

# The syntax of correlative adverbs

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## Abstract

The status of words like *either*, *both* and *neither*, here referred to as “correlative adverbs” or “correlatives”, is controversial. Using relevant data from Germanic languages, I shall show that the analyses of Schwarz (1999) and Larson (1985) are inadequate. Instead, I will suggest an analysis based on the assumptions in Hendriks (2001a,b, 2002): that correlatives are focus particles. Their syntactic position is discussed with the hypothesis that focus particles are adverbs, and I suggest, inspired by the adverb hierarchies of Cinque (1997), that there is a designated Correlative Phrase position. My analysis includes overt and covert movement, which explains some correlations between different interpretations of scope and syntactic positions, as discussed also by Larson (1985) and Bayer (1996). My analysis not only gives an account of this kind of scope ambiguity, but also accounts for the fact that each correlative is associated with only one conjunction; that with phrasal coordination, the correlative can be displaced from the conjunction phrase; and that with sentential coordination, the correlative can be part of the first conjunct.

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## 1. Introduction

There is little consensus in the literature with respect to the status of correlative words like *either*, *both* and *neither*. Even their epithets are subject to disagreement, with at least the following in common use: “conjunctions”, “initial conjunctions”, “discontinuous conjunctions”, “double conjunctions”, “ConjP adverbs”, “conjunctive adverbs”, “correlative adverbs”. The latter term, or “correlatives” for short, will be used in this paper.

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Schwarz (1999) and Larson (1985) give an account of some correlative adverbs (mainly *either*) in terms of reduction and movement, respectively. I shall show their analyses, as they stand, cannot account for the data from Germanic languages, and further, that there is evidence for Hendriks's (2001a,b, 2002) idea that correlatives are focus particles. I shall present a syntactic analysis that includes both overt movement and covert movement (akin to QR), inspired by Larson (1985), as well as by Bayer (1996).

The paper is structured around the following points: Each correlative is associated with only one conjunction (Section 2). With phrasal coordination, the correlative can be displaced from the conjunction phrase (Section 3). With sentential coordination, the correlative can be part of the first conjunct (Section 4). Correlatives are focus particles (Section 5). The extent to which correlatives influence scope ambiguity on the interpretation of the ConjP varies with their syntactic position (Section 6).

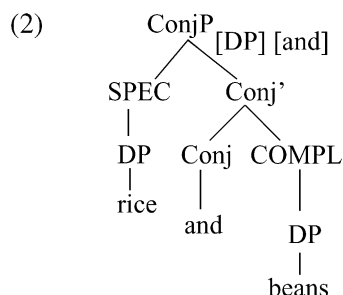
The discussion in Section 6 will lead to an overview of relevant data in Germanic languages (Section 7), and a presentation of Schwarz and Larson's analyses, neither of which can accommodate all the data (Section 8). Finally, I discuss some puzzling differences and similarities between correlatives from a cross-linguistic perspective (Section 9).

## 2. Correlatives and their conjunctions

It is clear that the dependency between the correlative and its conjunction is absolute. For each correlative, there is a choice of exactly one conjunction:

- (1) I like *both* pears *and*<sup>\*</sup> or bananas

This means that there must be some local connection between the correlative and the conjunction. Following the analysis of Johannessen (1998), I shall take the conjunction to be the head of a ConjP, which has the conjuncts in the specifier and complement positions, respectively.<sup>1</sup> The relevant information from the conjuncts (such as part of speech and grammatical features, as well as information about which conjunction is a head) is inherited to the top projection via spec-head agreement (unification):



<sup>1</sup> For a critical discussion of this analysis, see Borsley (this volume).

Let us start with an analysis of those correlatives which immediately precede the phrase they modify. Phrase-modifying correlative projections are situated immediately above the ConjP, selecting the appropriate ConjP:

- (3) ... [ConjP both [ConjP [DP][and] rice and beans]]

Correlatives co-vary with conjunctions by way of adjoining to a ConjP that has features compatible with them. Thus, *both* requires a ConjP that has *and*-features, a requirement that is satisfied above. The adjunction can be seen as a kind of category selection: *both* selects for a ConjP[and].

### 3. With phrasal coordination, the correlative can be displaced from the conjunction phrase

It is well known that English has examples of phrasal coordination in which the correlative is displaced from the conjunction phrase. The same can be found in other languages, for example, Norwegian. The following are examples from English and Norwegian:

- (4) Mary *either* is looking for [a maid or a cook] (Larson, 1985: 220)
- (5) Regine trengte derfor *både* ny [lever og tarm].  
Regine needed therefore both new liver and intestines.  
'Regine therefore needed both a new liver and new intestines'.  
The Oslo Corpus<sup>2</sup>

If, as these examples suggest, these correlatives are adverbials, then we can follow Cinque's (1999) proposal (developed for Norwegian by Nilsen, 2000) that each adverb (that is, each correlative) has its own projection. Cinque gives a detailed hierarchy of adverbial projections, each of which has its own projection. Part of the hierarchy is shown below.

- (6) [*frankly* Mood<sub>speech act</sub> [*fortunately* Mood<sub>evaluative</sub> ... [*usually* Asp<sub>habitual</sub> [*again* Asp<sub>repetitive</sub> ...]]]] (Cinque, 1999: 106)

The correlative position is lower than any of the adverbials in Cinque's hierarchy, as seen in the Norwegian examples below:

- (7) ... de rundt 6000 sjøfolkene som gjerne vil til sjøs  
the around 6000 sailors who very-much want to sea

<sup>2</sup> The Oslo Corpus of Tagged, Norwegian Texts: <http://www.tekstlab.uio.no/norsk/bokmaal/english.html>

igjen, again	men but	som who	nå now	enten either				
[ConjP [IP er are	ledige] vacant	eller or	[har have	en a	jobb job	i on	land]] land	

‘... the around 6000 sailors who very much would like to go to sea again, but who are now unemployed or have a job on land’.

