The Passive Existential Construction
and Derivation by Phase

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Abstract
This paper is concerned with the passive existential construction, especially with word order variations in English, Icelandic and Swedish, and with extractability of the associate NP. After reviewing Chomsky's (1999) and Holmberg's (2000) analyses, I argue that distribution of the NP crucially depends on whether the passive morpheme heads its own projection (a passive phrase) or not. With respect to extractability, it is argued under Chomsky's (1998, 1999) theory of derivation by phase that the NP can be extracted if a chain formed by A (wh)-movement is a legitimate one, that is, a two-membered chain per phase.

1. Introduction
In the passive existential construction (PEC) in English, the underlying direct object (DO) is not allowed to be immediately after the past participle (PastPart) as in (1a). Instead of the word order [PastPart + DO], the opposite word order [DO + PastPart] is grammatical, as (1b) indicates.

(1) a. *There was placed a large book on the table.
   b. There was a large book placed on the table.

With regard to the word order in the PEC, there are some striking differences among languages. In Icelandic, the possible word order in the PEC is completely opposite to the English examples in (1). While
[PastPart + DO] is possible, as in (2a), the [DO + PastPart] order is impossible, as in (2b) (EX = expletive, N=nominative).

(2) a. Pað voru skriðaðar þrjár bóeikurr.
   EX were written(N.f.pl) three books(N.f.pl)
   b. *Pað munu hafa verið þrjár bóeikurr skriðaðar.
   EX will have been three books(N.f.pl) written(N.f.pl)

In contrast with English and Icelandic, both word orders are possible in the PEC in Swedish.

(3) a. Det blev skrivet tre böcker.
   EX was written(sg) three books
   b. Det blev tre böcker skrivna.
   EX was three books written(pl)

Although the PECs in these languages show variations with respect to the possible word order, as illustrated above, a generalization can be deduced with respect to extractability of DO. It is that wh-movement is possible from the postverbal position but impossible from the preverbal position. In English, wh-movement of DO, which is assumed to raise from the preverbal position in Chomsky (1999), is not allowed as in (4a). By contrast, wh-movement of DO in Icelandic, which is considered to be extracted from the postverbal position, is allowed as in (4b).

(4) a. *How many packages were there placed on the table?
   b. Hversu margir pakkar komu settir á borðið?
   How many packages were placed on table-the
It is shown in (3) that both [PastPart + DO] and [DO + PastPart] are possible in Swedish. When DO in the postverbal position in (3a) is extracted, the resulting sentence is grammatical like Icelandic, as (5a) indicates. On the other hand, extraction of DO in the preverbal position causes the derived sentence to be ungrammatical, as in the case of English, as (5b) shows.

(5) a. Hur många böcker blev det skrivet det året?
   How many books was EX written(sg) that year
   b. *Hur många böcker blev det skrivna det året?
   How many books was EX written(pl) that year

The main purpose of this paper is to account for two intriguing facts outlined above. That is to say, this paper is concerned with word order variations in English (1), Icelandic (2) and Swedish (3), and with extractability of the postverbal and preverbal DO ((4), (5)). In Section 2, after reviewing Chomsky’s (1999) and Holmberg’s (2000) analyses of the word order variations, I argue that the variations are derived from differences in the way a passive morpheme is merged. In Section 3, after the relevant parts of their analyses are reviewed, it is argued that extractability can be predicted in terms of a legitimate chain under Chomsky’s (1998, 1999) theory of derivation by phase.

2. The PEC and Word Order Variations
2.1 Chomsky’s (1999) Analysis of PEC

In Chomsky (1999), it is argued that English bars surface structure of the form [PastPart + DO] in passive constructions and that the word order [DO + PastPart] is derived by the English-specific rule “Thematization/Extraction” (TH/EX). This is not implausible as far as English is concerned. However, it is not clear how the alternative word
orders observed in Swedish, as in (3), repeated below, could be derived.

