TWO TYPES OF EXTRAPosition CONSTRUCTION IN ENGLISH

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1. Introduction

There have been many generative studies on the syntactic structure and derivation of extraposition constructions with the dummy it (henceforth, ECs) (Ross (1967), Emonds (1970), Stroik (1996), and Iwakura (2002)), and there is a consensus among them that ECs are classified into two types, as illustrated in (1) (see especially Kajita (1967) and Napoli (1988) for arguments for their distinction).¹

(1) a. It is obvious that the world is round.
   (Akmajian and Heny (1975: 280))
   b. It seems that Ralph already skimmed the milk.
      (Napoli (1988: 326))

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¹ Butler (1980) observes that there were examples of EC with þæt ‘that’ or þis ‘this’ as a dummy subject in Old English, but such examples drastically decreased in Middle English. Putting aside ECs with þis which were not productive, this observation would be accounted for in terms of the semantic change of þæt/that. Ibaraki (2013, 2014) argues that the demonstrative that developed from the neuter form þæt of se, which did not always have a deictic meaning in Old English. Assuming that only semantically “light” neuter pronouns can function as a dummy element, þæt could be used as a dummy subject like hit ‘it’ in Old English due to the (optional) lack of a deictic meaning; then, it became obligatorily associated with a deictic meaning in Middle English, leading to the loss of ECs with that.
In one type exemplified by (1a) (henceforth, Type I EC), the copular verb selects AP, whose head in turn selects the clausal argument as its complement; in the other type exemplified by (1b) (henceforth, Type II EC), the copular verb directly selects the clausal argument as its complement. As we will see in section 2, the two types of EC behave differently in three respects: (a) the possibility of wh-movement from the clausal argument, (b) the thematic status of it, and (c) the mobility of the clausal argument to the subject position.

The aim of this paper is to present a syntactic analysis of the two types of EC within the minimalist framework. It is argued that in Type I ECs, it is merged in the specifier of the clausal argument and then moves to the matrix Spec-TP, whereas it is merged directly in the matrix Spec-TP in Type II ECs. Then, this difference is shown to play an important role in accounting for the contrastive behavior between the two types of EC.

2. Differences between the Two Types of EC

First, extraction of a wh-phrase from the clausal argument is impossible in Type I ECs, but it is possible in Type II ECs, as exemplified in (2).

(2) a. *Why did it seem miraculous that John left t_i?

   (Stroik (1996: 249))

   b. How does it appear he got lost t_i?

   (Zaring (1994: 566))

Second, it can control the PRO subject of an adjunct clause in Type I ECs, but it cannot be a controller of PRO in Type II ECs, as shown in (3). Napoli (1988) argues that this contrast can be accounted for by appealing to the status of it: in (3a), it is a thematic pronoun which can control PRO, whereas it is an expletive and hence cannot control PRO in (3b).

(3) a. It’s likely enough that John did it [PRO to convince me we ought to question him].

   (Napoli (1988: 328))

   b. *It seems enough that John died [PRO to upset me].

   (Napoli (1988: 329))

Third, Type I ECs can be rephrased as Sentential Subject Constructions

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2 Although Type I ECs were assumed to be derived from Sentential Subject Constructions through the transformation “extraposition” in early generative studies (e.g. Ross (1967)), it is now a standard view that the clausal argument is a complement of the predicate following the copular verb (Stroik (1996)). On the other hand, Type II ECs have been analyzed as having a clausal argument that is a complement of the copular verb since Kajita (1967).
(henceforth, SSCs) but Type II ECs cannot, as illustrated in (4).

(4)  a. [That the world is round] is obvious.

(Akmajian and Heny (1975: 280))

b. *[That Ralph already skimmed the milk] seems.