- (8) Også      innlånsavtaler skal      *imidlertid*      *enten*  
also      loan-      should on-the-other-      either  
             agreements      hand

[[ConjP [VP godkjennes      av      Kredittilsynet]  
             be-accepted      by      The-Credit-Board

eller      [inngås      under      medvirkning      av      en      oppgjørssentral]].  
Or      be-done      under      cooperation      of      a      payment-central.

‘Loan agreements, too, ought to ont the other hand either be accepted by the Credit Board or be done in cooperation with a payment central’.

- (9) Forskningsinstituttet      i Beijing har      *naturlig*      *nok*      *både*  
The-research-insititute      in Beijing has      naturally      enough      both  
[egen [abortavdeling] og [ultralydavdeling]].  
own abortion-ward      and      ultra-sound-ward.  
‘The Research Institute in Beijing naturally enough has both its own  
abortion ward and an ultra sound ward.’

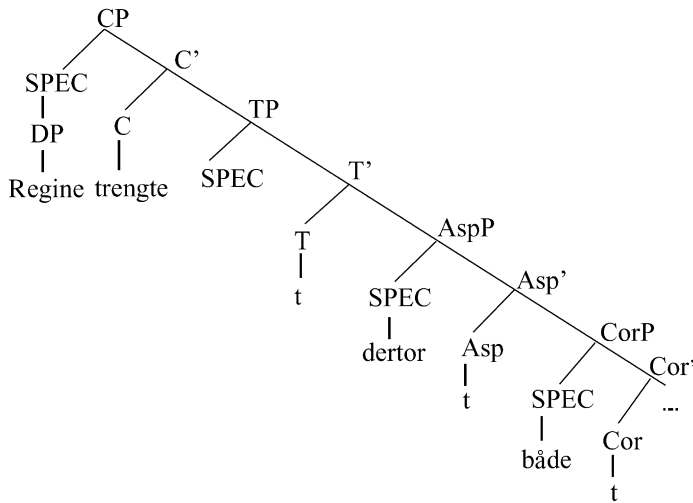
(The Oslo Corpus)

This suggests the following hierarchy:

- (10) [*frankly* Mood<sub>speech act</sub> [*fortunately* Mood<sub>evaluative</sub> ... [*usually* Asp<sub>habitual</sub> [*again* Asp<sub>repetitive</sub> ...  
[*both* CorP...]]]]]

A syntactic tree would look like (11) (following the general syntactic representation of Platzack, 1998), with the correlative low in the adverbial area of the tree (the traces indicate verb movement):

(11)



However, this leaves us with the problem of what we should do about the selectional requirement—the correlation between the correlative and its conjunction—noted above. I shall postpone the discussion of this until [Section 6](#).

#### 4. With sentential coordination, the correlative can be part of the first conjunct only

The correlative cannot only be displaced from its conjunction phrase, but it can also occur inside one of the conjuncts, as in the English and Norwegian examples below:

- (12) [<sub>ConjP</sub> [Mary *either* is driving to the airport] or [she is taking a cab]].  
(Larson, 1985: 235)

- (13) Yet [<sub>ConjP</sub> [our invitation was *either* a complete hoax [...]] or [else we had good reason to think that important issues might hang upon our journey]].  
(Hendriks, 2002)

- (14) Dermed ble det til [<sub>ConjP</sub> [at vi *enten* måtte kjøpe avisen],  
thus became it to that we either had-to buy the-newspaper,  
eller [at den trolig ville dø]]  
or that it possibly would die

‘Thus, it ended up being the case that either we had to buy the newspaper or it would probably die’.

(The Oslo Corpus)

Furthermore, in many Germanic languages a correlative occurring inside the first conjunct is obligatory if the correlative is sentence-initial. It will then trigger verb-subject inversion (the V2 effect) in the first conjunct clause, but not in the second. Consider Norwegian:

- (15) *Både* gikk Per til jobben, og Marit tok trikken til skolen  
 both walked Per to the-work and Marit took the-tram to the-school

‘It is both the case that Per walked to work and that Marit took the tram to school’.

This makes the correlative very similar to adverbs, which have the same effect:

- (16) *Ofte* gikk Per til jobben, og Marit tok trikken til skolen  
 often walked Per to the-work and Marit took the-tram to the-school

‘It was often the case that Per walked to work and Marit took the tram to school’.

The V2 effect supports the analysis presented above, in which the correlative was seen as a kind of adverb. This idea is further supported by the fact that correlatives and other adverbs also behave similarly in subordinate clauses:

- (17) a. Marit spurte [om Per *enten* gikk til jobben]  
 Marit asked whether Per either walked to the-work  
 eller [om han tok trikken].  
 or whether he took the-tram

‘Marit asked whether Per either walked to work or whether he took the tram’.

- b. Marit spurte [om Per *ofte* gikk til jobben].  
 Marit asked whether Per often walked to the-work

‘Marit asked whether Per often walked to work’.

Again, there is a problem with respect to selectional restrictions: this time, the correlative is inside the conjunction phrase, rather than displaced from it. I shall postpone a solution to this problem until [Section 6](#).

## 5. Correlatives are focus particles

Johannessen (1998) analysed correlatives as adverbs of the conjunction phrase (“ConjP adverbs”). However, this analysis was too imprecise. Above, we have seen that correlatives can be seen as a kind of adverb. But exactly what kind of adverb? The usual distinction between sentential adverbs and circumstantial adverbs does not seem to cover correlatives. Hendriks (2001a,b, 2002) suggests that they are focus particles insofar as they have a lot in common with traditional focus particles, such as *only*, *too*, *also*, i.e. words that introduce alternatives or quantify over a set of alternatives (König, 1991).

Like focus particles (18c, d) correlatives must c-command the phrase they focus, and the focussed phrase must be stressed (18a, b):

- (18) a. Either JANE ate rice or JOHN.  
       b. \*JANE either ate rice or JOHN. (Hendriks, 2001b: 2.2)  
       c. Only JANE ate rice.  
       d. \*JANE only ate rice.

Like focus particles, correlatives may occur removed from the phrase they focus on.

