

Pseudo-Amalgam Heads in English *So*-Inversion and Comparative Correlative Constructions

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Abstract

The major focus will be placed upon the amalgam head argued by Hatakeyama et al. (2010), exemplified by the structure as in *Bill must be a genius and so **must be** Ann* (Hatakeyama et al. 2010: 26) [emphasis added]. In particular, the amalgam head in the English Comparative Correlative is discussed, because of its relative stability in its acceptability among native speakers in comparison with the *so*-inversion construction that Toda (2007) and Hatakeyama et al. (2010) focus upon. An alternative analysis to Toda (2007) and Hatakeyama et al. (2010) will be proposed subsequently after critical examination of Hatakeyama et al.'s (2010) postulation of the amalgam head that it undergoes a movement from the head of T to the head of C. The present article argues, in lieu of Hatakeyama et al.'s (2010) hypothesis with this type of head movement, that the subject of the construction originates in and remains in the complement of the unaccusative verb within Verb Phrase, which means that the apparent amalgam head undergoes no movement. The amalgam head is just a notation to describe the apparent syntactic phenomenon of (the auxiliary plus) the copula verb, being followed by the subject; in a rigid attempt, there should turn out to be no precise theoretical concept of the amalgam head that Hatakeyama et al. suppose.

1 Introduction

The present article chiefly deals with the amalgam head in the English Comparative Correlative, exemplified by:

(1) The dearer the child, the sharper [must be] the rod. (Okutsu 2000: 152) [square bracket added]

The amalgam head is discussed in depth by Hatakeyama et al. (2010) in their attempt to analyze the *so*-inversion construction such as in (2).

(2) Bill must be a genius and so must be Ann. (Hatakeyama et al. 2010: 26)

As they admit, however, the acceptability of (2) is heavily subject to speaker variation.¹ In contrast, the acceptability in (1) seems to be more stable than (2). Hence, it seems to be a sound method of analysis in research to attempt to argue about the amalgam head in the English Comparative Correlative, along with the *so*-inversion construction. The present paper argues that the so-called amalgam head comprising (the auxiliary and) the copula does not move from T^0 (the head of TP) to C^0 (the head of CP), contra Hatakeyama et al.: instead, the subject remains in VP (Verb Phrase), particularly in the complement position of the unaccusative verb. Hatakeyama et al. argue that VP ellipsis is involved in the sentence in (2), whereas Toda (2007) depends on VP preposing. The present paper does not adopt either of the proposals, alternatively arguing that the English Comparative Correlative's amalgam head construction has the fronted element in Spec-CP (Complementizer Phrase) (particularly Spec-FocP (Focus Phrase)), by virtue of A' movement to the position. (See the relevant discussion in Culicover and Jackendoff 1999 and Iwasaki and Radford 2009.)

In Hatakeyama et al.'s analysis, the auxiliary verb and the subsequent copula form a unit, that is, the amalgam head, though they never make explicit the precise definition or formal formulation. Hatakeyama et al. (2010) propose that the amalgam head moves from I^0 to C^0 . Hence, their analysis can be captured as in the following diagrams.

(3) [_{CP} so [_C [must be]_i] [_{TP} Ann [_T t_i]]]

Contrary to Hatakeyama et al.'s stipulation that the amalgam head (such as *must be* in (1)) originates in T^0 , for which they show no empirical or theoretical support, and moves to C^0 , the present paper argues that the subject remains in VP, in particular, the complement of the unaccusative verb, following the Verb-Internal Subject Hypothesis.²

The only explicit empirical criterion that Hatakeyama et al. offer on the defining syntactic property of the amalgam head in *so*-inversion construction is that the amalgam head cannot have other elements inserted, as in the following.

(4) *Bill must be a genius, and so must surely be Ann. (Hatakeyama et al. 2010: 32)

That is, Hatakeyama et al.'s logic here seems to be that because no adverb cannot be inserted between the auxiliary verb and the copula *be*, these two elements must form a unit, or what they call the amalgam; for them, a testing ground of the amalgam head is whether an adverb can intervene between the two elements.

However, this is implausible from both empirical and methodological grounds. Empirically,

1 Hatakeyama et al. (2010: 36) explain that "most informants we consulted with do not allow even the *must-be* type amalgam." [italic in the original] Peter Culicover (pers. comm.) suggests that examples like (2) are better, if the focus DP (Determiner Phrase) is heavier or stressed, and if the stress pattern is: "and so MUST be, ANN".

2 Regarding the Verb-Internal Subject Hypothesis, see Radford (2009) and the literature cited there.

their claim is undermined by the following examples.

