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Comparative Correlatives in German and Dutch: Germanic Word Order and Some Asymmetry

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Abstract

The present article approaches comparative correlatives in German and Dutch from the viewpoint of the cartographic approach. In particular, we address this issue by utilizing the notion of "self-answering questions" that den Dikken et al. (2000) posit in their investigation of a type of specificational pseudocleft. We argue that German comparative correlatives and some types of Dutch counterparts constitute a ***topic-comment*** structure, forming a Topic projection, while simultaneously establishing a copula structure, i.e. TP, by the ***"in-parallel"*** probes advocated by Chomsky (2008). On the other hand, a certain type of Dutch comparative correlative, made up of the same initial phrases with ***hoe***, forms a simple copula structure without requiring the ***topic-comment*** structure while the matrix copula verb is covert. This analysis of a type of comparative correlative is compatible with Iwasaki's (2011) argument on English comparative correlatives, which adopts Culicover & Jackendoff's (1999) abandoned "Hypothesis E" and insists that the comparative correlative comprises the TP with the covert T and V. The argument that some types of Dutch comparative correlatives, as well as German counterparts, characterize a ***topic-comment*** structure is called for by the consideration of the verb position, whereby the ***topic*** is an independent sentence and so is the ***comment***. The argument that a type of Dutch comparative correlative is a copula structure is supported by the verb position that signals that the second clause is an embedded clause.

Key words: Comparative Correlatives, ***Topic-comment***, Specificational Pseudoclefts, Verb Second

1. Introduction

The present paper aims to investigate the syntactic architecture of comparative correlatives in German and Dutch, which are exemplified by the following data.

(1) (a) Je besser Otto vorbereitet ist, desto besser wird sein Referat werden.

The better Otto prepared is the better will his talk become

'The better Otto is prepared, the better his talk will be'

(Beck 1997: 236) [the English glosses and translation in the original]

(2) (a) Hoe meer je leest, hoe minder {je begrijpt / *begrijp je}.

how more you read how less you understand / understand you

(b) Hoe meer je leest, des te minder {?je begrijpt / begrijp je}

how more you read the-GEN TE less you understand / understand you

(c) Des te meer je leest, des te minder {je begrijpt / begrijp je}

the GEN TE more you read the-GEN TE less you understand / understand you

all: The more you read, the less you understand.

(den Dikken 2003: 2)

[brackets, the English glosses and translation all in the original; italics ignored]

The existing literature seems to all take it for granted that the first clause of comparative correlatives is a subordinate clause and the second, the matrix clause, except Iwasaki (2011).[1] Iwasaki (2011) argues that the first clause (of the English comparative correlative) is the subject of a (null) copula verb and the second, the complement of the copula verb.

The underlying motivation of the present paper is to consider whether such a copula analysis can be extended to other languages' comparative correlatives. Thus, we will look at the syntax of comparative correlatives in German and Dutch. If we can confirm that the copula analysis is sound in the analysis of these languages, it would then mean that the UG (UNIVERSAL GRAMMAR) is viable rather than syntactically idiosyncratic.

Moreover, if the comparative correlatives can be analyzed as a structure holding a null copula verb, it would consequently have the implication that a linguistic approach that deals with covert elements is more promising than one which sticks to only phonetically apparent elements, such as Head-driven Phrase Structure Grammar (HPSG) (a branch of generative grammar) and Cognitive Linguistics—arguably a more significant dichotomy in modern linguistics than the slogan of "Generative versus Cognitive Linguistics," which seems to be presumably prevalent (here in Japan). We will return to this issue in section 4, examining Borsley's (2011) observation on the treatment of covert elements[2]

The data in (1) represent the typical German comparative correlatives comprising the *je-*

1 See Culicover & Jackendoff (1999), den Dikken (2005: 511) and Abeille & Borsley (2008: 1143). Notice that Culicover & Jackendoff (1999) argue that the first clause is a subordinate clause whereas the second, a main one, only at the level of semantics (not syntax). Notice also that den Dikken (2005) exploits the terms, SUBCLAUSE and HEADCLAUSE for his theoretical concern, although it seems to me to be safe to say that they are loosely analogous to a subordinate clause and a main clause.

2 Borsley (2011) does not directly mention the term "Cognitive Linguistics", but he (p. 24) points out a couple of sentences that seem to be commonly discussed in Cognitive Linguistics, as examples of constructions.

clause (the first clause) and the ***umso/desto*** clauses (the second clause).[3] The verb of the second clause gives the impression that it does not manifest the Verb Second position but it is located in the third one, if we count ***je***-clause as the first constituent, ***desto/umso besser*** the second, and ***wird*** the third.

According to Roehrs et al. (2002: 15), the canonical structure of German comparative correlatives is summarized as follows. [italics in the original]

(3) [[***je*** Adjective/Adverb. C^0… V^0] ***umso/desto*** Adjective/Adverb. C^0 V^0…]

What is of interest in Roehrs's (2002) syntactic analysis is that German always places the matrix verb (i.e. the verb that is located in the main clause) in the head of CP (hereafter C^0) as below:

(4) [**CP** [Je müder Otto ist, umso/desto aggressiver] [**C ist**] er] (Roehrs et al. 2002) [emphasis added]

The tired Otto is the aggressive is he

The internal structure of the ***'Je müder Otto ist, umso/desto aggressive'*** is not pivotal to our present concern. Whatever they are, the matrix verb is always in C^0. Thus, all of what is situated above C^0 ***ist*** arguably must be located within above C^0.

