syntactic position, in the same way that subject-oriented adverbs like *willingly, deliberately* and *reluctantly* in English (Jackendoff 1972) ascribe a similar conceptual role to an agent, even when the agent is the oblique element, as shown in (13c). In (13a-c), the participant to which agentivity/willingness are ascribed are indicated in boldface.

(13) a. **Barbara** willingly interviewed Madonna.
      b. **Madonna** willingly was interviewed by Barbara. (surface subject)
      c. Madonna was willingly interviewed by **Barbara**. (surface oblique)

                                                                  (P&P, p. 1632)

P&P couch this analysis within Wyner's (1998) theory of thematically dependent adverbs. This theory recognizes the difference between θ-roles and thematic properties. The former are syntactic objects governed by syntactic principles such as the θ-Criterion (Chomsky 1981, 1986) whereas the latter are thematic sub-components of a θ-role such as volitional involvement in the state/event, sentience/perception, and movement relative to the position of another event participant (cf. Dowty 1990). P&P thus suggest that the experiencer role of the oblique NP in the CCC arises because *mau/ingin* ascribe the experiencer role to the volitional agent of the sentence irrespective of the syntactic position of the agent DP.

        We believe that the evidence quickly reviewed above in favor of P&P's raising analysis of the CCC is quite compelling. As P&P (p. 1637) acknowledge themselves, however, their semantic treatment of the experiencer role for the oblique NP begs two important theoretical questions. One is what types of thematic dependencies can be established outside the traditional purview of θ-Theory. The other is why the assignment of thematic properties such as volitionality can be non-local whereas the assignment of θ-roles such as Agent obeys standard locality conditions (under government in the terminology of the Government-Binding Theory). To put it differently, the most pressing question is how we know that the experiencer/wanter role in the CCC arises through syntactic θ-role assignment or thematic dependency. P&P's theory weakens the

explanatory power unless the division of labor between the two modes of thematic assignment is sufficiently constrained. Indeed, as we will show shortly in the next section, the problem regarding the experiencer role is naturally resolved without introducing the unconventional distinction evoked by P&P.

3.   Phase-Based Successive θ-Feature Inheritance

This section proposes a new analysis of the CCC in Standard Indonesian within Phase Theory (Chomsky 2000, 2001, 2004, 2007, 2008). Combining the recent view (Bošković and Takahashi 1998; Hornstein 1999) that θ-roles are computationally uninterpretable features of the verbs with the theory of feature-inheritance advocated by Chomsky (2007, 2008), we propose that the experiencer/wanter role on the embedded oblique NP arises due to the successive θ-feature inheritance from the higher *v mau/ingin* 'want' down onto the lower *v*. Our analysis also provides a straightforward account for P&P's observation that the crossed-control reading is also available in the so-called zero passive where a verb appears in an uninflected form preceded by a pronominal agent. Given the Phase Impenetrability Condition which essentially states that the complement domain of a phase head is transferred to the semantic and phonological components when a higher phase head is introduced into the syntactic workspace, our theory further leads us to predict that the successive feature inheritance is blocked when it crosses a strong phase boundary (C or *v*). We show that this prediction is indeed borne out. The crossed-control reading is blocked when the overt C (i.e., *untuk* 'for') and the overt v head (i.e., the active voice prefix *meN-*) intervene between the higher phasal verb and the lower phase verb. We further show that the unavailability of the CCC in English verbs of wanting also follows from the fact that the C phase boundary intervenes between the higher verb *want* and the lower verb.

