

Verb-Final as a Subcase of Verb-Second

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1. The Verb-Second/Verb-Final Alternation in German and Dutch

In German (illustrated below) and Dutch, the finite verb is *second* with respect to a clause-initial topic in root clauses.

- (1) a. Gestern kaufte Hans ein Buch.
yesterday bought Hans a book
'Yesterday, Hans bought a book.'
- b. Ein Buch kaufte Hans gestern.
a book bought Hans yesterday
'Hans bought a book yesterday.'

In dependent clauses, the finite verb is *final*.

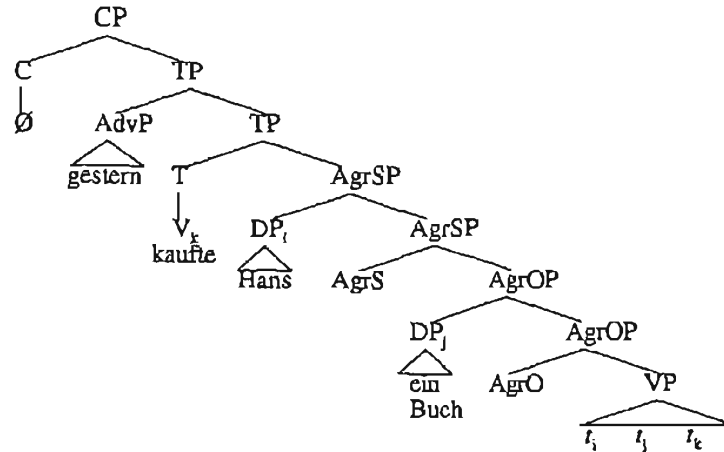
- (2) ...daß Hans gestern ein Buch kaufte.
...that Hans yesterday a book bought
'...that Hans bought a book yesterday.'

1.1 The Proposal

The proposal that will be explored here is that the finite verb actually occupies the same position in verb-second (V2) and verb-final (V-final) clauses. Because its implementation involves remnant movement, as explained below, it is termed the 'remnant movement' analysis.

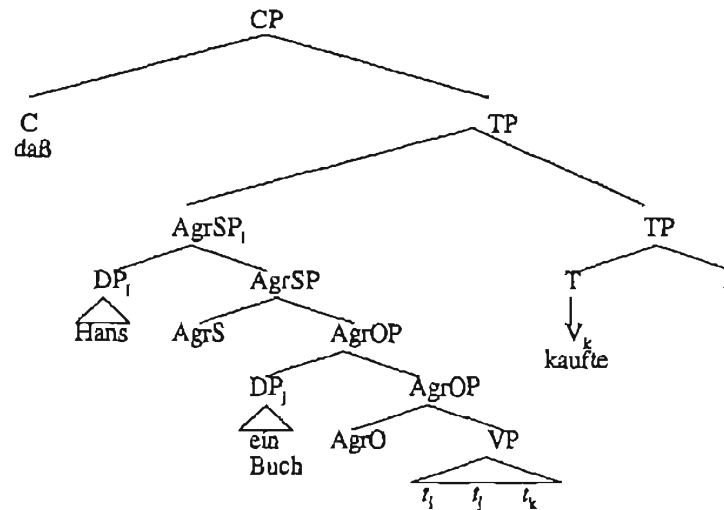
In the remnant movement analysis, V2 is derived much as in the standard analysis (on which see below). The verb moves the verb second position. Only this position is not COMP, as in the standard analysis, but rather T, as illustrated below. A topic occupies [spec,TP].

(3) The remnant movement analysis: V2



V-final is derived radically differently from the standard approach, however. Namely, the finite verb *also* moves to T. Then AgrSP (the complement of T) moves to [spec,TP] (the position normally occupied by a topic), stranding the verb in final position. Since AgrSP is missing a subconstituent, namely the verb, movement of AgrSP to TP is a case 'remnant' movement.

(4) The remnant movement analysis: V-final

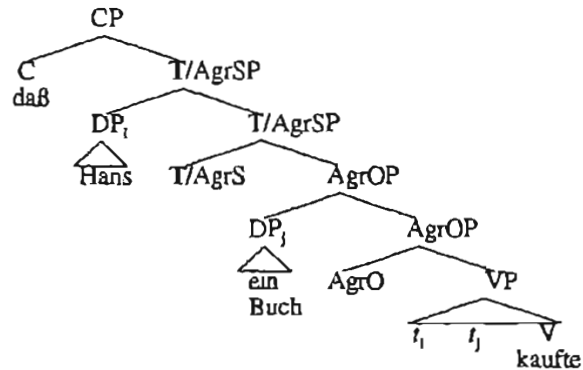


In summary, V moves to T in both V2 and V-final constructions. In V2, a topic appears in [spec,TP]. In V-final, AgrSP (everything following T, i.e. the remnant of V-movement) moves to [spec,TP], stranding the verb in final position. C is overt. Movement of AgrSP is triggered by the content of C in ways discussed in §2.1. In German and Dutch, the overt subordinating complementizers trigger movement of AgrSP, whereas the null root complementizer does not.