(6) a. Det blev skrivet tre böcker.
    EX was written(sg) three books
b. Det blev tre böcker skrivna.
    EX was three books written(pl)

It could be stipulated that DO is allowed to remain immediately after the past participle and TH/EX applies optionally in Swedish. However, the reason why there is such a difference between English and Swedish is still unclear.

2.2 Holmberg’s (2000) Analysis of PEC
2.2.1 The Outline of Holmberg’s Analysis

Holmberg (2000) assumes that passive constructions have the underlying structure, as follows, in which the past participle is divided into two heads, Pass (=the passive morpheme) and V.$^2$

(7) [TP [T T [PassP Pass [VP [V V DO]]]]]

Then, he argues that the contrasts between Swedish and Icelandic are derived from a parametric difference: Pass has or does not have an EPP-feature.

Let us first examine how the PEC in Icelandic like (2a), repeated below as (8), is derived.

(8) Pað voru skrifaðar þrjár bókurr.
    EX were written(N.f.pl) three books(N.f.pl)

Suppose that the derivation has reached the stage (9), in which Pass is
merged with VP.

(9) Pass [vp [v V DO]]

Given that Pass does not have an EPP-feature in Icelandic, neither movement of DO nor merge of the expletive is triggered. After T is merged and the expletive is merged to [Spec, T], the derivation converges. Since movement of DO is not triggered in the PEC in Icelandic, it follows that [DO + PastPart] is never derived.

Next let us turn to the PEC in Swedish. Holmberg assumes that Pass in Swedish has an EPP-feature in contrast with Icelandic. In addition, he assumes that PassP is a phase in Swedish. Given these assumptions, suppose the case in which the expletive is included in a lexical subarray, from which (9) is constructed. After Pass is merged with VP, either merge of the expletive or movement of DO is triggered in order to satisfy an EPP-feature of Pass. According to Merge over Move, as argued in Chomsky (1998, 1999), merge of the expletive is forced, deriving the word order [PastPart + DO]. Holmberg claims that since \( \phi \)-features of the expletive in Swedish are specified for person, number and gender, it can assign its values to \( \phi \)-features of Pass when it is merged into [Spec, Pass].

On the other hand, if the expletive is not contained in the first lexical subarray, movement of DO is triggered by the EPP-feature of Pass. If the expletive is contained in the next subarray, DO stays in the preverbal position and the word order [DO + PastPart] is derived. Since it is only with DO that Pass can enter into a checking relation, the past participle agrees with DO, which is indicated by plural agreement on the past participle in (3b).
2.2.2 Some Problems with Holmberg's analysis

In this section, I point out three problems with Holmberg's analysis of the PEC. The first problem is that his analysis wrongly rules in the ungrammatical word order [PastPart + DO] in English. Suppose that the derivation has reached the stage (10).

(10) Pass [VP [ν V DO]]

Since he assumes without discussion that PassP is a phase in English like it is in Swedish, there are two possible operations at this point, either movement of DO or merge of the expletive. If the expletive is contained in the first lexical subarray, merge of the expletive is selected according to Merge over Move. Since DO remains in the object position in this case, his analysis cannot rule out the ungrammatical word order [PastPart + DO].

The second problem is also related to the claim that PassP is a phase in English. Consider the following sentence.

(11) There are [PassP2 expected to have been [PassP1 some men arrested]]

In Holmberg (2000), it is assumed following Chomsky (1999) that a phase P is spelled out and interpreted when the highest head of the next phase, P+1, is merged. In (11), PassP1 is spelled out and interpreted when the highest head of the next phase, Pass of PassP2, is merged. Then, it is wrongly predicted that the matrix T cannot agree with the associate NP some men.

The third problem is concerned with agreement in Swedish. Holmberg claims that the past participle agrees with the neuter singular expletive when it is merged with the expletive. However, as
pointed out by Sigurðsson (1993), the neuter singular participle does not agree with the expletive, but is a nonagreeing participle form. The supporting evidence for his claim is that even when the expletive is not contained, the participle shows up in the neuter singular, as shown below.