- (5) (a) (?) Bill will be a genius and so **will {probably / likely} be** the man who is talking with him.³
 (b) This has been the case with past Blizzard beta games, so **will likely be** the case here too.⁴
 (c) Jill is American, so **will likely be** the one to respond.⁵
 (d) So too **will probably be** the case with whoever gets bombed this time.⁶

These are rather colloquial English but not particularly rare.⁷ Theoretically, whereas Hatakeyama et al. claim that an adverb cannot intervene the linking of the auxiliary verb and the copula, which in itself is incorrect, they do not show any precise, explicit definition of the amalgam head. If the impossibility of the intervention of the sort as above was the defining characteristic of the amalgam head, then how would we differentiate the amalgam head from an ordinary constituent? An empirical test by a constituency has been used commonly in syntax, and in itself is by no means novel. Their hypothesis of the amalgam head itself needs a precise definition.

In contrast to Hatakeyama et al.'s claim, the present paper argues that the amalgam head is to be defined as an apparent set of words which are in an unaccusative verb construction: that is, a set of words comprising (an auxiliary verb plus) a copula verb in a circumstance in which there is a following subject, such as in (1) and (2). Thus, the present paper argues that there is essentially no amalgam head in the sense of Hatakeyama et al. (2010) in a rigid syntactical sense, given that it is simply an apparent syntactic phenomenon on the surface level. This position is supported by the eligibility of the intervention by an element as in (5), and also by the fact that there is no precise definition of the supposed notion at all. Hence, we hereafter call the structure a pseudo-amalgam head construction for the reasons above.

The pseudo-amalgam head is a phenomenon not restricted only to the *so*-inversion construction, but is also seen in the English comparative correlative construction, at least in its second clause.⁸

- (6) The more you study, the better **will be** the results.

Note that this is essentially different from the type of structure in which only the auxiliary moves to C⁰. According to Iwasaki and Radford (2000), the latter structure undergoes a focalization, i.e. a

3 I am grateful to Peter Culicover (pers. comm.) for originally bringing my attention to the possibility of such intervention. He suggests that (5a) is "slightly odd at worst" in comparison with the following (i).

(i) Bill will be a genius and so **will be** the man who is talking with him.

Peter Culicover (pers. comm.) also suggests that the accentuation of (5a) has to be just right, in order for it to sound okay, and that a falling tone on *be*, and a boundary after *be*, makes it work best.

4 Source: [http://daydull.com/?p=233] [as of 31 August 2010]

5 Source: [http://bestdestinationwedding.com/forum/f89/looking-band-rm-11290/] [as of 31 August 2010]

6 Source: [http://www.havocrex.com/press/article/1/56] [as of 31 August 2010]

7 It could be conceivable that the *may well be* is the same in nature, although it is rather like a set phrase.

8 The first clause in the English Comparative Correlative seems to disallow the pseudo-amalgam heads.

(i) The higher the tax must be, the angrier [the citizens will be / will be the citizens].

(ii) *The higher must be the tax, the angrier [the citizens will be / will be the citizens].

movement of a relevant phrase to Spec-FocP within the framework of the cartography approach (by Rizzi 1997 and Radford 2009). Consider:

(7) The more you study, [_{FocP} the better_i [_{Foc} will_j] [_{TP} the results t_j be t_i]].⁹

In the case of (5), the *the better* moves to Spec-FocP whereas the *will* moves to Foc⁰. (Also see Iwasaki and Radford for details on the case of no auxiliary inversion.) Iwasaki and Radford show that focalization involves a Weak Crossover Effect in order to support their postulation of the focalization. However, the present paper does not adopt the analysis of (7) as far as the attempt to analyze the pseudo-amalgam head construction as in (4), is concerned. Rather the pseudo-amalgam head the *will be* is *in situ* in T⁰ (*will*) and V⁰ (*be*). Along with the subject remaining within VP, the proposed analysis in the present article is as follows.

(8) The more you study, [_{FocP} the better_i [_{Foc} \emptyset] [_{TP} [_T will] [_{VP} [_V [_{FP} [_F be] t_i]]] the results]]].

Notice that the *the better* originates as the complement of the unaccusative verb the *be*, both of which constitute a null functional projection, when we suppose that the *be* be in a null functional head. This functional head itself is located in the head of the VP. Subsequently the *the better* moves to Spec-FocP. Notice also that the *the* of the *the better* can only be overt at a top clausal position.

The organization of the present article is as follows. In section 2, we will differentiate the syntactic structures of the pseudo-amalgam head analysis and of the auxiliary inversion analysis, leading to the conclusion that Hatakeyama et al.'s (2010) treatment of the two structures is untenable. In section 3, we will look at some other instances of the pseudo-amalgam head structures to bolster the validity of the argument in the present paper. In section 4, we will review Hatakeyama et al.'s (2010) criticism of Toda (2007), and confirm that their criticism contains various flaws, the implication of which would undermine the validity of their argument of the amalgam head movement from T⁰ to C⁰. In section 5, we will summarize the discussion and show the implications that follow.

2 Amalgam Head Construction and Auxiliary-Inversion Construction

The present section differentiates the essentially two different constructions: pseudo-amalgam head construction and auxiliary inversion construction. One might argue, as Hatakeyama et al. (2010: 31) presumably would, that (9b) is essentially the same as (9a) with the copula simply being omitted.