3.1.   Feature Inheritance in Phase Theory and θ-roles as Formal Features

This section presents the basic mechanism of *feature inheritance* advocated by Chomsky (2007, 2008) and extends this mechanism to the theta system (see Lasnik 1995; Bošković 1994; Bošković and Takahashi 1998; Manzini and Roussou 2000; Hornstein 1999, 2001). Since the outset of the Minimalist Program, computational operations are assumed to be triggered by uninterpretable features. If an attracting head has uninterpretable φ-features, it triggers agreement and movement. Incorporating this idea into the recent phase system whereby a phase head (C or *v*) initiates all of the operations, Chomsky (2007, 2008) claims that the trigger of the syntactic operation is attributed to the uninterpretable features on the phase head. This leads to the assumption that the phase head has the uninterpretable φ-features. None of them is included in a non-phase head. However, it has been widely acknowledged that the non-phase head T has the uninterpretable φ-features to raise the agreeing nominal to its specifier position. Chomsky (2007, 2008) accounts for this fact by arguing that the uninterpretable φ-features on the phase head are inherited by the head of its complement. For example, the uninterpretable φ-features on C are inherited by T as in (14):

(14)   [$_{CP}$ [$_{C'}$ C $_{[φ]}$ [$_{TP}$ [$_{T'}$ T$_{[φ]}$ …]]]]

Further, the same inheritance pattern is identified in a vP domain, where the uninterpretable φ-features on v are inherited by V as in (15):

(15) $[_{v\text{P}} [_{v'} v_{[\varphi]} [_{\text{VP}} [_{v'} V_{[\varphi]} \ldots]]]]$

In this way, the mechanism of *feature inheritance* makes possible the raising of the agreeing nominal to the specifier of the non-phase.

Lasnik (1995) and Bošković and Takahashi (1998) take a θ-role as one of the uninterpretable formal features (henceforth θ-features) that drive syntactic movement. To illustrate this analysis, consider the following examples:

(16)   a.   John loves Mary.
        b.   * John loves.
        c.   * loves Mary.

In (16a), the direct object *Mary* merges with V to check the θ-feature on this V; the subject *John* merges with v and checks the θ-feature on v, as illustrated in (17):

(17)
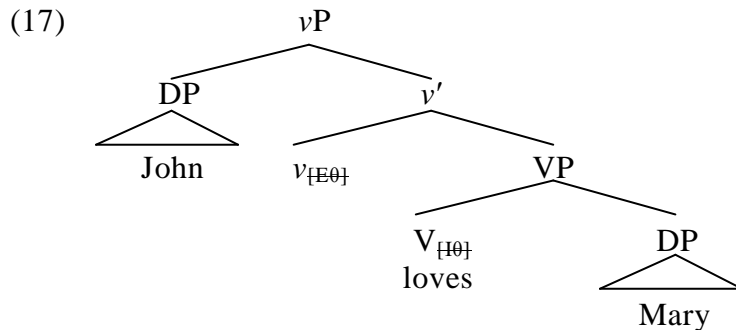
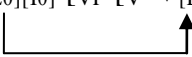For expository purposes, we will refer to the θ-feature checked by the internal argument (object) as the Iθ-feature; the θ-feature checked by the external argument (subject) as the Eθ-feature. In contrast to the example in (16a), the examples in (16b) and (16c) violate the θ-Criterion (Chomsky 1981), which specifies that each θ-feature associated with a given predicate should be checked by one and only one argument. That is, (b) is ungrammatical because the Iθ-feature remains unchecked. (16c) is ill-formed because the Eθ-feature on v is not checked.

As discussed above, the uninterpretable features are originally on the phase head, which requires that the uninterpretable θ-features be also introduced on the phase head as in (18):

(18) $[_{v\text{P}} [_{v'} v_{[\text{E}\theta][\text{I}\theta]} [_{\text{VP}} [_{v'} V \ldots]]]]$

Furthermore, the mechanism of *feature inheritance* leads us to expect that the uninterpretable θ-features on v can be inherited by V. There are at least two inheritance possibilities of Eθ-feature and Iθ-feature, as in (19a, b):

(19) a. $[_{vP} [_{v'} v_{[E\theta][I\theta]} [_{VP} [_{v'} V_{[I\theta]} \dots]]]]$

b. $[_{vP} [_{v'} v_{[E\theta][I\theta]} [_{VP} [_{v'} V_{[E\theta]} \dots]]]]$

(19a) shows that the Iθ-feature us inherited from v by V. (19b) shows that the Eθ-feature is inherited by V. In this paper, we will claim that these types of inheritances hold.