(Napoli (1988: 326))

3. Analysis

Revising the analyses by Stroik (1996) and Iwakura (2002), this paper proposes that in Type I ECs, \textit{it} is merged in the specifier of the clausal argument to satisfy the EPP feature of C, and is then attracted to the matrix Spec-TP to satisfy the EPP feature of T, so that the unvalued φ-set (henceforth, u-φ) of T and the unvalued Case feature (henceforth, u-Case) of \textit{it} are valued and deleted.\textsuperscript{3} On the other hand, \textit{it} is directly merged in the matrix Spec-TP to satisfy the EPP feature of T in Type II ECs, resulting in the valuation and deletion of u-φ of T and u-Case of \textit{it}. Thus, the proposed structures of a Type I EC and a Type II EC are given in (5a, b), respectively.\textsuperscript{4}

(5)  a. \[TP \text{it}(\phi, \text{u-Case}) T(\text{u-φ}, \text{EPP}) \ [v_P \text{t}_i \text{ is } [v_P \text{t}_V \text{ [AP obvious } [C_P \text{t}_i \ [C'_C \text{ that(EPP)}] \ [TP \ldots]]]]]]

b. \[TP \text{it}(\phi, \text{u-Case}) T(\text{u-φ}, \text{EPP}) \ [v_P \text{seems } [v_P \text{t}_V \text{ [C_P [C that]] [TP \ldots]]]]]

This paper follows Legate (2003) in assuming that unaccusative \textit{vP} is a phase. This requires that \textit{it} should move from Spec-CP of the clausal argu-

\textsuperscript{3} One might wonder why the following sentence is ungrammatical despite the fact that all unvalued features are valued and deleted.

(i) * [It that the world is round] is obvious.

The derivation of (i) will be correctly ruled out by adopting the economy condition proposed by Radford (2009) that syntactic operations should affect as few words as possible (see also Chomsky (1995)). This condition requires the movement of \textit{it} to the matrix Spec-TP in (i), because it suffices to satisfy the EPP feature of T without pied-piping the whole CP.

\textsuperscript{4} Stroik (1996) originally proposes that \textit{it} is merged in Spec-CP of the clausal argument in ECs, but he does not distinguish types of EC unlike the present study. In this connection, it is worth noting that different types of clausal argument are selected in the two types of EC: a clausal argument with \textit{it} in its specifier in Type I ECs and a clausal argument without \textit{it} in Type II ECs, respectively. This selectional difference is in turn reduced to the presence/absence of an EPP feature in C. For the moment, this difference is stipulated as irreducible lexical properties, leaving for future research the question of how it is derived from deeper sources.
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ment through the matrix Spec-vP to the matrix Spec-TP in the structure of (5a), in conformity with the Phase Impenetrability Condition (henceforth, PIC) proposed by Chomsky (2001: 13), which states that the domain of a phase head is inaccessible to any operations of the next phase and only the phase head and its edge are accessible to such operations.

The following subsections show how the proposed analysis of the two types of EC can provide a principled account of their three differences reviewed in section 2.

3.1. Wh-movement from the Clausal Argument

The difference in wh-movement from the clausal argument is immediately accounted for under the present analysis.

(6) a. *[CP why, [C did] [TP it(φ, u-Case) T(u-φ, EPP) [vP ti ti seem [vP tv [AP miraculous [CP ti [C that(EPP) [TP ... ti]]]]]]]]
   b. [CP how, [C does] [TP it(φ, u-Case) T(u-φ, EPP) [vP ti appear [vP tv [CP ti [C′ C [TP ... ti]]]]]]]]

In the structure of a Type I EC in (6a), it is merged in Spec-CP of the clausal argument, so that why cannot move through this position and hence its movement to the matrix Spec-vP violates the PIC, because the matrix cannot have access to it within the domain of the embedded C. In the structure of a Type II EC in (6b), on the other hand, since it is directly merged in the matrix Spec-TP, the movement of how can proceed through Spec-CP of the clausal argument, which feeds the subsequent movement to the matrix Spec-CP through the matrix Spec-vP.