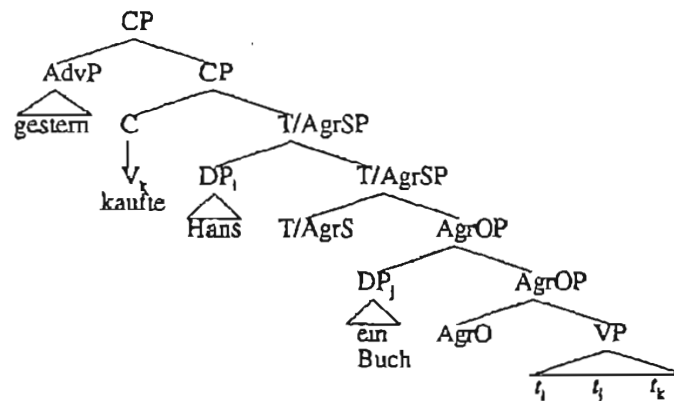
1.2 How this Analysis Differs from the Standard Analysis

In the classical analyses of Thiersch (1978), den Besten (1983), Zwart (1993), and others, the finite verb is in a different position in V2 and V-final clauses (the 'V-to-C' analysis).

(5) The V-to-C analysis: V-final



(6) The V-to-C analysis: V2



In the V-to-C analysis, the verb stays in its clause-final base position in subordinate contexts. When C is not filled by a complementizer, i.e. in root contexts, the verb moves to C. Verb movement triggers topicalization to [spec,CP] of any topicalizable constituent.

2. Evidence favoring the remnant movement analysis

The two analyses sketched above are empirically distinguishable. This section presents evidence that the remnant movement analysis is to be preferred over the V-to-C analysis.

2.1 The Connection between COMP and V2

The V-to-C analysis is motivated by the observation that complementizers are incompatible with V2 in German and Dutch. In the V-to-C analysis, they exclude each other because they target the same position (COMP). However, as observed by Diesing (1990), Vikner (1995) and others, the mutual exclusivity does not extend to all V2 languages. German and Dutch are one part of a cross linguistic three-way split in the V2/V-final phenomenon.

First, German and Dutch display V2 order in root clauses and V-final in subordinate clauses, as described above. Second, Proto-Germanic displays V-final order in both root and subordinate clauses. Though the documented early Germanic languages are not uniformly verb-final, they are normally posited to be diachronically derived from a uniformly verb-final proto-language (Kiparsky (1995), Weerman (1989), Lenerz (1984), Lehmann (1972) and others) which consistently displayed the pattern exemplified in (7) (Old High German).

- (7) a. er slúmo sar tho zín sprah (OHG; Lenerz 1984)
 he quickly at-once then to-them spoke
 'He then spoke quickly to them at once.'
 b. joh gízalta in thar tház thiú sálida untar ín was
 and told them there that the salvation among them was
 'and he told them then that the salvation was among them'

Third, Yiddish and Icelandic have V2 order in both root and subordinate clauses.

- (8) a. (...az) dos yingl hot geleyent dos bukh nekhtn (Yiddish; Vikner 1995)
 (...that) the boy has read the book yesterday
 b. (...az) dos bukh hot dos yingl geleyent nekhtn
 (...that) the book has the boy read yesterday
 c. (...az) nekhtn hot dos yingl geleyent dos bukh
 (...that) yesterday has the boy read the book

There is a connection pointed out by den Besten (1983) between the content of COMP and the possibility of V2. If COMP is filled, V2 is impossible. The Yiddish data above show that this is not true cross linguistically, but the facts as stated for German by den Besten indicate some connection, though mutual exclusivity seems to go too far.