(12) Vi fick skrivet/*skrivna tre brev.
we got written(n.sg/*pl) three letters
We managed to write three letters.

Accordingly, the correct description of the PEC in Swedish is that the past participle agrees with DO when DO is moved, and that the past participle shows a nonagreeing form when DO is not moved. It will be shown that this can be predicted under my analysis proposed below.

2.3 Passive Morpheme and Agreement
2.3.1 Two Types of Syntactic Passive Formations

A new account of the PEC which I will give in what follows is based on two assumptions. The first assumption is that there are two types of syntactic passive formations, which differ in the way the passive morpheme is merged. The second assumption is that there are two types of agreement systems, Strong (Case)-agreement and Weak-agreement, which are distinguished based on whether Case assignment is involved or not.

Let us first examine the first assumption. It is proposed, in Lasnik (1995) and Holmberg (2000), for example, that the passive morpheme heads its own projection. I modify their proposal and assume that there are two ways in which the passive morpheme (Pass) is merged into syntactic structures. Suppose that V, Pass and NP are contained in a lexical array. One possibility is that V and Pass are first merged and,
then, NP is merged with the newly formed complex head V, as shown below.

(13) VP
    / \
   V  NP
    / \
   V  Pass

The other possibility is that after V and NP are merged, Pass is merged with the object formed from V and DP, that is, VP.

(14) PassP
    / \ \
   Pass’  
    / \ \
   Pass  VP
    / \ \
   V  NP

Further, I assume that languages differ with respect to which passive formation they adopt, and that Icelandic adopts (13) and English adopts (14) while Swedish adopts either way optionally.

2.3.2 Strong (Case)-agreement and Weak-agreement

As discussed in Chomsky (1998,1999), the important characteristic of the Case-agreement systems is that it triggers elimination of uninterpretable features of both probe and goal. The uninterpretable features are $\phi$-features of the probe and structural Case of the goal. He argues that the goal must be in the c-command
domain of the probe in order to establish a matching relation.

In contrast with Case-agreement, agreement between PastPart (probe) and DO (goal) in the PEC does not involve elimination of uninterpretable Case feature of the goal. I assume that when elimination of the Case feature of the goal is not involved, uninterpretable $\phi$-features of the probe can be valued and eliminated by either c-commanding the goal or being c-commanded by the goal.

### 2.3.3 A New Analysis of the PEC

Let us see how word order variations of the PEC can be accounted for under the assumptions I made above.

First of all, consider the PEC in Icelandic. According to the proposal in 2.3.1 that Pass is merged with V in Icelandic, the PEC in Icelandic has the following structure.

\[
(15) \quad \begin{array}{c}
TP \\
/ \ \ \\
T \\
/ \ \\
T \quad VP \\
/ \ \\
V \quad NP \\
/ \ \\
V \quad Pass
\end{array}
\]

Suppose following Chomsky (1998, 1999) that CP and vP are phases. Since there is no phase in (15), T and NP can induce Agree. So, $\phi$-features of T are valued by NP and NP is assigned nominative Case by T. Since the expletive is contained in a lexical array in the PEC, merge of the expletive into [Spec, T] is selected according to Merge over
Move. Though Pass does not c-command NP, it is c-commanded by T, and it enters into a weak agreement relationship with T. Since T and NP agree, Pass and NP indirectly agree.

Next consider the PEC in English. Given that Pass has its own projection, the PEC is assigned the following structure.

(16)  
TP  
   / \  
  /   \  
T'  
   / \  
T   PassP  
      / \  
     /   \  
    Pass'  
       / \  
      /   \  
     Pass  VP  
        / \  
         /   \  
          V   NP

In Chomsky (1999), it is argued that functionally-headed XPs are phases, and a phase which may have an EPP-feature is called strong while a phase without an EPP-feature is called weak. He assumes that CP and v*P with full argument structure are strong phases, and that vP, where v is a light verb marking unaccusative/passive, is a weak phase. Although PassP is assumed to have an EPP-feature under my analysis, I regard PassP to be a weak phase. † Let us suppose that the syntactic derivation proceeds in phases whether a phase is strong or weak. Then, the first phase in (16) is PassP. If Pass is merged with VP, it c-commands NP. Hence, it can be assigned values of NP’s φ-features under Agree though they are not phonetically realized in English. If the expletive is not contained in a lexical subarray, from which PassP is
constructed, DO must be raised in order to erase an EPP-feature of Pass. After this phase is completed, T is merged with PassP. T agrees with NP and the expletive is merged into Spec of TP. As a result, the derivation converges and the word order [DO + PastPart] is derived.