3.2. The Status of the Dummy It

Bošković and Takahashi (1998) and Hornstein (1999) propose a feature-based θ-theory, in which a θ-role is taken to be an uninterpretable feature of

5 Indeed, Stroik (1996) presents examples like (2a) as a piece of evidence that it is merged in Spec-CP of the clausal argument in Type I ECs. He also observes that examples of Type I EC like (ia) involving extraction of an argument wh-phrase are somewhat more acceptable than those like (2a) where an adjunct wh-phrase is extracted. However, it is worth noting that (ia) is less acceptable than the example of Type II EC in (ib), in spite of the fact that both examples involve extraction of an argument wh-phrase.

(i) a. *Who does it seem sad that Lou had fired ti? (Stroik (1996: 248))
   b. Which car does it appear he washed ti? (Zaring (1994: 566))

This contrast would be accounted for in the same manner as in (6) under the present analysis, but I leave for future research the question of why examples like (ia) are not completely unacceptable.
a predicate. Along these lines, Kitada (2013) argues that an uninterpretable θ-feature must be checked through Agree. Integrating this feature-based θ-theory with the idea proposed by Pesetsky and Torrego (2007) that Agree is feature sharing, this paper assumes that the θ-feature of a predicate, which is uninterpretable but valued, must assign its value through Agree as feature sharing to the θ-feature of its argument that is interpretable but unvalued (henceforth, u-θ). It is important to note that the mechanism of feature sharing allows Agree to apply between two unvalued features, which can be valued simultaneously if one of these unvalued features establishes an Agree relation with a valued feature. This holds for the valuation of u-θ of it and the clausal argument in Type I ECs, as shown in (7), where the pair of θ-features which establish an Agree relation is represented by coin-indexing.

\[\begin{align*}
\text{(7) a. } & \ [CP \ it(\phi, \ u-\text{Case}, \ u-\theta_i) \ [C' \ [C \ that(u-\theta_i, \ EPP)] \ [TP \ ...]]] \\
\text{b. } & \ [AP \ obvious(Th_i) \ [CP \ it(\phi, \ u-\text{Case}, \ Th_i) \ [C' \ [C \ that(Th_i, \ EPP)] \ [TP \ ...]]]] \\
\text{c. } & \ [TP \ it_j(\phi, \ u-\text{Case}, Th_i) \ T(\psi, \ EPP) \ [VP \ t_j \ is \ [VP \ t_V \ [AP \ obvious(Th_i) \ [CP \ t_j \ [C \ that(Th_i, \ EPP)] \ [TP \ ...]]]]]]
\end{align*}\]

In (7a), the merger of it in Spec-CP of the clausal argument makes it possible for u-θ of it to enter into an Agree relation with u-θ of C. Then, in (7b), the adjective obvious is introduced into the derivation with the valued θ-feature Theme (henceforth, Th), which probes and enters into an Agree relation with u-θ of it as its goal. Since u-θ of C has undergone Agree with u-θ of it, the Agree relation between Th of obvious and u-θ of it leads to the structure where the same value of Th is shared by the three elements: it, obvious and the clausal argument. Note that the θ-criterion requires Th of obvious to be deleted once it enters into an Agree relation with u-θ of it, so that it becomes inactive for Agree. Finally, in (7c), it moves to the matrix Spec-TP through the matrix Spec-vP to satisfy the EPP feature of T, valuing and deleting u-φ of T and u-Case of it.

On the other hand, u-θ of it is not valued in Type II ECs because it cannot establish an Agree relation with any θ-features, as shown in (8).

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6 Unlike Pesetsky and Torrego (2007), who adopt the idea that what serves as a probe is an unvalued feature, this paper assumes that the (valued) uninterpretable θ-feature of a predicate can also function as a probe. Given that a θ-role must be discharged into an argument, it is reasonable to assume that the θ-feature of a predicate can function as a probe to be checked through Agree.
(8) a. \[
[\text{VP } \text{seems}(\text{Th})] [\text{CP } \text{[C that(Th)]} [\text{TP } \ldots]]
\]
b. \[
[\text{TP } \text{it}(\phi, \text{u-Case}, \text{u-}\theta)] \text{T}(\text{u-}\phi, \text{EPP}) [\text{VP } \text{seems}(\text{Th})] [\text{VP } \text{t}_V \text{[CP } \text{[C that(Th)]} [\text{TP } \ldots]]]
\]