This has an interesting implication to the preceding research on the structural dependency between the first clause and the second. Den Dikken (2005) argues from the UG-based synchronic perspective that the first clause is an adjunct to the second which functions as a matrix clause. However, this is not compatible with the broadly accepted Verb-Second property of German, if we suppose that ***Je müder Otto ist*** is the first position, ***umso/desto aggressiver***, the second, and ***ist***, the third, indicated by the following:

(5) [Je müder Otto ist], [umso/desto aggressiver] [ist] [er]

[1] [2] [3] [4]

One thing that is fairly obvious about (5) is that the ***Je müder Otto ist*** is one constituent, and the ***umso/desto aggressiver*** is another. Nevertheless, both of them must be in Spec-CP (or somewhere in the left-periphery) together. Thus, one solution to this situation is, as Roehrs et al. (2002) show, to embed one constituent into the other, and the outer constituent as a whole is in Spec-CP. Another plausible way, however, is to split CP as proposed by Rizzi (1997 among others; putting

3 Matthias K. Kroll (pers. comm.) suggests that the following construction comprising ***"umso… umso…"*** (i.e. (i)) is possible in spoken German. Beck (1997: 254) observes the same type of data like (ii) below.
(i) %**Umso** besser Otto vorbereitet ist, **umso** besser wird sein Referat werden.
(ii) %**Umso** länger du wartest, **umso** schlimmer wird es. (Beck 1997: 254) [emphasis added]
It seems to me that this is similar to the ***so goes… so goes*** construction such as below.
(iii) So goes-Monday-so goes all the week. (Jante 1932)
As Culicover & Winkler (2008) show, the followings are all possible.
(iv) (a) As Iowa GOES, so the NATION goes.
(b) As IOWA goes, so goes the NATION.
(c) As goes IOWA, so goes the NATION. (ia-c): (Culicover & Winkler 2008: 649) [capital letters in the original]
There seems to be a close relation between the repetition of the same phrase in the first and second clauses and the correlative construction which is made up of the apparent different lexical elements such as ***as***-clause and ***so***-clause.

aside his later works). We will argue that the latter approach is feasible as an attempt to give solutions to the analysis of the German comparative correlative construction and that the verb of the German comparative correlatives' second clauses in fact satisfy the Verb Second property.

The data in (2a-c) all show Dutch comparative correlatives. As den Dikken (2003) argues, the three types of Dutch comparative correlatives manifest the word orders that are distinct in significant ways. In particular, as he suggests, (2a) prohibits the subject-auxiliary inversion, which is commonly possible in matrix clauses. The present research aims (i) to argue the syntactic position of the verbs of these constructions' second clauses in the light of the Verb Second, a principle abided by in German, (ii) to propose that comparative correlatives hold both the copula structure (as concluded by Iwasaki (2011) about English comparative correlatives, who defends Culicover & Jackendoff's (1999) rejected "Hypothesis E") and the ***topic-comment*** structure (as applied by den Dikken et al. 2000 to a type of specificational pseudocleft), in attempt to solve the issue of the verb's syntactic position.

With regard to the second issue, we adopt den Dikken et al.'s 2000 argument that the specificational pseudocleft which has a TP (Tense Phrase) in its complement has "self-answering questions" (their section 1.5) and further adopt their central thesis that wh-clauses (which they consider to be interrogatives, not free relatives) are ***topics*** and the complements of the matrix copula are ***comments***. They postulate that the relevant copula sits in Top^0, as follows.

(6) [$_{TopP}$ [what Mary didn't buy] Top^0 [$_{TP}$ ~~she didn't buy~~ any wine]]

(den Dikken et a. 2000: their (71)) [strikethrough in the original]

Their argument is that ***what Mary didn't buy*** is rather like a direct question and the TP above is like a self-answer. The present paper argues that comparative correlatives in German and Dutch have exactly the same property of what den Dikken et al. call "self-answering questions" and thereby they have the ***topic-comment*** structure represented by the topic projection. At the same time, by adopting Chomsky's (2008) ***"in-parallel"*** probes, we argue that the first clause are both in Spec-TopP and Spec-TP at the same time, while phonologically only the constituent in Spec-TopP surfaces. This is loosely schematized by the following.

(7) [$_{TopP}$ [what Mary didn't buy]$_i$ Top^0 [$_{TP}$ [~~what Mary didn't buy~~]$_i$ T^0 [vP t_i v^0[V^0[… any wine]]]]].

Notice that the structure exemplified by (7) above is not just a ***topic-comment*** structure but both a ***topic-comment*** structure and a copula structure. Although not surfacing phonologically, the constituent located in Spec-TP exists syntactically. The present paper argues that the ***topic-comment*** and copula structures solve many important problems in German and Dutch comparative

correlatives.[4]

2. *Topic-Comment* Structure of German Comparative Correlatives

The present paper argues that German comparative correlatives indeed obey the general principle of the verb-second, supposing that the ***umso/desto*** clauses are main clauses. The underlying rationale behind this is that comparative correlatives are a type of specificational pseudocleft, specifically the "Type A" that den Dikken et al. (2000) propose, i.e. the specificational pseudocleft which holds the TP as the complement of the matrix copula verb. (See Iwasaki (2011) for this claim.) As den Dikken et al. (2000) suggest, the specificational pseudocleft "Type A" has a question-answer *(topic-comment)* relation:

(8) What did John do?—[(he bought) some wine]. (den Dikken et al. 2000) [brackets in the original]

This question and answer corresponds to the following specificational pseudoclefts.