3.2. Successive θ-Feature Inheritance and the Crossed-Control Construction

In the previous section, we have provided an overview of the mechanism of feature inheritance proposed by Chomsky (2007, 2008) and suggested that θ-features are inherited from the v down onto the V. Let us now hypothesize that formal features, including θ-features, can be inherited from a verbal phase head into lower heads as long as there is no intervening phase between the original phase and the lower heads which the feature inheritance skips over. There is independent support from Exceptional Case-Marking Constructions in English and long-distance agreement in Hindi that this successive feature inheritance from v is attested in the domain of edge-features and φ-features. Consider example (20).

(20)   Barnett believed the doctor to examine Tilman.

<div align="right">(Davies and Dubinsky 2004, p. 3)</div>

It is widely acknowledged in the literature on this construction that the embedded subject *the doctor* undergoes movement through the embedded specifier of T on its way to some position in the matrix clause (see Postal 1974 and Lasnik and Saito 1991 for evidence in favor of raising to object). Thus, Bošković (2001, 2004) establishes a generalization that floating quantifiers such as *all* cannot occur within the VP, as shown in (21). Given this generalization, the fact that the floating quantifier all can be stranded in (22a) suggests that the embedded subject *the students* go through the embedded specifier of T as shown in its partial syntactic derivation given in (22b).

(21)   *   Mary hates the students **all**.

<div align="right">(Bošković 2001, p. 68)</div>

(22) a.   Mary believes the students **all** to know French.
   b.   Mary believes $[_{DP}$ the students$_i][_{TP}$[all t_i] to $[_{vP} t_i$ know French]].

<div align="right">(Bošković 2001, p. 68)</div>

The movement of *the students* to the intermediate specifier of T follows if we assume that the edge-feature of the matrix v is inherited through the matrix V onto the embedded T so that the T attracts the logical subject into its specifier.

A similar analysis can be extended to long-distance agreement in Hindi, as illustrated in (23).

(23)   Johnne   [roTiiyaan   khaaniin]   chaah-iin.
        John-ERG   bread-ACC.**PL.FEM** eat.INF.**PL.FEM**   want.**PL.FEM**.PERF
        'John wanted to eat bread.'

<div align="right">(Chandra 2005, p. 2)</div>

We assume here that the φ-features of *v* are morphologically realized as object agreement (cf. Bruening 2001). In this example, the matrix verb agrees in its φ-features with the embedded verb. Crucial for our purposes here is that this agreement is also realized in the direct object of the embedded verb. This long-distance agreement pattern directly falls out if the φ-features of the matrix v are inherited into the lower v so that the latter in turn can agree with its direct object. That the φ-features of the embedded verb comes from the matrix verb is evidenced by the fact that both verbs must take the same value for φ-agreement, as shown in (24a, b).

(24)   a.   * Johnne ro   Tiyaan   khaaniin   chaahaa.
               John-ERG.   read-ACC.**PL.FEM**. eat-INF.**PL.FEM**. want.**DEF.PERF**.
               'John wanted to eat bread.'
        b.   * Johnne ro   Tiyaan   khaanaa   chaahiin.
               John-ERG.   bread-ACC.**PL.FEM**. **eat-INF.DEF.**   want.PL.**FEM.PERF.**
               'John wanted to eat bread.'
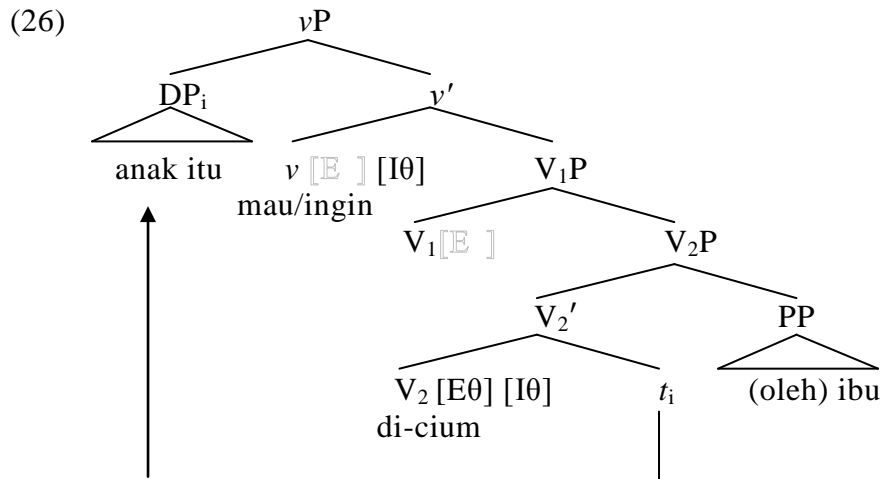
<div align="right">(Chandra 2005, p. 5)</div>