In the remnant movement analysis, the difference between V2 and V-final is a matter of what category occupies [spec,TP]. The fact that in German and Dutch, the categorial content of [spec,TP] varies with content of C (the immediately c-commanding head) is indicative of a c-selectional relation between C and [spec,TP]. C determines the

category in [spec,TP]: when a subordinating complementizer occupies C, AgrSP must occupy [spec,TP] (as in (4)), yielding V-final. Raising of AgrSP to [spec,TP] is triggered to fulfill selectional properties of C (an 'attract' relation per Chomsky (1995)). Unlike the subordinating complementizer, the null root complementizer does not place selectional restrictions on [spec,TP], so any topicalizable constituent may appear in [spec,TP] in root clauses, and AgrSP stays put (as in (3)), yielding V2. In the remnant movement analysis therefore, V-final is selection driven.

German, Yiddish, and Proto-Germanic differ only in *which* complementizers have the selectional property that triggers AgrSP raising to [spec,TP]. In German, the subordinating complementizers have it but not the null root complementizers (1)-(2). In Yiddish, no complementizers have this property. Hence, V2 obtains in both root and embedded environments (8). In Proto-Germanic, all complementizers have this property. Hence V-final obtains in both root and embedded environments (7). These languages differ in only one way: the c-selectional requirements of COMP.

Note that the claim that a head may place selectional restrictions on the specifier of its complement is not at all novel. For example, Stowell (1981) analyzes *wh*-selection into [spec,CP] similarly.

- (9) a. Mary [_v wonders [_{CP} [_C whether [_{IP} John will make the opening remarks]]]]
 b. Mary [_v wonders [_{CP} who [_C Ø [_{IP} will make the opening remarks]]]]

The verb *wonder* selects a *wh*-CP, as evident in (9a). In (9b), that selectional requirement is satisfied by the *wh*-element *who* in [spec,CP]. The CP is declarative, as evidenced by dialects of English and other languages that lack the doubly filled COMP filter. In such languages, we see the string *who that* but never *who whether*. Stowell claims that in such cases, the *wh*-element in [spec,CP] acts as a complement of V. This 'derived' complement satisfies selectional properties of V.

Pesetsky (1995) also discusses cases of A-licensing in various forms between a head and the specifier of its complement. A similar dependency is implicit in Larson's (1988) analysis of double objects, in which V assigns accusative case to the DP in the specifier of its complement, another VP. Koopman & Sportiche (1991) discuss cases where I assigns nominative case to a subject in [spec,VP]. The relation between C and AgrSP that triggers the alternation in (3)-(4) is therefore of a very standard type.

In Dutch and German, the subordinating complementizers are overt and select AgrSP, triggering AgrSP movement to [spec,TP] and generating V-final order. The root complementizer is null and does not select AgrSP. Topicalization applies instead, generating V2 order¹. This constellation of overtness and triggering dependencies coincidentally gives the impression of mutual exclusivity of complementizers and V2. But this mutual exclusivity is not a structural necessity, as the V-to-C analysis incorrectly makes it. It could have been different, and in Yiddish, Icelandic and Proto-Germanic, it is different.

In the V2 languages other than Dutch and German, we see the constituency in (3) (not that in (5)): [COMP [V2 clause]]. In the remnant movement analysis, the alternation

¹ Topicalization is a default rule. Topics are not selected.

with V-final is derived from this constituency in a way that says what Dutch and German have in common with Yiddish and Icelandic: they are identical except for the position of AgrSP in subordinate clauses. The standard analysis does not predict embedded V2 and cannot say what Yiddish and German have in common that necessarily makes them both V2 languages. The remnant movement analysis can.

2.2 Constituency

Coordination facts show that V2 does not target COMP, even in German.

- (10) wenn [jemand nach hause kommt] und [da steht der Gerichtsvollzieher]
 when someone to home comes and there stands the bailiff
 'when someone comes home and the bailiff is standing there' (Ge; Höhle 1990)

The complementizer *wenn* (*when*) is outside of the coordinate structure, as its scope indicates. It does, however, force V-final order in the first conjunct. According to the standard assumptions of the V-to-C analysis, this means that the complementizer is in the CP that verb-movement in the first conjunct (the transformation that derives V2) would target. The first conjunct itself is therefore smaller than a CP. The second conjunct, however, must be a CP, since V2 obtains within the second conjunct, and V2 is derived by movement to C. But this CP is inside the CP associated with the first conjunct, since the complementizer in the CP of the first conjunct scopes over the whole coordination. The problem for the V-to-C analysis is therefore that (10) seems to be a case of coordination of unlike constituents (IP with CP), a configuration thought to be illicit cross linguistically (Ross (1967)).