(9) What John did/bought is (??he bought) some wine.

(based on den Dikken et al. 2000) [the judgment "??" by them]

Den Dikken et al. (2000: 1.5) call this type of specificational pseudocleft the "self-answering question."[5] The central argument of the present paper is that comparative correlative constructions in German are a manifestation of this "self-answering question." That is, ***je***-clauses are a kind of question, and ***umso/desto***-clauses, a self-answer. Despite its ***prima facie*** appearance, both ***je***-clauses and ***umso/desto***-clauses are rather like independent sentences at the level of syntax, and thus we can count the verbs of ***umso/desto***-clauses as the second position, although the ***je***-clauses themselves are subordinate clauses, indicated by the last position of the verb ***ist***.

(10) [Je müder Otto ist], / [$_{CP}$ umso/desto aggressiver] **[ist]** [er]

[1] / [1] **[2]** [3]

Given the implication by den Dikken et al. (2000) that the setup of the specificational pseudocleft "Type A" is ***topic***, and the counterweight, ***comment***, it is plausible to argue (under the assumption that German comparative correlative is a type of such a specificational pseudocleft "Type A") that the German comparative correlative's ***je***-clause presents ***topic*** and ***umso/desto*** clauses, ***comment***.

4 Iwasaki (2011) argues that Japanese comparative correlatives constitute specificational pseudoclefts, supposing that Japanese is a head-final language, the complement of the Spec-Head-Compl order moving upward to the position between the Spec and the head, adopting the suggestion of Kayne (1994). Thus, if we can confirm that German and Dutch comparative correlatives are also specificational pseudoclefts, this would bolster the validity that comparative correlatives are a type of specificational pseudocleft.

5 Notice that den Dikken et al. (2000) treat the setup ***wh***-clause of specificational pseudocleft "Type A" as an interrogative, not a free relative clause. The two crucial points of den Dikken et al.'s specificational pseudoclefts "Type A" are that the counterweight is not a NP/DP but a TP, which is hardly ACCEPTABLE but GRAMMATICAL, and that the setup is an interrogative clause, reflecting the nature of the "self-answering question".

The ***topic***-clause here (i.e. ***je***-clause) functions like a question and subsequently the ***comment***-clause here (i.e. ***umso/desto***-clauses), like a self-answer in response to such a ***topic***.[6] If we suppose that both of them are separated sentences, the ***comment***-clause is a sentence in which the verb-second nature is sustainable.

This would render a solution to the theoretical problem that German comparative correlatives pose: there are two constituents which must be placed in one Spec position. That is, if we have multiple Spec positions by splitting a CP, then the problem would be resolved. The argument of ***topic-comment*** structure is compatible with this line of approach. As den Dikken et al. (2000) propose in their ***topic-comment*** analysis of the specificational pseudoclefts "type A," the ***topic-comment*** structure is projected into Topic projection (TopP) in the sense of Rizzi (1997), whose Split-CP framework is as follows:

(11) $[_{ForceP}\ [_{*TopP}\ [_{FocP}\ [_{*TopP}\ [_{FinP}\ [_{TP}\ \ ]]]]]]$

Tentatively ignoring the categorial labeling of the Split-CP, let us identify each of them by assigning a number.

(12) $[_{CP1}\ [_{CP2}\ [_{CP3}\ [_{CP4}\ [_{CP5}\ [_{TP}\ ]]]]]]$

This time, we need at least two projections to accommodate both of the two constituents as below.

(13) $[_{CP1}$ Je müder Otto ist $[_{C1}$ ø$]\,[_{CP2}$ umso/desto aggressiver $[_{C2}$ ist$]\,[_{TP}$ er $]]]$

What are precisely CP1 and CP2? At least as far as CP1 is concerned, the structural representation of ***topic-comment*** makes it possible to postulate that the CP1 is a TopP. (See also Iwasaki & Radford (2009) for the same type of Topic projection postulation about the English comparative correlative.)

(14) $[_{TopP}$ Je müder Otto ist $[_{Top}$ ø$]\,[_{CP2}$ umso/desto aggressiver $[_{C2}$ ist$_i]\,[_{TP}$ er $t_i]]]$

What this suggests is that even in embedded circumstances the sentence is eligible to hold an auxiliary inversion. This would be also compatible with some data that one can obtain in English, in which the apparent subordinate clauses have auxiliary inversion, by which it may be possible that CP2 is a Focus projection, because the matrix question is usually a Focus (e.g. Radford 2009).

(15) (a) (What) the point is, (is) why did you go there?[7]

>The point is this: why did you go there?[8]

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6 See Borgonovo & Valmala (2010) for the same line of thought on the Spanish comparative correlative.
Also, Brasoveanu (2008) argues that the comparative correlatives whose semantics do not include the conditional (contra Beck 1997) are assumed to "relate ***two cases,*** one contributed by the protasis and the other by the apodosis." (p. 7) [italics in the original]

7 Chris Cummins (pers. comm.) suggests that this is grammatical if both ***what*** and ***is*** are included or if they are both omitted: if only one of them is included this is ungrammatical. Without ***what,*** this is the structure that Massam (1999) calls ***Thing is*** construction. Since ***Thing is*** construction is also like the "self-answering question", as indicated in the text, this would further bolster the validity of the parallel between the specificational pseudocleft "Type A" (in the sense of den Dikken, et al. (2000)) and ***Thing is*** construction in the sense of Massam (1999). Notice that it is Massam (1999) who originally suggests that ***Thing is*** construction is similar to Higgins's (1997) "the heading of the list" and "an item on the list" (Massam 1999: 340).