Here occurs an apparent problem with my analysis. If the expletive is contained in the first lexical subarray, merge of the expletive is forced by Merge over Move. Then, it is wrongly predicted that NP is allowed to remain in the postverbal position in English. This problem can be solved by the suggestion made in Chomsky (1998) that the head H of phase PH may be assigned an EPP-feature after phase PH is completed, exhausting the lexical subarray from which it is derived. From this assumption, it follows that an EPP-feature assigned to H must be erased by raising within PH. Accordingly, pure merge of the expletive into PassP is barred in (16). If the expletive is contained in the first lexical subarray, the derivation always crashes since the expletive is left in the lexical subarray. Well-formed PECs in English are derived only if the expletive is not contained in the first lexical subarray, and the derived word order is [DO + PastPart], as expected.

Finally, let us turn to the PEC in Swedish. In this paper, Swedish is assumed to adopt two types of passive formations optionally. When the English type of passive formation is adopted, the construction is derived in the same way as the PEC in English, with DO being raised to [Spec, Pass]. A difference between English and Swedish is that agreement is phonetically realized on the past participle in Swedish.

On the other hand, when the Icelandic type of passive formation, in which the passive morpheme is merged with the head V, is adopted, the PEC in Swedish has the same derivation as the PEC in Icelandic. They differ in that the past participle in Swedish uses a nonagreeing form when the passive morpheme does not c-command NP, as argued in 2.2.2, while the past participle in Icelandic agrees with c-
commanding T. Accordingly, my analysis gives a proper account of the fact that both word orders, [DO + PastPart] and [PastPart + DO], are possible and that the past participle agrees with DO when DO is raised to the preverbal position in Swedish.

3. The PEC and Extractability

3.1 Chomsky's (1999) Account of Extractability

In English, *wh*-movement of DO is not allowed as in (4a), repeated as (17).

(17) *How many packages were there placed on the table.

In order to account for this, Chomsky (1999) makes the following assumptions.

(18) a. TH/EX is an operation of the phonological component

b. Pied-Piping requires phonological content

For example, when the derivation of (18) has reached the stage (19), the constructed syntactic object is transferred to the phonological component for application of TH/EX.

(19) Pass [vP [v place how many packages on the table]]

TH/EX moves DO (*how many packages*) to the preverbal position leaving a copy without phonological features. Then, the narrow-syntactic computation tries to extract DO, which is the trace of TH/EX at this point. Since a trace left by TH/EX is inaccessible to Move given (18b), DO cannot be *wh*-moved, and the derivation crashes.

The problem with this account is that it is less obvious how passive
constructions like (20) are predicted to be grammatical.

(20) Three packages were placed on the table.

If DO is moved to [Spec, Pass] by TH/EX, as in the case of (17), then the trace of TH/EX is inaccessible to Move. Since DO cannot raise to the subject position, the derivation crashes, contra fact.

3.2 Holmberg’s (2000) Account of Extractability

It is argued in Holmberg (2000) that the extraction facts follow from the assumptions below.

(21) a. In a configuration [HP α H... ] where H heads a phase P and α is the inner spec of H, α is a part of P, and is thus spelled out when HP is spelled out.

b. In a configuration [HP β [ α H... ]], where H heads a phase P, and β is the outer spec of H, β belongs to the next phase P+1.

c. There can be no movement from inner spec of H to outer spec of H.