Given the recent influential theory of θ-features as driving force for syntactic computation which has received both conceptual and empirical support (see references cited above), we take it as a logical possibility within the minimalist framework that θ-features can undergo successive inheritance from a *v* into a series of lower verbal heads as long as there is no intervening phasal boundary. Our central claim in this paper thus is that the apparent long-distance assignment of the experiencer/wanter θ-feature from the matrix *v* to the oblique NP in the embedded clause is made possible by the successive inheritance of the feature.

When, we apply this successive feature inheritance to the Eθ-feature, we obtain the following schematic derivation.

(25) $[_{vP} [_{v'} v_{[E\theta]} [_{VP} [_{v'} V_{[E\theta]}] [_{VP} V_{[E\theta]} ...]]]]]$

In this configuration, the Eθ-feature of the *v* is first inherited onto the V head of its complement. The same feature, in turn, is further inherited onto the V head of the lower VP. The feature inheritance is blocked, however, when it crosses any strong phase head.

This theoretical possibility opened by the successive feature inheritance provides a straightforward account for the assignment of the experiencer/wanter role to the oblique NP in the crossed-control construction. To see how, consider the relevant part of the syntactic derivation for the CCC example in (2), shown in (26).

(26)

```
                              vP
                    ┌─────────┴─────────┐
                  DPᵢ                    v′
                 ╱  ╲            ┌────────┴────────┐
            anak itu       v 𝔼  [Iθ]            V₁P
                           mau/ingin     ┌────────┴────────┐
                                      V₁[𝔼 ]             V₂P
                                              ┌───────────┴───────┐
                                            V₂′                    PP
                                      ┌──────┴──────┐             ╱  ╲
                                 V₂ [Eθ] [Iθ]       tᵢ       (oleh) ibu
                                   di-cium
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In this derivation, the DP *anak itu* 'the child' checks the Iθ-feature of the verb *di-cium* 'kissed' and undergoes movement into the specifier of *v* (and then into the specifier of T). The Eθ-feature of the verb *di-cium* is checked by the oblique PP *oleh ibu* 'the mother'. The bare VP merges with the higher verbs *mau/ingin* to check their Iθ-feature. The crucial aspect of the syntactic derivation in (26) is that the Eθ-feature of the *v*'s *mau/ingin* are inherited into V₁ and then into V₂. The experiencer/wanter reading for the oblique PP results when the Eθ-feature successively inherited this way is assigned by the V₂ to the PP.