8 See Higgins (1977) for this type of notation.

(b) The point is at no time did I plan to go there.

>The point is this: at no time did I plan to go there.

(c) I think that at no time would she have considered doing anything like that.

((15c): Abeille & Borsley 2008: 1143, fn. 5)

>What I think is this: at no time would she have considered doing anything like that.

That apparent subordinate clauses such as ***why did you go there*** are in fact brand matrix clauses at the level of discourse, which inevitably means that the second copula ***is*** in (15a), as well as ***I think (that)*** in (15c), is syntactically inert, since it does not exercise any influence on the syntactic status of ***why did you go there***. This would lead to the idea that it is located in Top^0.[9] At least in German comparative correlatives, the implication of its verb-second nature of the construction (i.e. the auxiliary inversion in ***umso/desto*** clauses) is that the second clause is a matrix clause, the first clause led by ***je***-clause being in somewhere that does not affect the syntactic position of the second clause's verb-second property. (See den Dikken's (2003: 6) similar observation on Dutch comparative correlatives.) Hence, this means that the ***je***-clause is in Spec-TopP.[10] The supposition of the present paper is that ***topic-comment*** is a notion at the level of discourse, so is irrelevant to the syntactic notion. The ***topic-comment*** (i.e. Spec-TopP and Compl-TopP) is the notion of discourse: this means that ***umso/desto*** clauses are matrix clauses, sitting in the position of Compl-TopP.

(16) (a) [$_{TopP}$ [Je…] Top^0 [***umso/desto*** ...]]

embedded clause [**at the level of syntax**]

(b) [Je…], [***umso/desto***...]]

matrix clause [**at the level of discourse**]

What (16b) means is that whereas ***umso/desto*** clauses are the complement of TopP, so are in this sense embedded clauses, they are ***de facto*** main clauses: and this makes it possible for the verb to be in the "second" position, not sentence final. This is because the TopP is a notion of discourse and does not affect the syntactic structure at all, at least in the sense that the complement of TopP is a matrix clause or not. The same would hold for (16a). However, the question about English comparative correlatives should be left, as its second clauses resist auxiliary inversion for some speakers.

9 On the other hand, one should consider more carefully in the case of English comparative correlatives, since some speakers do not accept the auxiliary inversion in the second clause of the construction as a grammatical sentence.

10 Consider that if Top^0 were T^0 in (12), then ***umso/desto*** clauses would be embedded clauses, not matrix clauses.

3. Dutch Comparative Correlatives: The Syntactic Position of the Verb

According to den Dikken (2003), comparative correlatives in Dutch have three canonical structures as in (2), repeated as (17) below.

(17) (a) Hoe meer je leest, hoe minder {je begrijpt / *begrijp je}.
how more you read how less you understand / understand you

(b) Hoe meer je leest, des te minder {?je begrijpt / begrijp je}
how more you read the-GEN TE less you understand / understand you

(c) Des te meer je leest, des te minder {je begrijpt / begrijp je}
the GEN TE more you read the-GEN TE less you understand / understand you
all: The more you read, the less you understand.

(den Dikken 2003: 2) [the English glosses and translation in the original; italics ignored]

As den Dikken (2003) suggests, the empirical issue that is of great interest is the fact that the verb of the second clause in (17b) is clause-final and that the subject-verb inversion is never permitted there. According to den Dikken (2003: 11), (17b) "is doubtless the most 'well-behaved' comparative correlative of the three". Den Dikken further adds about (17b) that "a ***des te***-comparative in the HEADCL can behave like a garden-variety constituent of a root clause in a Verb Second language" (p. 12) [italics and capital letters in the original]. This is correct only about the subject-verb inversion case (as in (18b) below), if we put aside the first clause (i.e. ***hoe***-clause), as we argued about German comparative correlatives in the previous section:

(18) (a) [Hoe meer je leest], / [des te minder] [je] **[begrijpt]**
[1] [1] [2] **[3]**

(b) [Hoe meer je leest], / [des te minder] **[begrijp]** [je]
[1] [1] **[2]** [3]

As illustrated above in (18a), the case without the subject-verb inversion is not "a garden-variety constituent of a root clause in a Verb Second language" (ibid). In (18a), the verb of the second clause is in the third position even if we put aside the sentence-initial clause as a separate statement in a self question and answer type. Thus, it is not necessarily correct to assert, as den Dikken (2003: 5) does, that the sentences with the conditional clause or the clause led by ***hoeveel*** are similar to the Dutch comparative correlatives. The following is what den Dikken cites from den Besten.

(19) Mocht je nog geld nodig hebben, {ik wil / *wil ik} je wel helpen.
might you yet money needy have I want / want I you surely help.

(den Besten (1977: fn. 3) cited in den Dikken (2003: 5))

Let us confirm the position of the verb ***wil*** in the same method as we have done:

(20) Mocht je nog geld nodig hebben, / {ik **wil** / *wil ik} je wel helpen.

[1] / [1] **[2]**

As illustrated, the position of the verb of the second clause satisfies the Verb Second property, if we put aside the sentence-initial clause as ***topic***, recalling the argument in the previous section.[11] Thus, the verbs positions in (18a) and (20) are distinct, which means that it is not necessarily legitimate to insist that both of them are ***per se*** structurally similar.