The V-to-C analysis must allow the 'larger' second conjunct to have the same syntactic label, at some level of abstraction, as the 'smaller' first conjunct. Höhle treats such examples in this way. He claims that both conjuncts are in fact IPs. I may be empty, according to Höhle, if and only if IP is a sister of C. That is the case for the first conjunct (it is an IP sister of C) but not for the second (it is an IP separated from C by the first conjunct; Höhle seems to assume that the sisterhood requires adjacency). I must therefore be filled in the second conjunct. Höhle then additionally assumes another principle to the effect that [spec,IP] must be filled if I is, triggering V2 if the verb is licensed in I by the first principle mentioned above.

A treatment of (10) along the lines discussed by Höhle seems to be the only kind of analysis compatible with the V-to-C account of V2. Any such analysis requires verb movement deriving V2 to obtain in a constituent smaller than a CP, effectively disconnecting V2 from verb movement to C. Such an analysis subverts the mutual exclusivity of overt COMP and V2 that the V-to-C analysis is based on, even in German. Den Besten's original argument for the V-to-C analysis of the V2/V-final alternation is that complementizers exclude V2. He concluded that what they actually exclude is verb movement to C. But if V2 may obtain without V-to-C movement, then the force of this argument is lost, because it is no longer clear why V2 must exclude complementizers.

In the remnant movement analysis, (10) is a coordination of TPs under C. It was already shown that V2 may alternate with V-final inside TP (see (3)-(4)). The difference is only what category occupies [spec,TP], which in turn is determined by the complementizer. In (10), the selectional requirements of C are met by AgrSP movement to

[spec,TP] in the first conjunct. The selectional requirements of C may fail to 'reach over' the first conjunct to affect the second conjunct. As for why selection may fail in this context, we direct the reader to Höhle's tacit assumption that sisterhood (the selection configuration) requires adjacency.

The observation that selection tends to fail under non-adjacency is the remnant movement account's counterpart to Höhle's principle that I must be filled if not adjacent to C. The formulation of the dependency as selection failure is preferable, however, because it is natural for a selectional dependency to break down under lack of adjacency, and this, it seems, needn't be stated as part of the dependency, unlike Höhle's principle. Further, topicalization to [spec,TP] in lieu of movement of AgrSP there is just business as usual in the remnant movement analysis. Höhle's analysis, on the other hand, requires an additional principle to the effect that [spec,IP] must be filled if I is, conspiratorially replicating V2 without movement to COMP, undermining the justification for the verb movement analysis of the V2/V-final alternation. The paradoxical character of sentences like (10) simply disappears in the remnant movement account.

Note that shared subject coordinations (coordinated VPs under the assumptions of the V-to-C account) are apparent instances of non-constituent coordination in the remnant movement analysis. There is no constituent that dominates only the object and a final verb, i.e. what is typically termed VP--see (4). But such strings are subsumed by the Left Peripheral Deletion operation of Wilder (1994), which itself is independent of considerations on verb placement, as in (11).

- (11) wenn [jemand nach Hause kommt] und [~~jemand~~ den Gerichtsvollzieher sieht]
 when someone to home comes and ~~someone~~ the bailiff sees
 'when someone comes home and sees the bailiff'

Wilder (1994) formalizes Left Peripheral Deletion as an operation that deletes material at the left edge of a constituent under identity with material in the preceding conjunct. His primary motivation is to subsume data such as (12a) in terms of (12b).

- (12) a. In den Wald ging der Jäger und fing einen Hasen.
 In the forest went the hunter and caught a hare
 'Into the forest went the hunter and caught a hare.'
- b. [In den Wald ging der Jäger] und [der Jäger fing einen Hasen].
 in the forest went the hunter and the hunter caught a hare

Wilder points out that (12) is problematic for a syntax-based approach to the derivation of shared-subject coordinations such as ATB movement, because the subject of the first conjunct is clearly inside its clause; it is postverbal. Because the subject of the first conjunct has not moved out of the coordinate structure, ATB-movement could not have syntactically unified the subjects of the two clauses. Wilder argues along these lines against any kind of ATB-type analysis for (12). He shows, however, that Left Peripheral Deletion (the analysis sketched in (12b)) generates (12) and similar examples unproblematically.

Wilder's analysis of the gapping in (12), which is at the outset an equally mysterious phenomenon for both the V-to-C analysis and the remnant movement analysis,

extends without further comment to the gapping evidenced in (11). Left peripheral deletion of the subject of the second conjunct yields the correct word order within a coordination of TPs, as required by the remnant movement analysis. Left Peripheral Deletion does not itself represent additional syntactic machinery required by the remnant movement analysis; it is shown by Wilder to be required to generate sentences such as (12) even in the V-to-C approach, i.e., independently of issues relating to the position of the finite verb. These facts support the remnant movement analysis of the V2/V-final alternation over the V-to-C analysis.