Our analysis of the CCC makes one clear prediction, namely, that the successive inheritance of the Eθ-feature from a *v* onto the lower Vs is blocked by an intervening phase head (either *v* or C). This prediction is borne out. Consider first cases where the inheritance is blocked by the intervening *v*. The Indonesian verb *coba* 'try' allows the crossed-control interpretation just like *mau/ingin*, as shown in (27). However, this reading becomes impossible when the embedded verb in (27) is marked with the active voice prefix *meN-*, as shown in (28).

(27) Kucing-nya   coba   **di**-cium   oleh   Esti.
      cat-3SG   try   PV-kiss   by   Esti

    a.   'Her cat tried to be kissed by Esti.'
   b.   'Esti tried to kiss her cat.'

(28) Kucing-nya   coba   **men**-cium   Esti.
      cat-3SG   try   AV-kiss   Esti

    a.   'Her cat tried to be kissed by Esti.'
    b.   * 'Esti tried to kiss her cat.'

Recent works on the Malay/Indonesian literature on the morphosyntax of the active voice marker (see Aldridge 2008, Cole et al. 2008, Tjung 2005, Sato 2010, 2012 and references cited therein) argue that the *v*P marked by *meN-* constitutes a phase in the sense of Chomsky (2000, 2001, 2004). Thus, Aldridge (2008) shows that the well-known blocking effect by the active voice prefix on the movement of an NP across the

verb marked by the prefix in Indonesian (Saddy 1991) follows from the phasehood of *meN*-marked *v*P. Her analysis is illustrated in (30) for examples (29a, b).

(29) a. Siapa$_i$ yang t_i MEN-beli buku-nya?
  who COMP AV-buy book-DEM
  'Who bought the book?'
  b. * Apa$_i$ yang Ali men-beli t_i?
  what COMP Ali AV-buy
  'What did Ali buy?' (Aldridge 2008, p. 1448-1449)

(30) (29a)

(blocked by the Phase Impenetrability Condition)
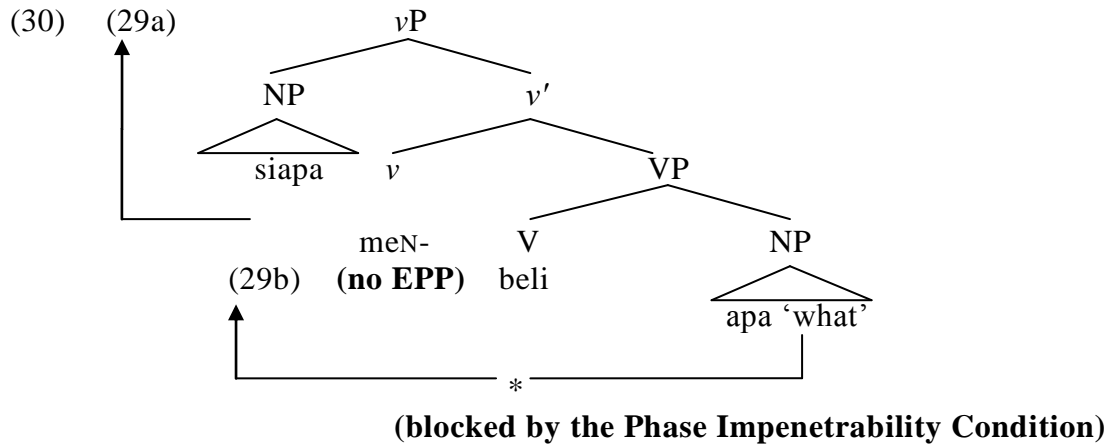
The example in (29a) results when *siapa* 'who' undergoes movement from the specifier of *v* into the specifier of C. The presence of the active voice prefix does not affect this movement. The example in (29b), however, is ungrammatical with the same prefix. Aldridge argue that the *apa* 'what' cannot move to the specifier of *v* to be accessible to operations at the higher CP phase since *v*, spelled-out as *meN-*, cannot have the EPP feature. Aldridge suggests that the reason the *v* headed by *meN-* cannot have the EPP in Indonesian is because it is a historical residue of the Malagasy antipassive marker *man-*, which independently known to lack the EPP feature; see Aldridge (pp. 1455-1459) for detailed discussion. As a result, *apa*, being frozen within the VP, cannot move to the specifier of C, for the movement there from its base-position would violate the Phase Impenetrability Condition defined as in (31).

(31) Phase Impenetrability Condition
  In phase α with head H, only H and its edge are accessible to operations outside α.
  (Chomsky 2000: 18)