Returning to (17a-c), let us discuss the structure of (17a), to begin with. As den Dikken (2003) argues, the essential peculiarity of the syntactic property of (17a) is that the verb of the matrix clause (i.e. ***begrijpt***) is clause-final and the subject-verb inversion is impossible, whereas ordinary matrix clauses do allow such an inversion and consequently the matrix verb is not clause-final. Den Dikken's (2003) claim is that this is because of the PARSING problem (p. 13)[12]: according to him, given that ***hoe*** is a ***wh***-word, the inversion would make the sentence disguise itself as a direct question, and as a consequence in order to prevent this PARSING problem, the subject-auxiliary inversion is prohibited. However, this scenario is dubious, since the problem of LINGUISTIC KNOWLEDGE is entirely different from the issue of PARSING. In addition, we have a piece of counterevidence against his conjecture: the English exclamatives do allow the subject-auxiliary inversion occasionally as in the following.

(21) (a) How often **have** I bitterly regretted that day!

(b) How strange **is** his appearance!

(Quirk et al. 1985: 834) [emphasis added]

Quirk et al. (1985: 834) note that "the occasional inversion of subject and operator in literary English…" and Huddleston & Pullum (2002: 920) explain that "it is relatively infrequent and characteristic of fairly literary style." The difference between English and Dutch is no interest at all here, since the point lies in den Dikken's logic. He claims that since the co-occurrence of a ***wh***-word and an inversion makes the relevant sentence disguise itself as a question, such an inversion is avoided. However, (19a, b) are amply similar to questions but these are grammatical. Moreover, even with the subject-auxiliary inversion, such a ***wh***-clause can be salvaged with the additional intonation contour, not to be "parsed" as an authentic question. In conclusion, den Dikken's conjecture is hardly tenable.

11 Den Dikken's (2003: 6) suggest that "sentence-initial conditional clauses are systematically 'hors d'œuvre': something 'outside the main work'" and that "these clauses are not true subordinate clauses (in the sense of being subordinate to the matrix clause)," citing den Besten (1977: fn.3) [single curve brackets in the original]. The previous section's argument in the present paper arose independently of den Dikken's remark (which is not necessarily ***explicit*** on why they are "outside of the main work"), but both of them in their implications seem to be compatible with each other.

12 Den Dikken et al. (2003: 13) cites Bennis (1995) and Postma (1995), seemingly ascribing this to them.

The clause-final verb position is, as den Dikken (2003: 2-3) suggests, a landmark of the embedded clause in Dutch.[13] If so, the most candid interpretation of (17a) is that the second clause (i.e. ***hoe minder je begrijpt***) is an embedded clause. As we briefly mentioned in section 1, Iwasaki (2011) argues that the English comparative correlative has a copula structure, holding the first clause in Spec-TP, and the second, Complement-VP. The crosslinguistic unitary account might render the possibility that Dutch comparative correlatives' (17a) type has the same copula structure, as shown in the following with the T^0 and V^0 being covert.

(22) [$_{TP}$ Hoe meer je leest, T^0 [$_{VP}$ [$_V$ E] [hoe minder je begrijpt]]]. (E: Empty element)[14]

Since the second clause is an embedded clause, being the complement of VP, the clause must have verb-final structure. The structure represented in (22) is Culicover & Jackendoff's (1999) "Hypothesis E" that they proposed about the English comparative correlative and subsequently abandoned. Thus, the present paper aims to reach the same conclusion as Iwasaki (2011) who defends the "Hypothesis E".

This possibility is further strengthened with the data of the overt complementizer ***dat***. As den Dikken (2003: 8) emphasizes, this is usually restricted to the embedded clauses in Dutch. However, Dutch comparative correlatives allow this, exemplified by the following.

(23) (a) ***Hoe*** meer je leest, ***hoe*** minder ***dat*** {je begrijpt / *begrijp je}
how more you read how less that you understand / understand you
(b) ***Hoe*** meer ***dat*** je leest, ***hoe*** minder {je begrijpt / *begrijp je}
(b) ***Hoe*** meer ***dat*** je leest, ***hoe*** minder ***dat*** {je begrijpt / *begrijp je}
(den Dikken 2003: 9) [fonts and italics in the original]

The grammaticality with ***dat*** in the above cases can be straightforwardly explicable, if we assume the structure in (23) in which both of the clauses are embedded ones.

In contrast, den Dikken (2003: 9) describes about the permissibility of the overt complementizer, by the terms such as "mimicry" (p. 9) of the both clauses, "parallelism effect" (ibid), and also the observation that "… non-root status is something that can be copied under special circumstances" (ibid).[15] According to den Dikken (ibid), this type of "mimicry" is confined to the root and non-root asymmetry. However, this stipulation does not necessarily ensure why the "mimicry" is only restricted to such a property, not to the simple symmetry of whether there is ***dat***

13 The sentence in (i) below may be used in spoken German. (Matthias K.Kroll, pers. comm.)
(i) Umso besser Otto vorbereitet ist, desto besser sein Referat werden wird.
As the "verb + auxiliary verb" occurs in embedded clauses in German, (i) would presumably mean that the second clause of the German comparative correlative is an embedded clause. If so, the same syntactic analysis as Dutch comparative correlative's (2a) type is applicable to German's counterpart's (i) type. (The sentence in (i) is, needless to say, a modified version of (1) in Beck (1997).)

14 The reason for positing this empty element in V^0 not T^0 is, as Iwasaki (2011) suggests, that such a covert element does not have to move from T^0 to C^0.