(9) (a) Bill must be a genius, and so **must be** Ann. (Hatakeyama et al. 2010: 26) [emphasis added]

9 Iwasaki and Radford (2010) argue that the movement of a *the*-phrase is parallel to a *so*-phrase.

(b) Bill must be a genius, and so **must** Ann. (Hatakeyama et al. 2010: 30, fn. 5) [emphasis added]

However, the present paper's author's understanding is that parts of the amalgam head cannot be deleted because they are amalgamated or consolidated. Hence, the present paper argues that there is no syntactic relation between (9a) and (9b).

The present paper argues that (9b) is an omitted form of not (9a) but (10) below.

(10) Bill must be a genius, and so **must** Ann **be**.

One piece of evidence in support of the claim in this line is the following cases where an inversion of the same nature as in the *so*-inversion construction and the English Comparative Correlative (1) is seen:

(11) (a) %No matter how high will be the office building that we must build, we have to carry out the plan.¹⁰

(b) *No matter how high will the office building that we must build, we have to carry out the plan.

(c) No matter how high the office building that we must build, we have to carry out the plan.

The ungrammaticality of (11b) can be rather straightforwardly accounted for by the ungrammaticality of (12) (because the embedded clause does not allow the auxiliary inversion), if we assume that (11b) is a version of (12) with the *be* being omitted.

(12) *No matter how high **will** the office building that we must build be, we have to carry out the plan.

When (12) is ungrammatical, the omitted form (11b) is also ungrammatical.¹¹ When (11a) and (11b) were related, then there would be little reasonable account for the distinction between the grammaticality of the two (i.e., (11a), (11b)).

The discussion above renders it rather obvious that Hatakeyama et al. (2010) do not differentiate between the cases as in (9a) and (9b), repeated as (13a) and (13b), which are essentially different.

(13) (a) Bill must be a genius and so **must be** Ann. (Hatakeyama et al. 2010: 26) [emphasis added]

(b) Bill must be a genius and so **must** Ann.¹² (Hatakeyama et al. 2010: 30, fn. 5) [emphasis added]

Hatakeyama et al. presumably have in mind that the type of movement of the amalgam head (*must be*) in (13a) has essentially the same movement of the *must* in (13b). In actual fact, they develop the

¹⁰ It seems that this is subject to speaker variation. For one informant, this is grammatical, while for another, ungrammatical.

¹¹ A residual case would include the following examples.

(i) Plan A will be more effective than **will be** the plan B.

(ii) Plan A will be more effective than **will** the plan B.

(iii) Plan A will be more effective than **will** the plan B **be**.

Since (iii) is grammatical, the omitted form (ii) is also grammatical.

¹² Peter Culicover (pers. comm.) suggests that the sentence is not very good, and it is not possible to improve it with intonation, in contrast with (13a), which can be saved with intonation.

argument that the movement of the amalgam head from I^0 to C^0 can be triggered by the same type of movement as in (14).

(14) (a) Never have I heard such awful news.

(b) Only reluctantly will Mary eat seafood salad. ((14a, b): Hatakeyama et al. 2010: 31)

In the cartography approach, *never* in (14a), and *only reluctantly* in (14b) are respectively in Spec-FocP. The movement of the *have* and *will* to Foc^0 is triggered by the strong affixal feature of Foc^0 .¹³

(15) (a) [_{FocP} Never [_{Foc} have] [_{TP} I heard such awful news]].

(b) [_{FocP} Only reluctantly [_{Foc} will] [_{TP} Mary eat seafood salad]].

Therefore, the syntactic structures of (7) and of (15) are in parallel.

However, the present paper argues that it is false to assume that (13a) and (15) have the same syntactic structure. Were Hatakeyama et al.'s argument correct that the head movement of the amalgam head is triggered by the same movement of the garden-variety auxiliary inversion, then there would arise a rather rudimentary question: why sometimes only an auxiliary move and sometimes an auxiliary plus a copula move?

(16) (a) Neither will be the results.

(b) Neither will the results be.

In a similar vein, Hatakeyama et al.'s argument cannot offer any reasonable account for the distinction between (17a) and (17b).

(17) (a) The more you practice, the better **will** [the result] **be**.

(b) The more you practice, the better **will be** [the result].

If the same affixal feature (strong) attracted the relevant elements, then we would not be able to differentiate between (16a) and (16b), and (17a) and (17b). Furthermore, if Hatakeyama et al.'s claim that the same type of movement as in the positive / negative polarity inversion were correct, then it would follow that whenever the amalgam head occurs, the auxiliary inversion also may occur. However, the following instances cast doubt upon this possibility.

(18) (a) So seems to be the result.

(b) *So does seem to be the result.

Cf. (c) *So does the result seem. ((18c): suggested by Peter Culicover (pers. comm.))