- (19) a. Jane *either* ate [rice or beans]. (Hendriks, 2001b: 2.1)  
       b. Jane *only* ate rice.  
       (20) a. These circumstances proved fortunate *both* for [myself and Augustus]. (Hendriks, 2001b: 3.1)  
       b. These circumstances proved fortunate *only* for myself.  
       (21) [The gale had *neither* abated in the least] nor [were there any signs of its abating] (Hendriks, 2001b: 4.1)

Scope effects varying with syntactic position are also something that correlatives and focus particles have in common. Larson (1985: 218–220) shows that (22a) is ambiguous, with both continuations (22a') and (22b') being possible, while (22b) only has the “wide scope” reading matching the continuation in (22b').<sup>3</sup>

<sup>3</sup> The scope facts seem different with respect to the other focus particles, though.

- (i) John will *even* [<sub>VP</sub> talk to ALCESTE].  
 (ii) John will talk to *even* [<sub>DP</sub> ALCESTE].

Bayer (1996: 55) says that (i) is ambiguous, while (ii) is not. I cannot explain this apparent difference.

- (22) a. Mary is looking for *either* [<sub>DP</sub> a maid or a cook]  
 b. Mary *either* [<sub>VP</sub> is looking for a maid or a cook] (Larson, 1985: 218–220)  
 a'. ... it doesn't matter which, as long as it's a servant.  
 b'. ... but I don't know which.

Hendriks finds in addition that correlatives can only be attached to maximal phrases (DP, AP, PP, etc.), in line with Bayer's (1996) claims about focus particles.

- (23) a. \*a small *either* bus or car  
 b. \*very *either* red or blue (Hendriks, 2001b: 2.3)

There are apparent counter-examples, such as the English (24) and Norwegian (25), analogous to counter-examples given by Bayer (1996)<sup>4</sup> for focus particles. However, these can be explained away if we accept maximal projections within DP.<sup>5</sup>

- (24) that offers room for a *both* [critical and enthusiastic] examination and discussion  
[www.crac.org/katalog/](http://www.crac.org/katalog/)

- (25) Han fikk snart erfare at det var  
 he got soon experience that it was  
 en *både* [slitsom og ugrei og rotete] jobb ...  
 a both tiresome and difficult and chaotic job

'He soon got to find out that it was a tiresome, difficult and chaotic job he had got'.  
 (The Oslo Corpus)

There are more similarities. Bayer (1996: 53) characterises some positions for focus particles as more marked than others. While Bayer does not define 'marked' precisely, it is clear that he means the position in which the following phrase is phonologically stressed and carries focus. *Even DP* and *P even DP* are two such cases, as opposed to the unmarked cases where *even* is VP-initial:

- (26) John will talk to *even* [<sub>DP</sub> ALCESTE]  
 (27) John invited *even* [<sub>DP</sub> ALCESTE] (Bayer, 1996: 51–52)

<sup>4</sup> Bayer (1996) similarly mentions some counter-examples to the focus particles he presents:

(i) [V nur [V geliehen]] hat er mir das Buch only lent has he me the book. (Bayer 1996: 11)

<sup>5</sup> One reviewer suggests that the difficulties with (23) could be explained by a head final filter, or by a general adjacency between Deg and A in many languages.



- (28) John will *even* [<sub>VP</sub> talk to ALCESTE]  
 (29) John will *even* [<sub>VP</sub> invite ALCESTE]

(Bayer, 1996: 53)

Again, there is a parallel with correlatives. They have the same marked—(30)–(31)—and unmarked—(32)–(33)—positions:

- (30) John will talk to *either* [<sub>ConjP</sub>[<sub>DP</sub>] ALCESTE or ARIENNE]  
 (31) John invited *either* [<sub>ConjP</sub>[<sub>DP</sub>] ALCESTE or ARIENNE]  
 (32) John will *either* [<sub>VP</sub> talk to ALCESTE or ARIENNE]  
 (33) John will *either* [<sub>VP</sub> invite ALCESTE or ARIENNE]

In addition, there is a (poorly understood) prohibition against sentence-initial focus particles in English and German (Bayer, 1996: 13), just as there is against correlatives in those and many other languages (as we shall see in the last section).<sup>6</sup>

- (34) \*Even John gave his daughter a new BICYCLE (Bayer, 1996: 13)  
 (35) \*Sogar Hans gab seiner Tochter ein neues FAHRRAD (Bayer, 1996: 22)  
 (36) \*Both [<sub>ConjP</sub>[<sub>CP</sub>] John has a daughter and Hans has a son].

Bayer shows further that there are acceptable instances of focus particles inside non-V projections, but with the proviso that the focussed word must follow immediately after the particle:

- (37) a. Peter gilt als *nur* MÄSSIG intelligent  
       Peter counts as only moderately intelligent  
       b. \*Peter gilt als *nur* mässig INTELLIGENT

(Bayer, 1996: 23)

The same distribution can be seen with correlatives:

- (38) a. Peter teller som *enten* MODERAT eller SVÆRT intelligent  
       Peter counts as either moderately or very intelligent  
       b. \*Peter teller som *enten* moderat [INTELLIGENT eller SKOLEFLINK]

We can conclude that the strong similarities between correlatives and focus particles indicate that correlatives actually are focus particles. Faarlund et al. (1997: 337)

<sup>6</sup> By ‘sentence-initial’ I do not intend the situation in which a focus particle focuses on a word or phrase next to it, which happens to be sentence-initial, such as:

- (i) [Even JOHN] gave his daughter a bicycle.  
 (ii) [Both JOHN and HANS] have sons.

Rather, I intend the focus particles that are displaced with respect to the phrase they focus.

characterize words such as *bare* ‘only’, *nettopp* ‘just’, *særlig* ‘especially’ as focussing adverbs. In Section 3, I showed that syntactically correlatives function as a kind of adverbial. This seems to be consistent with the conclusion that correlatives are focus particles, which are a subgroup of adverbs.

## 6. The extent to which correlatives inflict ambiguity on the interpretation of the ConjP varies with their syntactic position

Let us now look at the final steps of the syntactic analysis. We have at least two questions outstanding: first, how are the selectional requirements taken care of when the correlative is not adjacent to the conjunction phrase, as is the case in Sections 3 and 4? And, second, how is it possible to find the correlative in different positions, as in example (22), given that there is only one CorP?