In the stage of (8a) where CP is merged in the complement of \textit{seems}, Th of \textit{seems} enters into an Agree relation with u-\theta of C, resulting in the feature sharing of Th between \textit{seems} and C. In (8b), unlike (7b), since \textit{it} is merged in the matrix Spec-TP after VP has become inaccessible to any operations (including Agree), u-\theta of \textit{it} cannot be valued by entering into an Agree relation with Th of C. (Note also that u-\theta of \textit{it} cannot get valued by Th of \textit{seems} raised to v because the latter has been deleted once it enters into an Agree relation with u-\theta of C in the stage of (8a).)

Given this analysis based on the feature-based \theta-theory, this paper argues that the different status of \textit{it} in the two types of EC is captured in terms of the valuation of u-\theta: since \textit{u-\theta} of \textit{it} is valued in Type I ECs, \textit{it} is interpreted as a thematic pronoun at LF, whereas \textit{it} is interpreted as an expletive in Type II ECs where its u-\theta remains unvalued. Therefore, it follows that \textit{it} can be a controller of PRO only in Type I ECs, as we saw in (3).\(^7\)\(^8\)\(^9\)\(^10\)

\(^7\) One might argue that the derivation of (8) would crash because u-\theta of \textit{it} is not valued in narrow syntax, so that it could not be interpreted at LF. This paper captures the thematic status of \textit{it} in terms of the valuation of u-\theta, so the instance of \textit{it} is taken to be an “expletive” whose u-\theta remains unvalued in narrow syntax. On the other hand, \textit{it} would be interpreted as referring to the clausal argument in Type I ECs, because the two elements share the same \theta-feature value. If this is correct, only in Type I ECs is \textit{it} associated with the clausal argument, thus capturing the intuition behind the traditional transformational analysis of Type I ECs (see footnote 2).

\(^8\) If this analysis is correct, there would be only one lexical item/entry for \textit{it} in the lexicon, and the thematic status of \textit{it} would be determined by the position where \textit{it} is merged. This is a theoretically desirable consequence, since the theory of grammar is simplified by reducing the number of lexical items/entries in the lexicon.

\(^9\) Napoli (1988) observes that non-thematic elements cannot occur in the subject position of the small clause selected by perception verbs, as shown in the following example involving the expletive \textit{there}.

\[(i) \ast \text{I could see there glow two eyes in the shadows.} \quad (\text{Napoli (1988: 337)})\]
If the present analysis is correct, it is predicted that only Type I ECs, having \textit{it} as a thematic pronoun, can occur in the small clause complement of perception verbs. This prediction is borne out, as illustrated in (ii, a).

\[(ii) \quad \begin{align*}
\quad \text{a. We all watched it become clear that he wasn’t going to show up at the church.} \quad (\text{Napoli (1988: 338)}) \\
\quad \text{b. \ast I could actually see it appear that he was sad.} \quad (\text{Napoli (1988: 337)})
\end{align*}\]

\(^10\) One might wonder how ECs with an interrogative clausal argument (e.g., \textit{It is unclear who came here.}) are derived under the present analysis, given that a \textit{wh}-phrase occupies Spec-CP. This problem would be resolved by assuming under the split-CP hy-
The Relationship between ECs and SSCs

McCloskey (1991) observes that the verb in SSCs shows agreement with the clausal argument in person and number, as shown in the following examples.\(^1\)

\[(9)\]
\[\begin{align*}
\text{a.} & \quad \text{That the president will be reelected and that he will be impeached are equally likely at this point.} \\
\text{b.} & \quad \text{That the march should go ahead and that it should be canceled have been argued by the same people at different times.}
\end{align*}\]

(McCloskey (1991: 564))