In (18a), let us suppose that *seems to be* is a pseudo-amalgam head because it satisfies our criterion of *pseudo-amalgam head*: it should be treated as a unitary set of words which should function as a predicate of the *the result*. The ungrammaticality of (18b) shows that the pseudo-amalgam head does not have the same movement as the auxiliary inversion triggered by a positive / negative polarity item. Therefore, it would be more appropriate to ascribe the syntactic structure as in (16a)

13 The present paper owes the analyses in (15a, b) to Radford (2009).

and (17b) to whatever is different from the strong affixal feature that only accounts for the head movement from T⁰ to C⁰ (or T⁰ to FocP⁰). The present paper argues that the subject remains in VP, in particular, the complement of the unaccusative verb, following the VP Subject-Internal Hypothesis.

Hatakeyama et al. argue that the subject of the amalgam head construction is in Spec-TP. From this position, they critique Toda's argument that the subject in the *so*-inversion construction is postposed. However, Hatakeyama et al.'s argument contains various flaws, because they miss other significant data. First, Hatakeyama et al. argue that the pronominal subject can be allowed in the *so*-inversion construction, in sharp contrast with the counterpart phenomenon in the Locative Inversion construction.

(19) John can speak French, and so can {Ann / she}. (Hatakeyama et al. 2010: 31)

This sentence exemplified by Hatakeyama et al. indeed allows the pronominal subject *she*. However, they do not assess the grammaticality of the case with the copula being overt such as (20) below.

(20) John must be a famous professor, and so must be {Ann / *she}.¹⁴

In a case with the copula *be* being explicit, the pronominal subject is disallowed.

Second, Hatakeyama et al. argue that the *so*-inversion construction is not affected by the degree to which the subject is 'heavy' or 'light.' However, this claim does not necessarily hold, given that their data are not sufficient. The data that Hatakeyama et al. (2010: 31, 32) show are as follows.

(21) (a) John is a genius and so is Mary.

(b) John is a genius and so is the woman who is standing over there with a big smile on her face. By the fact that both are grammatical, they presumably want to argue that the *so*-inversion construction is not influenced by the 'heaviness' of the subject. However, in this context, they do not discuss the amalgam head, which the present paper thinks is pivotal to their argument. In the case of an amalgam head, the grammaticality of a sentence is indeed influenced by the heaviness of the subject. Example (20) above is one example, as are (22) and (23).

(22) The more famous Bob becomes, the happier will be {*he / his family members}.

(23) (a) *The more precise the data, the more reliable will be it.

cf. (b) The more precise the data, the more reliable it will be.

(c) The more precise the data, the more reliable will it be.

In general, the 'light' (contra 'heavy') subject cannot be left rightmost as in (20), (22), (23a). The subject in the complement of the unaccusative verb shows the same tendency.

¹⁴ Regarding (20), Marcel den Dikken (pers. comm.) suggests that one might consider that it could work with focal stress on the subject pronoun. While this is a valuable suggestion worth pursuing, the present paper does not go into the details of this.

(24) (a) There will come a time when the issue is resolved.

(b) *There will come then.¹⁵

Therefore, it seems plausible to reach the conclusion that this renders the possibility that the subject in the so-called amalgam head construction is in the complement of the unaccusative verb.

Furthermore, Hatakeyama et al. would not be able to render any reasonable account on the following sentences.

(25) (a) *New challenges have been offered and so will [the opportunity] be given.

(b) *New challenges have been offered and so will be [the opportunity] given.

Cf. (c) When will the opportunity be given?

(26) (a) *John is slow in responding to emails and so must be [that he is essentially lazy].

(b) *John is slow in responding to emails and so must be it [that he is essentially lazy].

Cf. (c) John is slow in responding to emails and so it must be [that he is essentially lazy].

If Hatakeyama et al.'s claim that the amalgam head moves from T⁰ to C⁰ were correct, it should be that (25a-b), (26a-b) were grammatical.

Regarding Hatakeyama et al.'s illustrated sentence as in (27), we have some solution to counter their claim.

(27) *So would be in his position you. (Hatakeyama et al. 2010: 33)

A conceivable reason that the sentence in (27) is ungrammatical is that *would be you* is treated as a constituent, i.e., VP. That is, following the VP-Internal Subject Hypothesis, the *you* is located in the complement position of the verb *be*, and hence this would straightforwardly account for why the intervention by the *in his position* results in the sentence being ungrammatical.

In addition, while Hatakeyama et al. claim that the *so* is an adverb base-generating in Spec-CP, the present article's analysis argues that the *so* as well as the *the more...* phrase originates within TP and undergoes a fronting (to Spec-FocP).

(28) (a) ... so_i will be t_i.

(b) * ... so_i will be [in his case] t_i.