We have seen that Bayer (1996) shows that for focus particles, there are two types of position: the one immediately adjacent to the focussed phrase (the marked position), and one further up (according to him, in VP, the unmarked position). The marked position can be recognised by the fact that the phrase following it must not only be focussed, but must also carry phonological stress. In contrast, focus particles in the unmarked position have no such requirements for their focussed phrase: they can occur anywhere in the particle’s c-command domain (Bayer, 1996: 55). We will use these facts in our syntactic analysis. We shall take the CorP position to be an unmarked position. When a correlative is in its unmarked position, its focus can be anywhere in its c-commanding domain.

This, however, leaves us with a problem: how is the dependency between type of correlative and type of conjunction secured if the ConjP is not adjacent to the CorP? In the simple cases, where the correlative is outside ConjP, somewhere to its left, I shall assume, with Larson (1985), that the correlative starts out by adjoining to the ConjP. In this way, we satisfy the selectional restrictions of the correlative with respect to choice of conjunction. The correlative then moves from an adjoined position next to ConjP, overtly or covertly (the latter only when the conjunction phrase is heavily stressed and focussed):

- (39) Regime trengte derfor [<sub>CorP</sub> *både*<sub>i</sub> [<sub>DP</sub> ny [<sub>ConjP</sub> *t<sub>i</sub>* [<sub>njP</sub> lever og tarm]]]].  
 Regime needed therefore both new liver and intestines  
 ‘Regime therefore needed both a new liver and new intestines’.  
 (The Oslo Corpus)

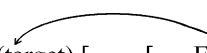
We saw in (22) that different syntactic positions yield different scope effects. To account for this, I shall follow the analysis of focus particles in Bayer (1996: 53) and the analysis of *either* in Larson (1985): The correlative has to be in an appropriate quantificational domain—a position of sentential scope—which I shall, at the moment, take to be CorP. If the correlative is simply adjoined to the conjunction phrase, it has to raise to CorP. Covert movement by the correlative to CorP leaves two possible scopes, and hence two interpretations. Overt movement to CorP, on the other hand, means that there will be only one scope, and hence one interpretation.

(40) Dette [ConjP[C']] [C' er både hyggelig] og  
 this er both nice and  
 [C' fører til at du ikke drikker så mye]].  
 leads to that you not drink so much  
 'This of course both is nice and has the effect that you don't drink so much'.

- In (40), it is obvious that the correlative is inside the first conjunct—the ConjP projection is thus higher up. In (41), the correlative is clause-initial, but still belongs only to the first clause, as we know from the V2-inversion effect which is restricted to the first conjunct. Again the ConjP projection is further up. For such sentences, the correlative could not have first adjoined to the ConjP, and then moved to CorP, since that would imply downward movement, which is generally avoided. Let us instead assume that the correlative is base-generated in the places that we see in (40) and (41). In other words, we shall assume that in these cases they have *not* been generated at ConjP.

In both cases, the answer involves movement to a proper quantificational position. There is no reason to assume that the features of *enten* or *både* are strong, so our answer is that the correlative moves covertly to the next quantificational domain. The position has to provide us with a solution to the two problems just mentioned, which means that the correlative has to move to a position that has scope over the focussed conjuncts, and assume a configuration in which it will agree with the proper conjunction. In both (40) and (41), the target position will be an adjunction site to the ConjP, exemplified below:<sup>7</sup>

<sup>7</sup> The selection of the conjunction is seen as problematic by one reviewer, since the correlative selects its complement *after* movement, counter to Brody's idea that selectional requirements must hold prior to movement. However, selection can happen in two ways. In Chomsky (1995: 54), items of the lexicon are of two types: *lexical* (with substantive content) and *functional*. The lexical ones head NP, VP, AP and PP, and their complement is in a theta-position. Functional categories also have a feature structure, but do not enter into theta-marking. They select certain kinds of complements and/or specifiers, and can be inserted during the course of derivation. I choose to see correlatives as functional, since they do not appear to be theta-related. This means that their selectional features do not need to be satisfied at the point of insertion, as long as it happens at some point during the derivation. Indeed, a guiding line in the Minimalist Program is "that operations apply anywhere, without special stipulation, the derivation crashing if the "wrong choice" is made" (Chomsky 1995: 231).

- (42)  ConjP (target) [ConjP [CP Enten [C' bærer den mat til fuglene  
either carries it food to the-birds  
[C<sub>o</sub>' eller [CP den bærer snø]]]]  
or it carries snow  
'Either it carries food to the birds, or it carries snow.'

To sum up, the correlative can occur in many positions. But if it occurs in any position other than the CorP, it has to move covertly or overtly to either the CorP, or—if it is generated below the ConjP—to a position adjoined to ConjP. If ConjP is a proper quantificational domain (verbal or sentential), this site can be a landing site; if not, it has to move even further to the left. From this, we can deduce that correlatives have at least two kinds of features: a quantificational kind, to be checked off in CorP or in a quantificational domain, and selectional features that require the right kind of conjunction phrase.<sup>8</sup>

There is empirical evidence for this covert movement. In (18), we saw that stressed constituents must be c-commanded by the correlative. But when the correlative is inside one conjunct, a stressed and focussed word that is above the correlative can, surprisingly, c-command it:

- (43) [Per GIKK *enten* til trikken] eller [han tok BUSSEN].  
Per walked either to the-tram or he took the-bus  
'Either it was the case that Per WALKED to the tram, or he took the BUS'.

But with our suggestion that the correlative moves to the top (to ConjP[CP]) covertly, the correlative will end up c-commanding the focussed phrase, with the correct result that (43) is acceptable.

Let us now consider cases where the correlative modifies a phrasal ConjP above the CorP, e.g. in the subject DP, exemplified by Norwegian:

<sup>8</sup> One reviewer points out that adverbials are traditionally not allowed to move out of adjuncts and subjects (island constraints), (Huang, 1982, Condition on Extraction Domains). An example:

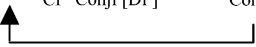
(i) \* I wonder *how* [John left New York [<sub>Barrier</sub> before he fixed the car *t*]].