Given the argument that *meN*-marked verbs constitute a strong phase, our proposed analysis correctly predicts that the crossed-control reading is unavailable in the example in (32). The active voice prefix *meN-* creates a phasal boundary between the higher verb *coba* 'try' and the lower verb *cium* 'kiss'. Thus, the Eθ-feature cannot be assigned to the embedded NP *Esti*.

(32) Kucing-nya   coba   **men**-cium   Esti.
      cat-3SG   try   AV-kiss   Esti

      a.   'Her cat tried to be kissed by Esti.'
      b. * 'Esti tried to kiss her cat.'

Let us now consider cases where the inheritance of the Eθ-feature from the *v* is blocked by the intervening phase head C. Kaswanti Purwo (1984: 75) observe that the crossed-control reading disappears when the complement clause of a crossed-control predicate is introduced by the overt complementizers such as *supaya* 'so that'. Example (33) illustrates this observation.

(33) Si   Yem   ingin [CP supaya   di-cium   si   Dul].
      Miss   Yem   want   so.that   PV-kiss   Mr.   Dul

      a.   'Yem wants to be kissed by Dul.'
      b. * 'Dul wants to kiss Yem.'

                                                              (Kaswanti Purwo 1984: 75)

Our analysis of the unavailability of the CCC in languages such as English is now straightforward. It has been commonly held (Chomsky 1981, 1986) that the infinitival complement of *want*-class verbs in the subject control case is CP, the head of which is hypothesized to protect the embedded DP subject from government by the matrix verb. Given this assumption, the Eθ-feature of the control verb cannot be inherited down into the lower passive verb so that the latter can assign the inherited feature to the oblique PP. This failure thus correctly explains the unavailability of the crossed-control reading as shown in (3).

Our current analysis also provides captures an important observation made by P&P that the crossed-control reading is possible in the so-called *zero passive* construction (Arka and Manning 1998; Chung 1976; Cole and Hermon 2005; Cole et al. 2008; Dardjowidjojo1978; Guilfoyle et al. 1992; Musgrave 2001; Sneddon 1996) as well as in the canonical di-passive which we have dealt with thus far in the paper. In zero passives, the verb appears in an uninflected form and the passive agent typically occurs as a proclitic to the verb. Example (34) illustrates this construction.

(34) [DP Buku itu]i   ku=baca t_i.
         book DEM   1SG=read
      'That book I read./ That book was read by me.'

There is compelling evidence based on binding that the pronominal agent in a zero passive construction is an argument (Arka and Manning 1998; Chung 1976; Musgrave 2001). Thus, Arka and Manning (1998) observe that the agent DP in this construction can antecede a reflexive surface subject, as shown in (35).

(35) Diri-saya   saya   serah-kan   ke   polisi.