15 See Abeillé & Borsley (2008) for a critique of den Dikken (2003).

in each clause: the most naïve "mimicry" theoretically possible would be that when the first clause has the overt complementizer ***dat***, so does the second. This does not hold, however, given the grammaticality of (23a, b). Having confirmed the obscurity of den Dikken's (2003) "mimicry" observation, it seems more promising to adopt our argument that both of the two clauses of (17a)-type Dutch comparative correlatives are syntactically embedded clauses, allowing the overt complementizers to surface explicitly.

Heretofore, we have argued that the Dutch comparative correlative (17a) type is a copula construction with the copula and the constituent in Spec-TP and that the argument here is more plausible than den Dikken's (2003), on several theoretical and empirical grounds. The same hold about some of the (17b-c) types, i.e. the Dutch comparative correlatives with there being no subject-verb inversion in the second clause. The fact that the second clause has the clause-final verb plausibly means that it is an embedded one, thus calling for the same analysis as (17a). The generalization about these is that when the second clause has the clause-final verb (i.e. no subject-verb inversion), the whole sentence is a copula structure since it is arguably the only way to treat the second clause as an embedded clause. Den Dikken (2003: 3) claims that the first clause is adjoined to the second in Dutch comparative correlatives—and more broadly to all the languages' comparative correlatives in the case of den Dikken (2005)—and that this supposition "is clearly the only analysis" (den Dikken 2003: 6) in an attempt to capture the structure of the first clause being located just above the second clause which is a CP. However, since the copula hypothesis proposed in the present paper is viable, den Dikken's remark above is not sustainable.

Recall that (17a) does not allow the subject-verb inversion in the second clause, whereas (17b, c) do countenance the phenomenon. We assume that (17b, c) have distinct syntactic structure when having such an inversion. The latter is a ***topic-comment*** structure as we have already argued. How do we accommodate the inversion in (17b, c)? There are two alternative viable solutions to this.

As a preliminary issue, let us confirm that the copula structure can be simultaneously regarded as a ***topic-comment*** structure, namely a Topic projection. If we adopt Chomsky's (2008: 147) ***"in-parallel"*** probes[16], the first clause sits in Spec-vP and then moves upward to both Spec-TP and Spec-TopP with the higher element only being phonologically overt, resulting in the following ***topic-comment*** structure, taking the sentence of (17b) as an example:

(24) $[_{\text{TopP}}$[Hoe meer je leest]$_i$ Top^0 $[_{\text{TP}}$ [~~Hoe meer je leest~~]$_i$ T^0 [vP t_i v^0 $[_{\text{VP}}$ $[_{\text{V}}$ E] $[_{\text{CP}}$ dest te minder je begrijpt]]]]].

Thus, the copula structure can be at same time a ***topic-comment*** structure in (24). Notice that this

16 Theoretical complexity of this is beyond the scope of the present paper. See Radford (2009) for the concise and clear explanation of this.

still remains partly a copula structure syntactically: simply the subject in Spec-TP is covert phonologically. However, in any event, nothing changes about the embedded clause-hood about both the clauses above; and the complementizer that den Dikken (2003) discusses can be inserted in C^0 of such embedded clauses. Thus, we may argue that the syntactic architecture (24) represents the structure of (17b, c) and possibly (17a), too. However, presently we continue to argue that (17a) is simply a copula structure as in (22) unless additional support for the Topic projection for (17a) is found.[17]

The quintessential concern as to the subject-verb inversion counterparts in (17b, c) is how they accommodate the inversed verbs syntactically. Given that Foc^0 has a strong affixal feature (e.g. Radford 2009), let us postulate that the (17b, c)-type Dutch comparative correlatives have Focus projection, whose head attracts the verb. The underlying intuition behind this is that English has the focalization in the second clause of the comparative correlative, according to Iwasaki & Radford (2009), and that English and Dutch are relatively closer languages sharing typical Germanic languages' features, except the Verb Second property. In postulating the FocP, as said above, there are two possible ways to proceed. First, the (17b, c)-type Dutch comparative correlatives have basically the copula structure along with the Topic projection, and furthermore the CP (as the complement of the V) has the Focus projection within it, schematized as below, ignoring ForceP.

(25) $[_{TopP}$ [Hoe meer je leest]$_i$ Top^0 $[_{TP}$ [~~Hoe meer je leest~~]$_i$ T^0 [vP t_i v^0 [$[_V$ E] $[_{FocP}$ dest te $[_{Foc}$ begrijp$_j$] je t_i]]]]].

Notice that the FocP layer is below the TP layer in this structure.

Alternatively, we may have the structure in which the FocP is located just below the TopP, putting aside ForceP and vP as Phases for the expository convenience. In the structure, the first clause base-generates in Spec-TopP, the same scenario sketched in Iwasaki & Radford (2009) about English comparative correlatives.