(Chomsky 1995: 79)

The standard explanation for this since Chomsky's *Barriers* is that the trace has to be governed, and in the case of adverbials, antecedent governed, since there is no head to head govern them. I would like to point out that the islands are not universal (see, e.g. Haegeman 1991: 374). Different languages have different degrees of acceptability. Second, it is not clear how islands are best analysed in modern generative syntax. For example, Nunes and Uriagereka (2000) have an analysis in which subjects and adjuncts are seen as independent phrase markers, while Stepanov (2001) suggests that extraction out of subjects and adjuncts is regulated by different parts of the grammar. Not only is it not clear what kind of analysis should be applied to islands, but also it is not clear to what extent all adverbials should be treated in the same way: All the adverbials that are being extracted from the islands can be "wh-ed", i.e. moved as a wh-phrase. However, the correlative focus particles have no equivalent wh-word, and are therefore different.

- (44) *Enten* [<sub>ConjP</sub> *ris eller bønner*] *passer best til denne fiskeretten*  
 either rice or beans suit best to this fish-dish  
 ‘Either rice or beans is best suited for this fish-dish’.

As before, *ConjP*[*DP*] is not an acceptable domain for quantification. Since the correlative cannot move downward, it has to move up to its nearest quantificational domain, which is the *CP* domain.

- (45) [<sub>CP</sub>(QR-target) [<sub>CP</sub>[<sub>ConjP</sub>[*DP*] *Enten* [<sub>ConjP</sub>[*DP*] *ris eller bønner*]] *passer best*  
  
*til denne fiskeretten*]]

As we now know, movement triggers two interpretations. If we can find two different scopes for the sentence (44), then that would support our hypothesis. And indeed, this is what we find. On one reading, it is definitely the case that one of either rice or beans is better than the other; it is just not mentioned or known by the speaker. On the other interpretation, it is rather that it doesn’t matter which we choose, as long as we choose one of them. Consider the equivalent of (44) with the correlative *both*:

- (46) *Både* *ris og bønner* *passer til denne fiskeretten*  
 both rice and beans suit to this fishdish  
 ‘Both rice and beans are suited to this fish-dish’.

We also see a scope difference with the correlative *both*.<sup>9</sup> On one interpretation, there is a claim that either vegetable is good for this dish. On the other, the claim is that both vegetables should be served simultaneously with that dish.

A further argument that supports the movement analysis can be found in Norwegian with respect to the correlative *verken* (‘neither’). Superficially, this word looks like a Negative Polarity Item (NPI) that has to be licensed by negation:

- (47) *De kan \*(ikke) gi verken [dere eller meg] tilfredsstillende dekning*  
 they can not give neither you nor me satisfactory coverage  
 ‘They cannot give either you or me satisfactory coverage’.

(The Oslo Corpus)

However, the NPI status is only apparent. The word *verken* can be found in other positions in which no negative licenser is required. These positions are post-finite-verb and sentence-initial:

<sup>9</sup> I owe this observation to Jan Tore Lønning.

- (48) Jeg er nok verken særlig ["speiset" eller trendy]  
 I am probably neither very spaced nor trendy  
 'I am probably not neither very spaced out nor trendy'.  
 (The Oslo Corpus)
- (49) Verken [Bjørn eller Sigurlina] kunne si om det lå noe symbolsk i det.  
 neither Bjørn nor Sigurlina could say whether it lay something symbolic in it  
 'Neither Bjørn nor Sigurlina could say whether there was anything symbolic in it.'  
 (The Oslo Corpus)

The positions in which *verken* does not need negative licensing are precisely the two quantification domains that we have seen already. The post-finite-verb position is the CorP position, which is low in the adverbial hierarchy. It is not, however, immediately obvious that the sentence-initial position which *verken* occupies in (49) is the quantificational CP position rather than an adjoined DP position. It is difficult to test this, since *verken* does not show the kind of ambiguity that we have seen with *enten*. We will choose, however, to generalise from *enten*. But we have to take the conclusion further in the case of *verken*. This word has strong features, since it has to be licensed overtly. If it occurs below CorP, it can be licensed (c-commanded) by negation. If there is no overt licenser, it must move to CorP. If it is modifying some conjunction phrase higher up than ConjP, it must move to a quantification domain, which is the CP domain.

This account of *verken* suggests that it should not be ambiguous when it is an "NPI", since then it is properly licensed and does not move to CorP. This is in accordance with the facts: no ambiguity can be found in these cases. The difference between *verken* and the other correlatives also shows up in the interplay between quantifiers and correlatives. Consider the difference between the sentences with *både* and *verken*, where both of them modify a DP:<sup>10</sup>

- (50) *ofte* 'often': wide scope  
 Jeg har ofte ikke møtt verken Anders eller Kristin  
 I have often not met neither Anders nor Kristin
- (51) *ofte* 'often': wide or narrow scope  
 Jeg har ofte møtt både Anders og Kristin  
 I have often met both Anders and Kristin

Since *verken* in the post-nonfinite verb position needs to be licensed by a negative element, it cannot move. The result is that the sentence is unambiguous: *ofte* retains its wide scope. The correlative *både*, however, moves to the CorP position by QR, and can actually move to a quantificational position in front of *ofte*, with the DP. When the

<sup>10</sup> I owe the examples of the interplay between the quantifying adverb and the correlative to Kjell Johan Sæbø.

correlative is generated in its canonical position, however, it is already in a quantification domain, and will not rise further:

- (52) *ofte* ‘often’: wide scope  
 Jeg har ofte verken møtt Anders eller Kristin  
 I have often neither met Anders nor Kristin
- (53) *ofte* ‘often’: wide scope  
 Jeg har ofte både møtt Anders og Kristin  
 I have often both met Anders and Kristin