In (9), the third person plural verb form is used with the coordinated clausal argument in the subject position. This would lead us to assume that *that* in the clausal argument of SSCs is a demonstrative of the category D with $\varphi$-features and u-Case, whereby it can be attracted to the matrix Spec-TP under Agree with u-$\varphi$ of T. Extending Alexiadou and Anagnostopoulou’s (1998) idea that the EPP feature of T is satisfied by the merger of $X^0$ with a nominal feature in T, this paper assumes that the merger of *that* as D in C can satisfy the EPP feature of C in the clausal argument of Type I ECs. Then, this will allow the clausal argument to move to the matrix Spec-TP to satisfy the EPP feature of T, valuing and deleting u-$\varphi$ of T and u-Case of *that*, as shown in (10). Hence the possibility of rephrasing Type hypothesis (cf. Rizzi (1997)) that *it* and the *wh*-phrase are merged in Spec-ForceP and Spec-FocP, respectively. That this kind of EC has *it* first merged in the embedded clause, not directly merged in the matrix Spec-TP would be suggested by the following example provided by my informant where *it* controls the PRO subject of the adjunct clause.

\[\text{(i) It was clear [after PRO having been explained] who hit Mary.}\]

Note that the introduction of the split-CP hypothesis does not affect the above account of the impossibility of *wh*-movement from the clausal argument in Type I ECs, because *wh*-movement must proceed through Spec-ForceP in which *it* is merged, given the reasonable assumption that ForceP is a phase.

\(^1\) One might wonder how Type I ECs with a coordinated clausal argument are derived under the present analysis. McCloskey (1991) observes that the verb in such cases must be in the third person singular form, as illustrated in (i).

\[\text{(i) a. *It seem equally likely at this point that the president will be reelected and that he will be impeached.}\]

\[\text{b. It seems equally likely at this point that the president will be reelected and that he will be impeached.}\]

(McCloskey (1991: 565))

This indicates that the verb agrees with *it*, which undergoes Across-the-Board movement to the matrix Spec-TP, as shown in (ii).

\[\begin{align*}
\text{(ii)} & \quad \left[\text{TP } \text{it}([\varphi, \text{u-Case}) T(\text{u-$\varphi$, EPP}) [_{\varphi} \text{it} \text{seems likely at this point }]_{CP} [t_i [_{C} \text{that(EPP)}] \text{[TP ...]]}ight] \text{ and } [_{CP} \text{it} [_{C} \text{that(EPP)}] \text{[TP ...]]]}\end{align*}\]
I ECs as SSCs.\textsuperscript{12} On the other hand, since the clausal argument of Type II ECs lacks an EPP feature in C, the merger of that as D is unavailable and hence the clausal argument cannot be attracted to the matrix Spec-TP, thus accounting for the impossibility of rephrasing Type II ECs as SSCs. Therefore, the EPP feature of the matrix T must be satisfied by the merger of it in Spec-TP in Type II ECs.\textsuperscript{13}

\begin{equation}
(10) \quad [\text{TP} [\text{CP} [[\text{D} \text{that}(\phi, \text{u-Case})] + \text{C(\text{EPP})}] [\text{TP} \ldots]]] T(\text{u-\phi, EPP}) \{\phi, t_i \text{ is obvious } t_c\}]
\end{equation}

As a consequence of the analysis in (10), the ungrammaticality of examples like (11a), in which that of the clausal argument is omitted, follows immediately.

\begin{itemize}
  \item[(11) a.] *The teacher was lying was hardly obvious.  
  \textsuperscript{(Stowell (1981: 396))}
  \item[(11) b.] *\text{TP} \text{T(u-\phi, EPP)} \{\phi \text{ was hardly obvious } \text{CP} \text{C(\text{EPP}) the teacher was lying}\}]
\end{itemize}

In (11b), there are no elements to satisfy the EPP feature of C; moreover, the clausal argument cannot be attracted due to the lack of \phi-features, resulting in the failure of valuation and deletion of u-\phi of the matrix T.