      self-1SG   1SG   surrender-APPL   to   police
      'I surrendered myself to the police.'

<div align="right">(Arka and Manning 1998: 8)</div>

The reflexive binding in (35) indicates that the pronominal agent occupies an argument position (probably in the specifier of *v*) and A-binds the reflexive via reconstruction. Under Chomsky's (2000, 2001, 2004) definition of phases according to which the presence vs. absence of a specifier is the key difference between transitive/unergative Vs and passive/unaccusative Vs, the zero passive construction involves a strong verbal phase.

      Our analysis correctly predicts that the zero passive construction allows for the crossed-control reading, as shown in (36).

(36) Bagian   kalimat   ini   mau   dia=tegaskan.
      section   sentence   DEM   want   3SG=emphasize
      'He wants to emphasize this part of the sentence.'

<div align="right">(P&P, p. 1636)</div>

The relevant part of the syntactic derivation for (36) is shown in (37).
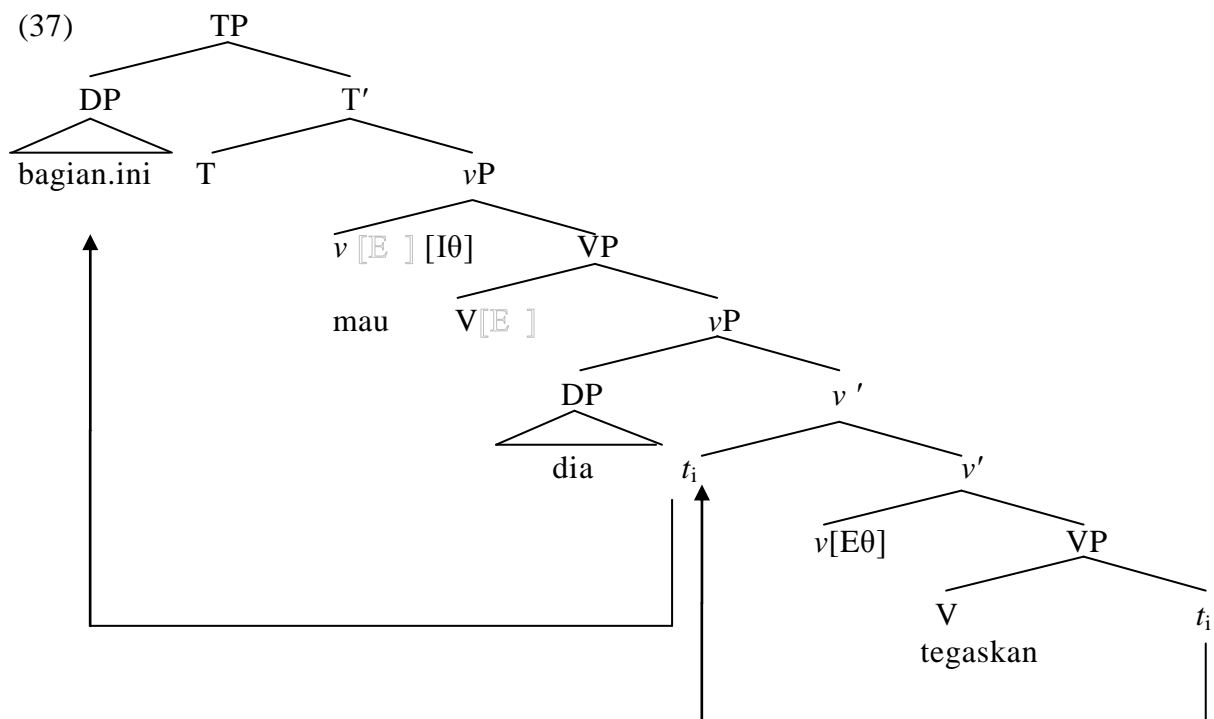
In this derivation, the DP *bagian kalimat ini* 'this part of the sentence' undergoes EPP-driven movement into the specifier of *v* and then into the specifier of TP. The crucial aspect of this derivation is that the Eθ-feature of *mau* 'want' is successively inherited by lower heads until it ends up in the lower phase head *v*. The crossed-control reading

<div align="center">13</div>

results here when this head has its inherited Eθ-feature checked against the pronominal agent *dia* 'he' in its specifier.

4.   Conclusions

This paper has proposed a phase-theoretic analysis of the crossed-control construction in Standard Indonesian. This construction is of theoretical interest given the cross-linguistically unusual association of the nominal arguments with their predicates that violates the standard locality constraint on θ-role assignment. Adopting the recent theoretical assumption that θ-roles are computational features and the theory of feature inheritance, we have argued that θ-features can also be transmitted from a phase head onto another. Given the Phase Impenetrability Condition, this successive θ-feature inheritance is blocked by any phasal boundary that intervenes between the two phase heads. We have shown that this prediction is indeed borne out; the crossed-control reading becomes unavailable when the overt C head such as untuk 'for' and the overt active voice head *meN-* intervenes between the higher and lower verbal phases. It remains an important theoretical question whether our theory of successive feature inheritance can be extended to cover several other cases such restructuring (Wurmbrand 2001) and serial verb constructions (Collins 1997) that likely involve *v*P/VP-complementation. We leave this question for future investigations.

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