(26) (a) $[_{TopP}$ [Hoe meer je leest] Top^0 $[_{FocP}$ [dest te minder] $[_{FocP}$ begrijp$_i$] $[_{TP}$ je t_i]]]]

Let us suppose that TOPIC of this kind is concerned with the notion beyond a sentence as have been sometimes explicit in the argument thus far, and so is irrelevant to Verb-Second and that FOCUS is at a sentential level, being relevant to Verb-Second. If so, both (25)'s and (26)'s second clauses satisfy the Verb Second requirement. The advantage of the second approach is that it is eligible to have basically the same structure as (14), the structure of German comparative

17 However, when it comes to (17b, c), it appears that as a research strategy, it would be appropriate to treat the version without the subject-verb inversion in as equivalent a way as possible to the counterpart with such inversion. Below, we argue that the latter has a Topic projection. On these grounds, we tentatively argue that (17b, c)'s non-inversion versions hold the ***topic-comment*** structure as (24).

correlatives, bolstering the validity of the analyses from a synchronic perspective. On the other hand, this analysis has no bearing on the copula analysis, distancing itself from the non-inversion counterparts.[18]

One more note about both of the hypothesis in (25), (26) is that it should be investigated in depth whether Foc^0 can accommodate the complementizer in Dutch, which leaves unsolved the problem of the complementizer ***dat*** insertion. After all, it seems to be safe to say that the issue of which hypothesis of the two is more viable is put aside for future research.

Den Dikken (2003: 12) suggests that some archaic Dutch sentences such as in proverbs manifest the clause-final verb in the clause which he presumably believes to be the matrix clause, as in his following example.

(27) Wie het eerst komt, †die/wie het eerst **maalt**.
who the first comes D-WORD/who the first **grinds**
First come, first served.
(den Dikken 2003: 12) [emphasis added]

One way to account for this correlative construction is to assume that the second clause is also an embedded clause as the complement of a covert copula verb (denoted E), entirely the same scenario being maintained as in (24):

(28) $[_{TopP}$ [Wie het eerst komt]$_i$ Top^0 $[_{TP}$ [~~wie … komt~~]$_i$ T^0 $[_{vP}$ t_i v^0 $[_{VP}$ $[_V$ E] $[_{CP}$ †die/wie het eerst **malt**]]]]].

This is far from being implausible because the copula may be semantically possible if we interpret (27) as "the one who comes first IS the one who is first served". The same holds about other examples that den Dikken (2003: 12) illustrates: see there. Furthermore, the same analysis could be conceivably extended to the correlative construction in ***English,*** which is beyond the scope of the present paper.

18 In addition, the particular weakness of this approach is that it is hardly obvious that Focus can occur under Topic in specificational pseudoclefts "Tpye A" in the sense of den Dikken et al. (2000).
(i) (a) *What Bob bought was so boring a TV game did he buy.
(b) *What Bob bought was so cheaply did he buy a helicopter.
(ii) (a)? What Bob bought was so boring a TV game.
(b)? What Bob bought so cheaply was he bought a helicopter.
Thanks to Chris Cummins (pers. comm.) for the data and grammaticality judgments.

4. Concluding Remarks

The argument thus far shows that it is highly plausible that the (17a)-type in Dutch comparative correlatives, holding the copula structure in which both of the two clauses are embedded ones, may well match the English comparative correlative that Iwasaki (2011) regards as the copula construction, particularly the one which resists the auxiliary inversion in the second clause, as we saw and/or the one whose subjunctive morphology does not show that the second clause is a main clause: see Iwasaki (2011) for the cases of such subjunctive morphology. A non-trivial observation is that (17a) of Dutch comparative correlatives and English comparative correlatives share the property of holding basically the same repetitive phrases, i.e. ***hoe*** in the former and "***the*** + comparative form" in the latter. Both of them are syntactically reversible only when there is no subject-(auxiliary) verb inversion in the second clause, although the reversed sentence produces the different meaning.[19] This property would confirm their similarity to the copula structure: as Iwasaki (2011) suggests, the copula structure's subject and complement are reversible only with the change of the meaning. In contrast, Dutch comparative correlatives in (17b, c) may not be reversible (see Den Dikken 2009 for instance). These are more plausibly characterized as a ***topic-comment*** structure than a copula structure, since the ***topic-comment*** relation can never be reversible (or one might say that it is more appropriate to say that they are only compatible with the ***topic-comment***, not the copula, but this never diminishes the legitimacy of the structure syntactically represents both the ***topic-comment*** and the copula). In addition, it might be appropriate to argue that English and (17a)-type Dutch comparative correlatives are genuinely a copula structure, not a ***topic-comment*** structure, because of the syntactically reversible nature. That is, the English and (17a)-type Dutch comparative correlatives have two theoretical possibilities: either the copula structure or the copula plus ***topic-comment*** structure. However, in order to maintain the Verb Second position (when the second clause undergoes the subject-verb inversion), the (17a)-type Dutch comparative correlative with the subject-verb inversion should represent a ***topic-comment***.[20] These are summarized in the table 1 below.

19 See Culicover & Jackendoff 1999: 553), Taylor (2006: 4) and Iwasaki (2011) among others for English comparative correlatives' reversibility.

20 As den Dikken et al. (2000) argue, the specificational pseudocleft "Type A" resists the reversion.

(29) Table 1

	Dutch comparative correlatives
hoe… hoe…	copula structure (TP)
hoe… des te… with subject-verb inversion	*topic-comment* structure (TopP)[21]
hoe … des te… without subject-verb inversion	copula structure (TP)
des te … des te… with subject-verb inversion	*topic-comment* structure (TopP)
des te … des te… without subject-verb inversion	copula structure (TP)
	German comparative correlative
de… umso/desto	*topic-comment* structure (TopP)
	English comparative correlatives
with auxiliary inversion & undertaking subjunctive morphology in the second clause	*topic-comment* structure (TopP)
without auxiliary inversion & not undertaking subjunctive morphology in the second clause	copula structure (TP)

Notice that the above TopP in Dutch comparative correlatives may also be a copula structure at the same time, according to one of the two hypotheses that we considered.