The inserted prepositional phrase functions as a complement of the pseudo-amalgam head, *will be*, and this hinders the VP from appropriately having a THEME, a theta role of the linking copula's argument structure, and hence such an insertion results in being ungrammatical. In other words, it seems that the pseudo-amalgam head requires a THEME to be in an immediately postverbal position, in the same way that the transitive verb requires its complement to be the closest

¹⁵ I am grateful to Chris Cummins (pers. comm.) for offering the sentences in (24a, b). Chris Cummins (pers. comm.) suggests that using a pronominal expression in this construction violates considerations of information structure and that if the pronominal expression is replaced with a less direct kind of deictic expression, the sentence can be grammatical with an appropriate intonation contour as in (i):

(i) There will come such a time.

postverbal position, disallowing any other adverbs or whatever to be intervened.

3 Some bits on the apparent Amalgam Head Analysis

The present section critically examines the amalgam head analysis argued by Hatakeyama et al. and adds some arguments. First, the present paper adds to their argument the observation that the pseudo-amalgam head can comprise not only the two elements (i.e. the auxiliary plus the copula) but also many other different elements. Consider:

(29) (a) The more diligent the student is, the better will be the results.

(b) The more diligent the student is, the better {are going to be / are expected to be / are assumed to be / are considered to be / are likely to be / ought to be / may well be} the results.

Second, the present paper adds one more syntactic phenomenon in which pseudo-amalgam heads can be seen: namely the *so-goes* construction (discussed in Culicover and Winkler 2008). Consider some cases of the *so-goes* construction.¹⁶

(30) (a) As the scholar goes, so [will go] his followers.

(b) As the scholar goes, so [{are going to / are expected to / are assumed to / are considered to / are likely to / ought to / may well} go] his followers.

The pseudo-amalgam head is exhaustively replaced by another phrase, producing a countless number of the relevant structure sentences. (See Culicover and Winkler 2008, who argue that the subject is *in situ* in the VP).

Third, the present paper argues that wherever a pseudo-amalgam head occurs is where a auxiliary plus a copula omission is possible, and vice versa. Consider the case of the English Comparative Correlative and of the *no matter* construction.¹⁷

(31) (a) The more you practice, the better the results will be.

(b) The more you practice, the better will the results be.

(c) The more you practice, the better will be the results.

(d) The more you practice, the better the results. [AUX + copula omission]

(32) (a) No matter how high we imagine will be the office building that we must build, we have to carry out the plan.

(b) (?) No matter how high we imagine the office building that we must build, we have to carry

¹⁶ Culicover and Winkler (2008: 650) observe that “It is also possible to have an auxiliary verb preceding *go*.” [italic in the original]

¹⁷ See Culicover and Jackendoff (1999), Abeillé and Borsley (2008) and Iwasaki (2008) for the relevant discussion on a copula omission in the English Comparative Correlative.

out the plan.¹⁸

In (31c) there is a pseudo-amalgam head while in (31d), the ‘auxiliary plus copula’ omission is possible. The example in (32a) contains a pseudo-amalgam head and (32b), the omission of the auxiliary and the copula. The condition where the omission of the auxiliary plus the copula is possible seems to be equivalent to the condition where the amalgam head is able to originate.

Hatakeyama et al. (2010: 34-5, fn. 7) suggest that “amalgam head movement is possible only when a phonetic element is in CP-Spec.”¹⁹ We should be careful about the point that this is not a sufficient condition but a requisite one: the condition above does not mean that whenever an overt element is in Spec-CP, a pseudo-amalgam head movement is possible but that when there is an amalgam head movement, the relevant Spec-CP must be explicit. Hence, the following are not against the condition that Hatakeyama et al. propose.

(33) (a) How old must be the famous mathematician?

(b) *We talked about how old **must be** the famous mathematician.

However, it is possible to say that, given the ungrammaticality of (33b) and other similar embedded clauses’ amalgam heads, the condition above is still weak in that it cannot eliminate the ungrammatical cases such as above. Therefore, given that the embedded clauses’ *wh*-elements are in Spec-ForceP, not Spec-FocP (Radford 2009), the present paper proposes an alternative condition below, along with the property of the verb that we saw and the present paper’s position that there is no movement of the amalgam head from T⁰ to C⁰:

(34) The pseudo-amalgam head occurs only where an element (overt or covert) in Spec-FocP c-commands, if and only if the relevant verb is unaccusative.²⁰

Furthermore, it seems that under this condition, copula omission occurs, as we saw in (9b), but this is not discussed in more depth here. This condition is stricter than the one that Hatakeyama et al. propose and correctly eliminates the ungrammatical case above. Note that in an embedded clause, *wh*-elements move to Spec-ForceP, not Spec-FocP (Radford 2009), and hence, the sentence in (33b) does not satisfy the condition in (34) and is thus ungrammatical.²¹

18 Also, consider:

(i) No matter how high we think will be the office building that we must build, we have to carry out the plan.
 (ii) %Now matter how high we think the office building that we must build, we have to carry out the plan.

However, (ii) is subject to speaker variation.