If this is correct, the difference between ECs and SSCs will be attributed to the different modes of satisfying the EPP feature of C in the clausal ar-

\textsuperscript{12} Emonds (1970) observes that SSCs are not compatible with subject-auxiliary inversion, which might pose a problem for the present analysis because the clausal argument is assumed to occupy Spec-TP like a DP subject.

\begin{itemize}
  \item[(i)] *Is that this stock will be sold certain?  
  \textsuperscript{(Emonds (1970: 108))}
  \end{itemize}

However, Davies and Dubinsky (2009) argue that the unacceptability of sentences like (i) is due to parsing difficulty, and give some acceptable examples of SSC in which the clausal argument is inverted with an auxiliary.

\begin{itemize}
  \item[(ii)] Does [that Fred lied to them] bother all of the people who bought stock in his company?  
  \textsuperscript{(Delahunty (1983: 387))}
\end{itemize}

If this is correct, SSCs with subject-auxiliary inversion are grammatical, lending support to the present analysis of SSCs.

\textsuperscript{13} Among recent works on SSCs, Takahashi (2010) proposes that the clausal argument in SSCs is a category of DP whose head is null and takes CP as its complement. If this were the case, it would be predicted that the clausal argument can be a controller of PRO like other kinds of DP (including it in Type I ECs). However, my informant judges the following sentence to be unacceptable, contrary to the prediction.

\begin{itemize}
  \item[(i)] *[That John did it], is likely enough [PRO, to convince me we ought to question him].
\end{itemize}

Assuming that only DP can be a controller of PRO, the present analysis will correctly account for the unacceptability of (i) since the clausal argument in SSCs is a category of CP with that as D merged in its head.
argument: the merger of *it* in Spec-CP yields ECs, whereas SSCs involve the merger of *that* as D in C.\(^\text{14}\)

4. Conclusion

This paper has argued that in Type I ECs, *it* is merged in the specifier of the clausal argument to satisfy the EPP feature of C and then moves to the matrix Spec-TP, while *it* is merged directly in the matrix Spec-TP in Type II ECs. In Type I ECs, the merger of *it* in Spec-CP makes it possible for u-θ of *it* to be valued, and has the effect of preventing wh-movement from the clausal argument. On the other hand, since *it* is merged directly in the matrix Spec-TP in Type II ECs, u-θ of *it* cannot be valued and wh-movement is possible from the clausal argument. Furthermore, *that* as D can only be merged in Type I ECs which have the clausal argument with the EPP feature in C, which allows it to be attracted to the matrix Spec-TP, giving rise to an SSC.

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\(^{14}\) Given the two modes of satisfying the EPP feature of C, together with the two variants of a complementizer (*that* and zero), there will be four possible configurations of the CP domain in the clausal argument of Type I ECs: (a) *it* is merged in Spec-CP with *that* as C; (b) *it* is merged in Spec-CP with a zero C; (c) *that* as D is merged in *that* as C; and (d) *that* as D is merged in a zero C. As is obvious, the options in (a) and (b) lead to Type I ECs with and without *that* in the clausal argument, respectively, and the option in (d) yields SSCs. The option in (c) might pose a problem for the present analysis, since the configuration in (i), which has two instances of *that* in an SSC, is not allowed.

(i) \(^*\)\([\_{TP}\  [\{D\ [\{that(\_{0, u\text{-Case}})\}+[C\ [\{that\ (\_{EPP})\} \ [\_{TP}\ [\{\text{the\ world\ is\ round}\}\}]]\ ]]\] \[\_{TP}\ [\{\text{it\ is\ obvious}\}\}]

This problem will be explained away by adopting Distributed Morphology (cf. Halle and Marantz (1993)), which assumes that a syntactic structure consists of feature bundles and lexical items are inserted after syntactic operations. Following the economy condition on lexical insertion proposed by Nawata (2004), according to which a feature bundle must be realized by as few items as possible, it follows that the feature bundle created by the merger of D in C should be realized by one instance of *that*. 
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