One might see it as problematic that in the cases where the correlative adverbs modify a conjunction phrase that is higher than the CorP, the correlative moves to a higher quantificational domain. Let us rehearse the argument so far:

The primary claims are these: (1) the correlative adverbs have features that must agree with the conjunctions they are paired with, (2) the correlatives must c-command the conjunction phrase they focus on, (3) the correlative has quantificational features that must be checked off in a clausal domain (either CorP or CP, “the higher quantificational domain”). The first two claims are supported by the data presented in this paper. The third claim has both empirical and theoretical justification. On the one hand, it is supported by the facts about ambiguous scope, which Larson (1985) has explained in terms of a movement analysis, and the facts about the Norwegian “NPI” correlative *verken*). On the other hand, the analysis is based directly on Larson (1985): “Hence as a scope indicator for *or*, I assume that if *either* moves, it must move (in the syntax or LF) to positions associated with sentence scope [. . .], to INFL [. . .] or adjoined to S itself” (Larson, 1985: 229). Larson takes these two possible movement positions to be that of sentential adverbs, or that of adverbs (p. 231) when they occur sentence-initially, corresponding to the CorP position or the [Spec,CP] position here.

Having looked at the analysis for correlatives that occur inside the first conjunct, I will now turn briefly to languages and correlatives that are different from those discussed above. For some languages (Norwegian, Swedish, German, Dutch, Icelandic), and for some correlatives (usually *either* or *neither*), there is V2 inversion in both conjuncts. It is clear that in these cases, the correlative is situated outside ConjP, since that is the only way it can have syntactic influence over both conjuncts:<sup>11</sup>

<sup>11</sup> Some languages (German and Dutch) allow correlatives not to trigger V2:

- Dutch either-or, no V2 in any conjunct:*
- (i) Ofwel het regent, of wel het is koud  
 either it rains or it is cold  
 ‘Either it is raining, or it is cold.’

Of course, the correlative *ofwel* is not in an adverbial position here, or else it would have triggered V2 inversion. It will have to be analysed as a subjunction, but a proper analysis would have to be based on a wider range of data. This is beyond the scope of the present paper.

Swedish either-or, V2 in both conjuncts:

- (54) *Antingen* får man då bättre betalt för vattenkraft  
 either gets one then better paid for hydropower  
 eller kan vi sälja mer från Finland.  
 Or can we sell more from Finland.

‘Either one will get more money for the hydropower or we can sell more from Finland’.

- (55) [CP *Antingen* [ConjP [C’ får man då bättre betalt för vattenkraft]  
 [Co’ eller [C’ kan vi sälja mer från Finland]]]]].

A fuller overview of correlatives in the Germanic languages follows in the next section.

## 7. Differences between languages and correlatives with respect to V2 effects

In this section, I shall give an overview of the correlatives in Norwegian, Swedish, Danish, German and Dutch. (Those correlatives that do not occur sentence-initially will not be included here.) We shall see that they differ substantially cross-linguistically and across correlatives. There seem to be three basic, semantically distinguishable pairs: *either-or*, *neither-nor* and *both-and*.

- (56) Type I: either-or:  $X \vee Y$   
 Type II: both-and:  $X \wedge Y$   
 Type III: neither-nor:  $\neg X \wedge \neg Y$

Some languages have more pairs, but they seem to fit semantically into the classification above, even though they may have syntactic properties that separate them. For example, Swedish not only has *antingen-eller*, *båda-och* and *varken-eller*, corresponding to the three pairs above, but also has in addition a version of *varken-eller* which is used in a negative context: *vare sig-eller*. (Norwegian and Danish, both closely related to Swedish, do not have this one.)

*Norwegian:*

- (57) *Enten* bærer den mat til fuglene, eller den bærer snø  
 either carries it food to the-birds or it carries snow

‘Either it carries food to the birds, or it carries snow’.

(The Oslo Corpus)



- (58) *Både* gikk Per til jobben, og Marit tok trikken til skolen  
 both walked Peter to the-work and Mary took the-tram to the-school  
 ‘It is both the case that Per walked to work and that Marit took the tram to school’.  
 (Johannessen, 1998: 84b)<sup>12</sup>

- (59) *Verken* gikk Per til jobben eller tok Marit trikken til skolen  
 neither walked Peter to the-work or took Mary the-tram to the-school  
 ‘It is neither the case that Per walked to work nor that Marit took the tram to school.’

*Swedish:*

- (60) *Antingen* får man då bättre betalt för vattenkraft  
 either gets one then better paid for hydropower  
 eller kan vi sälja mer från Finland.  
 Or can we sell more from Finland.  
 ‘Either one will get more money for the hydropower or we can sell more from Finland’.

Parole-korpuset, Språkbanken<sup>13</sup>

*Danish:*

- (61) *Enten* må du fjerne den gulerod fra blomsterdekorationen, eller jeg rødmer.  
 either must you remove that carrot from the-flower-arrangement or I blush  
 ‘Either you remove that carrot from the flower arrangement or I’ll blush.’

(Allan et al., 1995: 460)

*Icelandic:*

- (62) *Annadhvort* hefur Petur erfð peninga eða Páll hefur unnið í happeðrætti  
 either has Peter inherited money or Paul has won in lottery  
 ‘Either Peter has inherited money or Paul has won in the lottery.’

- (63) *Bæði* erfði Petur peninga og Páll vann í happeðrætti  
 both inherited Peter money and Paul won in lottery  
 ‘It is both the case that Peter has inherited money and that Paul has won in the lottery.’

- (64) *Hvorki* erfði Petur peninga né vann Páll í happeðrætti  
 neither inherited Peter money nor won Paul in the lottery  
 ‘It is neither the case that Peter has inherited money nor that Paul has won in the lottery.’

(slightly literary style)

(All Icelandic examples: Kjartan Ottósson, p.c.)

<sup>12</sup> In Johannessen (1998), a different word-order is suggested for the second conjunct (the same as that for the *enten-eller* pair). However, according to a number of informants, the word-order is VS in both conjuncts, with the *verken-eller* pair.