19 Hatakeyama et al. (2010: 34-5, fn. 7) suggest the following (i), (ii).

(i) What must Ann be thinking?
 (ii) What must be Ann thinking?

However, (ii) is marginally ungrammatical.

20 A remaining problem is the case with the exclamative.

(i) How rich must be that gentleman!

It could be that the exclamative has *wh*-elements in Spec-FocP, contra the commonly assumed Spec-ForceP (Radford 2009). I have no clear answer to the grammaticality of (i) at this stage.

21 Peter Culicover (pers. comm.) suggests that (i) is fine.

(i) We talked about how old must have been that famous mathematician.

I have no solution to this grammaticality in the light of the proposed hypothesis in (34) and put this aside for future research. (For another native speaker of English, (i) is marginal.)

The condition in (34) does not require the element in Spec-FocP to be necessarily overt, contra Hatakeyama et al.. This is because sometimes an element in Spec-FocP may be covert when the pseudo-amalgam head occurs, as is exemplified by the following:

(35) ... than may be the case.

In this case, *may be* looks like a pseudo-amalgam head. If we suppose that *than* is C^0 , the syntactic structure's *than*-clause in (35) would be as follows, given that such a structure has a covert operator corresponding to the overt *what*, as discussed in Chomsky (1977).²²

(36) ... [_{CP} [_C than] [_{CP} Op_i [_C \emptyset] [_{TP} [_T may] [_{VP} [_V be] the case t_i]]]]²³

In this case, the operator is covert but the pseudo-amalgam head occurs. If we adopt the Split-CP framework, it would be possible to avoid the CP recursion as in (36).

(37) ... [_{ForceP} [_{Force} than] [_{FocP} Op_i [_{Foc} \emptyset] [_{TP} [_T may] [_{VP} [_V be] the case t_i]]]]²⁴

The *than* introduces the comparative clause indicating a clausal *force* and hence it is assumed to be in Force⁰. The operator (and its pied-piping phrase) usually can move to Spec-FocP. The internal structure of TP remains the same as (36). The analysis and empirical data are well compatible with the condition in (34).

4 Critical Examination of Hatakeyama et al. (2010)

Hatakeyama et al. (2010: 31) claim that the amalgam head movement from T^0 to C^0 triggered by *so*, is what they call a “positive polarity adverb.” This being so, given that a *the more* phrase shares similar characteristics with the negative polarity items (at least, as far as a Weak Crossover Effect is concerned), in the same way, it is expected that a *the more* phrase can trigger the movement from T^0 to C^0 : in particular, T^0 to Foc⁰ whose Spec is occupied by a *the more* phrase.

However, the scenario above is not compatible with empirical phenomena in embedded clauses.²⁵ Consider:

(38) (a) ?So boring we think [will be Bob's talk that we do not want to attend his lecture].

(b) ?So boring we think [Bob's talk will be that we do not want to attend his lecture].

(39) (a) The more diligent the student is, the better I think will be the results.

22 It seems that the addition of *rather* just before *than* makes it more plausible for *what* to overtly occur.

(i) ... *rather* than what may have been the case.

However, the question remains that the apparent *what*-clause is either CP or DP, if there is such a distinction at all.

23 One might say that the CP layer is not multiple here, proposing the following structure.

(i) [_{CP} [_C than] be the case]

Even if this were correct, this would pose contradictory data against Hatakeyama et al.: the *may-have-been* cannot move to C^0 , which is already occupied by *than*.

24 I am grateful to Ian Roberts (pers. comm.) for a relevant suggestion on the position of the *than*.

25 The contrast between (33b) on one hand and (38), (39) on the other suggests that the root-embedded asymmetry alone does not affect the grammaticality of the pseudo-amalgam head.

(b) The more diligent the student is, the better I think the results will be.

In (38a-b), *so boring* moved from the embedded clause (indicated by the square brackets) which is a complement clause of *think*. In both (38a) and (38b), the *will be* is within the embedded TP, given that the embedded clause does not allow the auxiliary inversion in Standard English. In (39a-b), the *the better* moved from the embedded clauses in the same way. The *will be* in both sentences are within the embedded TP. The skeletal syntactic analysis can be summarized as follows.

(40) (a) ?_[FocP] So boring _[Foc ∅] _[TP] we think _{[CP [CP ∅]} _[TP] will be Bob's talk]]]] that we do not want to attend his lecture.

(b) ?_[FocP] So boring _[Foc ∅] _[TP] we think _{[CP [CP ∅]} _[TP] Bob's talk will be]]]] that we do not want to attend his lecture.

(41) (a) The more diligent the student is, _[FocP] the better _[Foc ∅] _{[I think [CP [CP ∅]} _[TP] will be the results]]]]].

(b) The more diligent the student is, _[FocP] the better _[Foc ∅] _{[I think [CP [CP ∅]} _[TP] the results will be]]]]].