These assumptions entail that a phrase moved into the inner spec is trapped since the outer spec, but not the inner spec, can be used as an escape hatch.

As discussed above, extractability differs depending on whether DO is extracted from the preverbal position or from the postverbal position as shown by (5a,b), which are assumed to have the following derivations when C, the head of the next phase after PassP, is merged.
(22) a. C [TP det, blev [PassP hur många böcker; [PassP t, [Pass' skrivet(sg) ti det året]]]
   b. C [TP det, blev [PassP hur många böcker, [Pass' skrivna(pl) ti det året]]]

Recall that according to Holmberg's analysis of the PEC, the inner spec of PassP is occupied by the expletive when the past participle agrees with the expletive, as in (22a), whereas it is occupied by DO when the past participle agrees with DO, as in (22b). In the case of (22b), when C is merged, the phase PassP is spelled out with DO in the inner spec. Hence, DO cannot get to [Spec, C] and the derivation crashes. On the other hand, DO in (22a), which is adjoined to the outer spec of PassP before C is merged, is saved from being spelled out together with Pass.

Although this analysis is appealing, it is not clear why DO cannot be extracted in English in the same way as DO in Swedish.

3.3 A Legitimate Chain and Extractability

On one standard analysis of chains, as proposed in Chomsky and Lasnik (1993), for example, a chain formed by successive-cyclic movement, as in (23), consists of multiple members.

(23) a. John seems [t' to have been expected [t to leave]]
    b. I wonder [who John thought [t' Bill expected [t to leave]]]

In (23a) we have the chain (John, t', t) with three members; in (23b) the chain (who, t', t), also with three members.

Concerned with a contrast between A-movement reconstruction and Ä-movement reconstruction, Lasnik (1999) suggests that A-movement, unlike Ä-movement, does not leave a trace. Further, he argues that "if A-traces do not exist, then an argument will invariably
be a single-membered chain no matter how many times it moves” (P 208). Given his suggestion, it seems worthwhile to examine whether a multiple-membered Ā-chain is allowed under minimalist assumptions, especially under Chomsky’s (1999) theory of derivation by phase. Suppose, following Chomsky, that the derivation proceeds in phases. Then, (23b) is derived phase by phase, as shown below.

(24) (i) \[\text{vp1 who [vp1 Bill expected [ip1 (t1) to leave]]}\]
(ii) \[\text{cp1 who [ip2 Bill [vp1 t3 [vp1 expected [ip1 (t1) to leave]]]]}\]
(iii) \[\text{vp2 who [vp2 John thought [cp1 t3 [ip2 Bill [vp1]]]]}\]
(iv) \[\text{cp2 who [ip3 John [vp2 t4 [vp2 thought [cp1]]]]}\]
(v) \[\text{vp3 wonder [cp2 who [ip3 John [vp3]]]]}\]
(vi) \[\text{cp3 I [vp3 wonder [cp3]]}\]

Assuming that raising of who to the outer spec of vp1 in (i) is A-
movement, let us examine Ā-movement at each stage from (ii) to (iv). I assume with Chomsky (1999) that interpretation/evaluation for a strong phase PH1 is the next highest strong phase PH2. For instance, at the phase CP1 in (ii), vp1 is sent to LF and interpreted. Given these assumptions, a chain, which is formed at these phase levels, is as follows.

(25) (ii) (who,t2)
(iii) (who,t3)
(iv) (who,t4)

The result that every chain consists of two members leads us to conclude that a legitimate chain formed by Ā-movement is a two-
membered chain per phase.

Given this conclusion, let us tackle the extractability facts. Recall
that DO cannot be extracted in the PEC in English, which is assumed to have the structure as in (19), repeated below as (26), when Pass is merged with VP.

(26) Pass [vP [v place how many packages on the table]]

At this stage, DO (how many packages) is forced to move by the EPP-feature of Pass. When C with a strong wh-feature is merged, the DO is attracted from [Spec, Pass] to the spec of the matrix CP, as shown in (27).