<sup>13</sup> Språkbanken, Press 97, Parole: <http://scrooge.spraakdata.gu.se/>

*German:*

- (65) *Entweder* kocht Hans heute oder Maria ruft den Pizzaservice  
 either cooks Hans today or Maria calls the Pizzaservice

‘Either Hans cooks today or Mary calls the Pizzaservice’.

(Wesche, 1995: 145a)

- (66) *Entweder* er liest ein Buch, oder er schreibt einen Brief.  
 either he reads a book or he writes a letter

‘Either he reads a book or he writes a letter’.

(Duden, 1995: 393)

- (67) *Weder* kocht Hans heute, noch ruft Maria den Pizzaservice.  
 neither cooks Hans today nor calls Maria the Pizzaservice

‘It is neither the case that Hans cooks today nor that Mary calls the Pizzaservice’.

(Wesche, 1995)

*Dutch:*<sup>14</sup>

- (68) Of het regent, of het is koud  
 either it rains or it is cold

‘Either it is raining, or it is cold’.

- (69) Ofwel het regent, ofwel het is koud  
 either it rains or it is cold

‘Either it is raining, or it is cold’.

- (70) Ofwel regent het, ofwel is het koud  
 either rains it or is it cold

‘Either it is raining, or it is cold’.

(The above three examples: Petra Hendriks, p.c.)

- (71) Ofwel regent het, ofwel het is koud  
 either rains it or it is cold

‘Either it is raining, or it is cold’.

(Paul Piwek and Kees van Deemter)

- (72) En het regent, en het is koud  
 both it rains and it is cold

‘It is both the case that it rains and that it is cold’.

(Petra Hendriks, p.c.)

<sup>14</sup> The intuitions on Dutch seem to vary. Two of the informants cannot accept verb-subject order in the second conjunct at all, but they do accept it in the first conjunct only (I’m grateful to David Tugwell for this information), while one informant, Laura Stefanussen, can only accept subject-verb order in both conjuncts, and furthermore, only the correlative *of*, i.e. only the very first example sentence.

The data above can be summarised in the following table:

(73) *V2 effect or not in the V2 languages:*

Language	No V2 triggered in any conjunct	V2 triggered in first conjunct only	V2 triggered in both conjuncts
Norwegian			
I enten-eller		x	
II både-og		x	
III verken-eller			x
Swedish			
I antingen-eller			x
Danish			
I enten-eller		x	
Icelandic			
I annaðhvort-eða		x	
II bæðiog		x	
III hvorki-né			x
German			
I entweder-oder	x	x	
III weder-noch			x
Dutch			
I of-of	x	x	
I ofwel-ofwel	x	x	x
II en-en	x		

We see from this table that in all the four Scandinavian languages, the correlatives trigger inversion in at least the first conjunct, while German and Dutch are the only languages that have correlatives that do not necessarily influence the word order of the conjuncts. Norwegian and Icelandic have the same distribution for all three types. Type I-correlatives ('either-or') in the Scandinavian languages have obligatory inversion in at least the first conjunct, and German has facultative inversion. Swedish has inversion in both conjuncts, and Dutch has optional both-conjuncts inversion. Type II-correlatives are rare with sentential conjuncts—only Norwegian, Icelandic and Dutch have them—in the two Scandinavian languages, they trigger inversion with the first conjunct. Type III-correlatives are equally rare sentence-initially (Norwegian, Icelandic and German), but when they do occur, they always trigger inversion with both conjuncts.<sup>15</sup>

<sup>15</sup> Indeed, something similar to the fact that the Type III correlatives do trigger inversion is known in English with the non-correlative *neither*: *Neither did Mary play the piano*. They seem to have the inherent negative meaning in common, and this may have something to do with the fact that they all trigger inversion if they are permitted in that position at all. (Thanks to Ora Matushansky for this observation.) Note, furthermore, that this example cannot be discourse initial.

## 8. Previous analyses: Larson and Schwarz

Both [Larson \(1985\)](#) and [Schwarz \(1999\)](#) focus on the analysis of the pair *either-or*. However, their analyses are very different. [Larson's \(1985\)](#) analysis is based on movement. It suggests that whenever *either* occurs in a position other than adjacent to (just to the left of) the conjuncts, movement has taken place:

(74) John *either*<sub>i</sub> ate t<sub>i</sub> [<sub>NP</sub> rice] or [<sub>NP</sub> beans]

(75) *Either*<sub>i</sub> John ate t<sub>i</sub> [<sub>NP</sub> rice] or [<sub>NP</sub> beans]

[Schwarz's \(1999\)](#) analysis is based on reduction (i.e. deletion): whenever the word *either* occurs, it is situated exactly next to the conjuncts. Thus, the conjuncts in, for example, (76) are not in fact *rice* and *beans*, but VPs where the verb is deleted in the second conjunct. Similarly, the conjuncts in (77) are IPs the second of which has undergone deletion.

(76) John *either* [<sub>VP</sub> ate rice] or [<sub>VP</sub> ate beans]

(77) *Either* [<sub>IP</sub> John ate rice] or [<sub>IP</sub> John ate beans]

Both these approaches are too simple to account for the crucial data from Germanic languages. Both Schwarz's reduction analysis and Larson's movement analysis take it for granted that certain conditions are met. To put it briefly: for both analyses, it is necessary for the correlative to be in a position that is to the left of its conjunction phrase (ConjP), as in (74)–(77), i.e. with a structure like this:

(78) ... Correlative ... [<sub>ConjP</sub> Conjunction Conjunction Conjunction]

However, it is not always the case that the correlative occurs in just these configurations. We have seen that even in English, there are examples of sentences where the correlative is inside the first conjunct, cf. [Larson's](#) own example (repeated from above):

(79) [<sub>ConjP</sub> [Mary *either* is driving to the airport] or [she is taking a cab]].  
([Larson, 1985: 235](#))

The structure of the sentence, which seems to be IP coordination with a correlative in the first conjunct, would be:

(80) [<sub>ConjP</sub> [<sub>IP</sub> ... Correlative ... ] Conj [<sub>IP</sub> ... ]]

This makes both Larson's movement and Schwarz's deletion analysis much less straightforward (see also [Hendriks, 2001b: 3](#) on this point). Thus, if the correlative is inside a conjunct, it cannot be the case that the whole conjunction phrase is on its right-hand side (as Schwarz claims). Neither can it be the case that the correlative has started out on the left-hand side of the conjunction phrase (ConjP) and then moved (as Larson claims), since that

would mean downward movement—something that has generally been avoided in recent years, since it constrains the possible derivations one would otherwise obtain.