According to Hatakeyama et al., *so* as a “positive polarity adverb” triggers the movement of the amalgam head. If so, the *will be* in (38b), (39b) should move from the original position to Foc^0 of the matrix clause. However, both of them result in ungrammatical sentences.

(42) (a) *_[FocP] So boring _{[Foc [will be]_i]} _[TP] we think _{[CP [CP ∅]} Bob's talk _{t_i]}]] that we do not want to attend his lecture.

(b) *The more diligent the student is, _[FocP] the better _{[Foc [will be]_i]} _{[I think [the results t_i]]]}.

After all, the movement of the *will be* to Foc^0 is in violation of Phase Impenetrability Condition (Chomsky 2008 among others), given that the amalgam head were supposed to move from the embedded CP's T^0 to the same CP's C^0 and further to move from there to the outer CP's C^0 , in this case Foc^0 , and hence never possible. Moreover, in embedded clauses, the auxiliary inversion (upon which Hatakeyama et al.'s argument is dependent in regard to the movement of the amalgam head from T^0 to C^0) usually does not occur.

Therefore, it would be necessary to suppose that the pseudo-amalgam head *will be* remains *in situ*, i.e., in T^0 and V^0 . In this case, the resulting structures are as follows.

(43) (a) So boring we think _{[CP [C ∅]} _[TP] _{[T **will]**} _{[VP [V **be]**} Bob's talk]]]] that we do not want to attend his lecture.

(b) The more diligent the student is, the better I think _{[CP [C ∅]} _[TP] _{[T **will]**} _{[VP [V **be]**} the results]]]]

However, if we assume that the *will be* remains in T^0 in the embedded clause, then how do we explain the positions of the subjects? Hatakeyama et al.'s argument has no solution to this, since their hypothesis is that the subject of the amalgam head construction is in Spec-TP, which means

that the linear order such as in (43a), (43b) would be impossible in their analysis. In contrast, if we hypothesize the *in-situ*-subject-in-VP hypothesis, the explanation is rather straightforward, exactly as in the analysis of (43a), (43b).

A further problem with Hatakeyama et al.'s argument is their assumption that *so*-inversion construction where the amalgam head (i.e. *must be* as a unit) moves from T^0 to C^0 , is analogous to the negative polarity inversion. If they were right, (44a) below should be grammatical: however, it is not. (Hatakeyama et al. (2010: 31) presumably would posit that the *hardly interesting* (negative polarity item) is in Spec-CP and the *must be*, C^0 .)

(44) (a) *Hardly interesting must be syntax.

Cf. (b) ?Hardly interesting must syntax be. [meaning: It is clear that syntax is hardly interesting.]

Another further problem with Hatakeyama et al.'s analysis that is to be reiterated here is that, despite their hypothesis of the amalgam heads moving from T^0 to C^0 , they do not show any empirical argument to support the hypothesis that the amalgam head base-generates in T^0 . Under what conditions this type of [pseudo-] amalgam heads are eligible to occur in T^0 and to undergo the movement from T^0 to C^0 , is totally left unresolved except their sketch in their fn. 7.²⁶ Another more specific question about their claim is, when such an amalgam head were possible, why would they be able to originate in T^0 , not in V^0 ? They offer no reasonable account for this. This casts doubt on Hatakeyama et al.'s hypothesis of the relevant movement of T^0 to C^0 .

Having suggested some fundamental theoretical flaws of Hatakeyama et al. (2010), let us further look at some details of their argument, particularly, their criticism against Toda (2007) in relation to our argument. What follows attempts to briefly answer each of the critical comments from Hatakeyama et al. against Toda, only in relation to our current concern.

First, Hatakeyama et al. critique Toda's VP-Preposing and *So*-replacement analyses. However, the present paper does not adopt Toda's positions. Hence, their arguments are irrelevant here.

Second, Hatakeyama et al. argue that, as we saw in the previous section, the 'lightness' / 'heaviness' of the subject is irrelevant. However, their argument misses some important data in which pronouns or other 'light' NPs cannot be placed rightmost, for which Hatakeyama's argument is weakened: the 'heaviness' does affect the pseudo-amalgam head construction. While the case with the simple *so*, any subject is fine; in other cases too 'light' a subject is disallowed.

(45) (a) So {shall / must / will... / \emptyset } be it.

(b) ?So difficult will be it.

²⁶ Hatakeyama et al (2010: 34, fn. 7) note that "...we do not have any decisive answer to the question as to under what circumstance amalgam head movement is possible."

(c) *So difficult and complicated will be it.

However, the full acceptability of (45a) appears to be due to the ‘lightness’ of the *so*. In contrast, when the fronted *so*-phrase is heavier, the acceptability decreases.

Regarding Toda’s (2007) parallelism between the locative inversion construction and the *so*-inversion construction, Hatakeyama et al. suggest that Culicover and Levine (2001) reveal that the postverbal nominal in the locative inversion construction is in fact not postposed but *in situ* within VP. Culicover and Levine’s argument is compatible with our current argument here that the subject of the amalgam head construction remains in VP.