(27) [CP how many packages were [IP there [PassP t' placed t on the table]]]

Since there is no strong phase that is spelled out before the C is merged, a chain formed in (27) is (wh, t', t), a three-membered chain. It does not conform to a legitimate two-membered A-chain and, hence, this derivation is ruled out. The same account is applied to illegal extraction by way of [Spec, Pass] in the PEC in Swedish.

It is argued in section 2 that since the passive morpheme in Icelandic does not head its own projection and that it does not have an EPP-feature, which attracts DO, DO remains in the postverbal position. So, when DO is extracted to [Spec, CP], it is raised directly to the target position. As a result, a two-membered chain (wh, t) is formed and the derivation converges.

4. Conclusion

To conclude this paper, I point out two important implications of my analysis of the PEC. One is related to EPP-features. In this paper, it is argued that [Spec, Pass] plays a crucial role in determining the word
order in the PEC. More specifically, it is proposed that when the passive morpheme heads its own projection (PassP), as in the PEC in English, it enters into an agreement relation with its c-commanding NP and, as a result, it is assigned an EPP-feature. Since the past participle does not assign Case to DO in the PEC, it is only by the EPP-feature that raising of DO to [Spec, Pass] is triggered. If my argument is on the right track, it could provide supporting evidence for the existence of EPP-features.

The other is concerned with successive-cyclic Á-movement. In section 3, it is concluded that a legitimate chain formed by Á-movement is a two-membered chain per phase. This conclusion implies that successive-cyclic Á-movement must not move by way of positions other than Spec of the head of strong phases. Chomsky (1998) suggests that the head H (C/v) of strong phase PH may be assigned an EPP-feature, which means that w/h-phrases are not allowed to pass through Spec of heads other than C or v since they may not be assigned an EPP-feature. My analysis is in line with this suggestion.

Notes
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1. More precisely, in Chomsky (1999) it is argued that in English, surface structures of the form [V-DO] are barred, where the construction is unaccusative as well as passive. Since my attention is only focused on passive existential constructions, I leave it open whether TH/EX applies for unaccusative constructions.

2. In this paper, I will use Pass instead of Prt (=participle) for convenience though Prt is used in Holmberg (2000).
3. He argues that in Icelandic Pass enters into a checking relation only with DO and that its \( \phi \)-features are valued by DO, which are nominative, feminine and plural in (2a).

4. I assume that a weak phase does not induce the phase Impenetrability Condition, unlike a strong phase.

5. I assume that the reason why T cannot value \( \phi \)-features of the passive morpheme in Swedish is related to the fact that T does not show overt inflection in this language. This assumption might lead us to suppose that agreement induced by a morpheme which does not head its own projection occur at PF.

According to my analysis, passive constructions like (i) can be derived in alternative ways depending on how the passive morpheme is merged.

(i) Tre böcker blev skrivet
     Three books was written(pl)/written(n.sg)

Note that the past participle agrees with NP when the NP is raised to the subject position. When the English type of the passive formation is adopted, the fact can be straightforwardly predicted. The problem is how to exclude the nonagreeing form when the Icelandic type is adopted. I assume that \( \phi \)-features of the passive morpheme in Swedish must be valued by NP when it c-commands NP or it is c-commanded by NP, and otherwise it has the nonagreeing form as a default one.

6. The trace \( t_1 \) does not exist if A-movement does not leave a trace.

7. I assume that [Spec, Pass] may function as an A-position or an \( \tilde{A} \)-position, and that it is regarded as an \( \tilde{A} \)-position when the next landing position of the raised phrase is an \( \tilde{A} \)-position. On the other hand, it is considered to be an A-position, when the raised phrase in [Spec, Pass] next moves to an A-position, like [Spec, T]. According to this assumption, movement to [Spec, Pass] always leaves a trace since its A/ \( \tilde{A} \) status is not determined at this point. This argument is not compatible with Lasnik's (1999) argument that A-movement does not leave a trace, and it might lead us to claim that A-movement allows
a multiple-membered chain. I leave this issue open.

References