Larson defends his analysis by saying that what we really see is not full IP coordination with a full subject, but rather VP coordination, the subject of the second conjunct being just a variable, with the same reference as that of the first conjunct. However, Hendriks shows that the subjects of the two conjunct clauses can be completely independent of each other, as in (81) (repeated from above):

- (81) Yet, [<sub>ConjP</sub> our invitation was *either* a complete hoax [...]] or [else we had good reason to think that important issues might hang upon our journey]].  
(Hendriks, 2002)

Furthermore, we have seen that in many V2 languages, the correlative (unlike conjunctions and subjunctions) actually triggers the V2 effect. A correlative in sentence-initial position will occupy the position otherwise taken by the subject (or any other topicalised constituent), causing the word order of the two conjuncts to be different: in the first conjunct it will be correlative-verb-subject, and in the second conjunct subject-verb. This is the case in the Scandinavian languages Norwegian, Danish and Icelandic, as well as in German. In these languages, then, it is clear that the correlative is inside the first conjunct, since there is no parallel effect in the second conjunct. The following is a Norwegian example (repeated from above).

- (82) [Enten bærer den mat til fuglene], eller [den bærer snø.]  
either carries it food to the-birds or it carries snow  
'Either it carries food to the birds, or it carries snow'.  
(The Oslo Corpus)

In sum, any analysis that requires that the correlative is always generated or permanently positioned adjacent to the conjunction phrase is unable to account for the empirical facts.

## 9. Differences between individual correlatives and cross-linguistic similarities

We have seen that correlatives differ with respect to the extent to which they can occur sentence-initially, and that if they do, they differ with respect to the V2 effect. In this final section, we will take a closer look at the extent to which sentence-initial correlatives are allowed cross-linguistically, and which types this applies to.

Type I ('either-or') seems to be the only correlative that is acceptable cross-linguistically. Table (73) shows that Norwegian and Icelandic are the only languages in the sample that accept sentence-initial correlatives with all three correlative types (but for Norwegian, judgements vary; some people can only accept Type I in this position). Danish and Swedish only accept this position for the Type I ones, while German and Dutch in addition to Type I correlatives also accept Type III and Type II, respectively. (However, the German Type III is also doubtful; Duden (1995: 393) says that this type is normally used with "single words



pairs are at best marginally possible. I shall not attempt to explain these cross-linguistic similarities, but it seems likely that any viable account would have to take into consideration semantic and pragmatic factors relating to the meaning of the correlatives.<sup>16</sup>

We have already established that the correlatives are focus particles, ‘either’ emphasizing the exclusive meaning of ‘or’, and ‘both’ the additive or distributive meaning of ‘and’ (Quirk et al., 1985: 936). Thus, in the example below, David and Joan have not been married to each other; they are viewed separately.

- (88) *Both* [David and Joan] got divorced [‘so now they can get married’]  
(Quirk et al., 1985: 936)

Segregation or distribution of a coordinated NP is often analysed as being a pair of underlying full sentences (see Aoun et al., 1994), rather than a base-generated coordinated NP. Thus, (88) would have a deeper analysis as:

- (89) *Both* [David got divorced] and [Joan got divorced]

In other words, ‘both’ is a word that signals that the conjunction phrase is not to be interpreted as a conjoined NP but as conjoined sentences. It follows then that ‘both’ has no function at all in a situation in which the conjuncts are already full sentences. As a signal, it would be superfluous. Clearly, this holds for ‘neither’ as well, since, like ‘both’, it is also a coordinator.

Furthermore, it is a fact that sentences that follow each other sequentially are in a sense coordinated. By default, they are all taken to be true. If, on the other hand, two sentences are not meant to both be true, a signal is required to inform the listener about this fact. This is typically the case when two sentences are disjoint, hence the need for ‘either’ with sentential conjuncts. If the differences between correlatives allowed sentence-initially are in fact determined by pragmatic factors, it would be a puzzle that there should be cross-linguistic variation. Apart from Type 1 correlatives, it is furthermore extremely difficult to get reliable data, since sentence-initial correlatives are virtually non-existent in even big corpora, and informants seem to find it difficult to give judgements when asked directly. This area deserves more research.

## 10. Conclusion

I have looked at the status of words like *either*, *both* and *neither*, ‘correlative adverbs’ or simply ‘correlatives’. They are characterised by certain facts which have to be taken into account in any analysis: (i) Each correlative is associated with only one conjunction. (ii) With phrasal coordination, the correlative can be displaced from the conjunction phrase. (iii) With sentential coordination, the correlative can be part of the first conjunct. (iv) The extent to which correlatives trigger scope ambiguity in the interpretation of the ConjP varies with their syntactic position.

<sup>16</sup> I am very grateful to Jan Tore Lønning and Kjell Johan Sæbø for the observations in this section.

I have established, building on work by Hendriks (2001a,b, 2002), that correlatives are focus particles. Various syntactic constructions show that they often pattern with adverbs in Norwegian and other languages; hence, they are considered a subtype of adverbs. Exploring data from Germanic V2 languages, especially data related to fact (iii) above, I have shown that the analyses of Schwarz (1999) and Larson (1985) are inadequate. My analysis is inspired by that of Larson (1985) as well as Bayer (1996), but also provides an account of syntactic positions for the correlatives (including a Correlative Phrase) inspired by Cinque (1997), and an account of both overt movement and covert movement (akin to QR). I have shown that movement correlates with interpretation of scope ambiguities. Finally, I have also presented some puzzling differences and similarities between correlatives cross-linguistically; some correlative types seem more likely to be allowed sentence-initially than others.

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