Finally, the fallibility of Hatakeyama et al.’s (2010) criticism against Toda’s analysis is partly from a methodological ground. They illustrate the following with the acceptability in the square brackets.

(46) (a) John is a musician and so is Bob. [5]

(b) John is a musician and so must be Bob. [4]

(c) John is a musician and so must have been Bob. [3] ((46a-c); Hatakeyama et al. 2010: 34)

With the data above, Hatakeyama et al. (p. 34) observe that

“...the greater the number of auxiliaries intervening between *so* and *Bob*, the lower the acceptability status is. This suggests that the number of auxiliaries affects the acceptability status of the *so*-construction.” [italics in the original]

The present paper has no objection to this, in so far as their use of the “acceptability” is concerned. Further, they (p. 34) assert that:

“This fact cannot be predicted nor accounted by Toda’s analysis, because, in Toda’s analysis, the subject is postposed irrespectively of the number of auxiliaries intervened. In other words, in his system the number of auxiliaries does not affect the acceptability status of the *so*-construction.” [italics in the original / underline added]

However, the subject postposing in Toda’s (or whosever) analysis is a notion related to LINGUISTIC KNOWLEDGE, namely the notion at the level of GRAMMATICALITY. Precisely in the same way that Hatakeyama et al.’s sentences are subject to a kind of continuum gradation, the relevant sentences with the analysis of the Subject Postposing are also affected by some factors at the level of the ACCEPTABILITY, although it may be in theory that all of them are grammatical.

Another possible misconception held by Hatakeyama et al. (2010: 35) is related to their following data: (21) repeated as (47).

(47) (a) John is a genius and so is Mary. [5]

(b) John is a genius and so is the woman who is standing over there with a big smile on her face.

[4]

The numbers indicated in the square brackets are acceptability, according to Hatakeyama et al.. With this slight difference between their [4] and [5], they conclude that “the pattern of the acceptability status of the *so*-construction is just the opposite of that of the acceptability status of heavy inversion.” However, one possibility is that the lesser acceptability of (47b) is due to the redundantly lengthy sentence. If one wants to compare a shorter one with a longer one, one relative clause only (i.e. *John is a genius and so is the woman who is standing over there*) is sufficient: beyond that, the sentence would be redundant, which seems to affect the acceptability.

Thus far, we have examined Hatakeyama’s criticisms against Toda and found that most of them are not necessarily reasonable: their use of the linguistic data seems not to be necessarily impartial. Hence, we have come to the conclusion that their criticism against Toda is not tenable in so far as the points that the present paper dealt with are concerned.

5 Concluding Remarks

The present paper has attempted to critically examine the theoretical device of the amalgam head by Hatakeyama et al. (2010). The syntactic structure of the pseudo-amalgam head construction that we have proposed is that the pseudo-amalgam head is *in situ* whereas the subject remains in the complement of the unaccusative verb, contra Hatakeyama et al. (2010): essentially there is no amalgamation in the sense of Hatakeyama et al., but is just a notation. We also have argued that the Spec-FocP is relevant to the existence of the pseudo-amalgam head and that there may be a link between the distribution of the pseudo-amalgam head and the omission of the auxiliary and the copula. Table 1 is from Hatakeyama et al. (2010: 35), who contrast their analysis with Toda (2007).

(48) Table 1

	Toda (2007)	Hatakeyama et al. (2010)
VP	Preposing	Ellipsis
Auxiliary + <i>be</i> ²⁷	No amalgam	Amalgam
<i>So</i>	Proverb	Adverb
Subject position	Sentence-final	Specifier of IP

In contrast, the present paper’s argument is summarized in the following table.

²⁷ Hatakeyama et al. (2010: 35) illustrates the *must be* here: the present paper replaces their *must be* with the “auxiliary,” considering this generalization to be legitimate.

(49) Table 2

	The present paper
VP	<i>in situ</i>
Auxiliary + <i>be</i>	No amalgam (pseudo-amalgam)
<i>So</i> / <i>so</i> -phrase	An element which moves from within VP to Spec-FocP
Subject position	Complement of VP

In addition, we discussed some argumentative flaws of Hatakeyama et al. (2010) from a methodological point of view by suggesting the rudimentary distinction between GRAMMATICALITY and ACCEPTABILITY.

An implication drawn from the discussion thus far is that an important task that syntacticians must accomplish is to shed light on unresolved empirical data before jumping to the “distinction between peripheral and typical examples” (Hatakeyama et al. 2010: 36), and to examine them carefully in relation to a proposed hypothesis. Borsley (2000) observes that “good generative linguists have a well developed ability to produce further knowledge,” citing Kaplan’s (1987) remark that “There’s such a vast difference in their [linguists’] talent for perceiving and organizing facts, even pretheoretically.” This being so, a good linguistic work must manifest the talent in perceiving and producing empirical data, which the present paper has attempted to achieve throughout.

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