The outcome in table 1 is consistent with the past literature, including Iwasaki & Radford (2009) who propose that the English comparative correlative is analyzable as a ***topic-comment*** structure, as in (30) below, and Iwasaki (2011), who argues that the English comparative correlative as in (31) below, defending Culicover & Jackendoff's (1999) "Hypothesis E".

(30) [$_{\text{ForceP}}$ Force^0 [$_{\text{TopP}}$ [The more you read]]] Top^0 [$_{\text{FocP}}$ [the more] [$_{\text{Foc}}$ will] [$_{\text{TP}}$ you understand]]]]

(Analysis: Iwasaki & Radford 2009)[22]

(31) [$_{\text{CP}}$ C^0 [$_{\text{TP}}$ [$_{\text{DP}}$ [$_{\text{D}}$ The] [$_{\text{CP}}$ [more]$_i$ [$_{\text{CP}}$ Op$_i$ C^0 [$_{\text{TP}}$ you read t_i]]]], T^0 [$_{\text{VP}}$ [$_{\text{V}}$ E] [$_{\text{FocP}}$ [the more]$_j$ Foc^0 [[you understand t_j]]]]]. (Iwasaki forthcoming) [E: Empty element][23]

Whereas (31) is an example of a type of English comparative correlative, the Dutch comparative

21 If we put aside the sentence-initial clause, the second clause's verb satisfies the Verb Second property.

22 We did not discuss the analysis of the auxiliary inversion in depth but the implication of our research here is that an auxiliary moves to Foc^0 (because of the strong affixal feature of Foc^0: see Radford 2009, for example).

23 Regarding the case where the copula verb is overt, see Iwasaki (2011). In addition, den Dikken (2003: 8, fn. 9) cites "Thackeray's example" from Jespersen (1961: Vol. V, p. 381) where the matrix copula is overt:
(i) The less that is said about her doing **is** in fact the better. [emphasis added]

correlative which does not have a subject-verb inversion has basically the same structure, although ***hoe*... *dest te*** and ***dest te*... *dest te*...** (without inversion) have a Topic projection as the result of the simultaneous probes (Chomsky 2008) as schematized below:

(32) [$_{TopP}$ [Hoe meer je leest]$_i$ Top^0 [$_{TP}$[~~Hoe meer je leest~~]$_i$ T^0 [*v*P t_i *v*^{0}[V^0[$_{CP}$ dest te minder je begrijpt]]]]].

While it looks solely like a ***topic-comment*** structure, this still simultaneously remains a copula structure, too. This means that Iwasaki's (2011) reply to the problem raised by Abeillé & Borsley (2008) and Borsley (2011) among others is to be retained. That is the question of why the first clause is obligatory: as Iwasaki (2011) suggests, the subject is obligatory by the Extended Projection Principles (EPP) (Chomsky (1982: 10) among others). The observation that the first clause is an adjunct clause (den Dikken 2005) is inadequate, since it does not explicitly explain the obligatory nature of the first clause. (See Abeillé & Borsley (2008) for this suggestion.)

The issue of the general verb-second or verb-final is essentially a purely syntactic matter, since it is confined to a clause and it is dependent on the root vs. non-root asymmetry. In contrast, the verb second in the context with the sentence-initial constituent or the comparative correlative is affected by discourse factors, more specifically "self-answering question" in the sense of den Dikken et al. (2000). Such a sentential initial clause is a kind of ***topic***, and in the context of the "self-answering question", it is ***de facto*** a separated sentence from the second clause, and thus is not counted as the first constituent when we determine the syntactic position of the second clause's verb.

There are ***inter alia*** two significant consequences of this research. First, den Dikken's (2005) methodological failure lies in his attempt to analyze some different structures, such as ***hoe*... *hoe*..., *hoe*... *des te*..., *des te*... *des te*** either with or without subject-verb inversion, of the comparative correlatives, uniformly in a crosslinguistic sense. His prominent claim that the first clause is a relative clause is more or less on the right track but one should not expect syntactic structure of one construction (which sometimes varies from one to another even in a language) to be uniform crosslinguistically. It is after all hardly a reasonable research strategy to attempt to categorize as one uniform syntactic structure a construction where there are different syntactic behaviors such as (17a) on one hand and (17b, c) on the other.

Second, we have confirmed the strength of a null functional head (represented by the covert copula between the two clauses of comparative correlatives), which is central in analyzing sentences. Borsley (2011: 23-24) asserts that the "functional-head based approach" with "phonologically empty lexical elements" may be less satisfactory than the construction-based approach (such as HPSG) "involving a classification of elements which undoubtedly exist." Borsley's criticism is fairly obviously directed to the centrality of functional heads in Minimalism

(e.g. Abeillé & Borsley 2008: 1154) which are "phonologically empty" (Borsley 2011: 18). Whether or not admit covert elements has been, and seems to continue to be, a central rationale that draw some linguists from others. The present research confirmed the advantage of the null functional head approach with the hypothesized null copula verb.

It seems worth mentioning that the copula structure is far from being implausible semantically given that in some of the comparative correlatives in Romanian "… the correlative ***equates*** the two differentials under consideration" (Brasoveanu 2008: 2) [italics in the original]. Since the copula structure canonically (and most naïvely) equates one with another, whether literally or metaphorically, the evidence of such equative comparative correlative would further corroborate the syntactic structure argued in the present paper.

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