2.3 Complementizer agreement

Some dialects of Dutch and German have agreeing complementizers.

- (13) ...ob-st du nach Wien komm-st (Austrian Ge)
 ...whether-2s you to Vienna come-2s
 '...whether you come to Vienna'

Complementizer agreement is specific to V-final word order. Only Dutch and German have it, and only in V-final clauses. Complementizer agreement is absent in Yiddish and Icelandic, a fact that begs an explanation particularly in Icelandic, which is otherwise morphologically robust. The V-to-C analysis does not say why complementizer agreement is so tightly connected to V-final word order. The remnant movement analysis does, as described below.

AgrSP is selected by C in [spec,TP] in V-final contexts, as described in §2.1 and illustrated in (4). Recall that AgrSP is a 'derived complement' of C in this configuration. It is a derived complement because it is acting as a complement of C by virtue of being selected by C (the notion is Stowell's (1981)). Note now that AgrSP is base generated as a complement of T. This means that AgrSP stands in the same syntactic relation (complement-of) to C in V-final contexts as it does to T in all contexts (since at D-structure). But AgrSP does not stand in this relation to C in V2 contexts. In fact, it cannot in principle be in the complement-of relation to C if a topic monopolizes [spec,TP]. This situation mirrors the pattern of subject agreement. T (the locus of the finite verb across clause types) agrees with the subject in all (tensed) contexts. C agrees with the subject in V-final clauses but not in V2 clauses. This confluence of the agreement facts for T and C and the position of AgrSP suggests that a syntactic connection exists between agreement and the position of AgrSP. It indicates that agreement is a reflex of locality to AgrSP.

An implementation of this observation might take the form of a principle to the effect that a head agrees with an agreement phrase in its minimal domain (which includes its complement; see Chomsky (1995)). T then will always agree with its D-structure complement AgrSP. C agrees with AgrSP just in case AgrSP raises to [spec,TP], where it is in the (derived) complement relation with C. Raising of AgrSP to [spec,TP] is the transformation that underlies V-final word order. Since the configuration that underlies complementizer agreement is fed by the operation that derives V-final word order, the two phenomena are bound together. Since Yiddish and Icelandic are uniformly V2, AgrSP is never local to C, and they can never have complementizer agreement.

There is no aspect of the V-to-C analysis that leads us to expect complementizer agreement to be limited to V-final contexts. The remnant movement analysis therefore

makes an important connection that the V-to-C analysis fails to make: COMP-agreement if and only if V-final.

2.4 Holmberg's Generalization

Holmberg (1986) makes the following observations about Swedish. Root clauses are V2 (14a-b). Embedded clauses are what is often called 'verb third,' i.e. the finite verb may occur to the right of not only the subject but also negation and certain other adverbials (14c). The position of pronominal objects depends on the position of the verb in a certain way. Pronominal objects may precede negation, but only when the verb moves to second position (14b-d).

- | | | | | | |
|------|----|---|----|---|------|
| (14) | a. | Johan köpte inte den.
Johan bought not it
'Johan didn't buy it.' | b. | Johan köpte den inte
Johan bought it not
'Johan didn't buy it.' | (Sw) |
| | c. | att Johan inte köpte den
that Johan not bought it
'Johan hasn't bought it.' | d. | *att Johan den inte köpte.
that Johan it not bought | |

Movement of an object to the left of negation as illustrated in (14a-b) is termed 'object shift'. Holmberg concludes from the paradigm in (14) that verb movement licenses the possibility of object shift, and this conclusion is known as Holmberg's Generalization.

It is well known that German (illustrated below) and Dutch do not obey Holmberg's Generalization. An object may appear to the left of negation even in V-final constructions. In fact definites usually *must* appear to the left of negation. At any rate, the position of the verb in no way impacts the position of the object, pronominal or non-pronominal.

- | | | | | | |
|------|----|--|----|--|------|
| (15) | a. | Hans kaufte es nicht.
Hans bought it not
'Hans didn't buy it.' | b. | daß Hans es nicht kaufte
that Hans it not bought
'that Hans didn't buy it' | (Ge) |
|------|----|--|----|--|------|

Assuming that (15a-b) differ in the position of the verb, as in the V-to-C analysis, German is truly exceptional with respect to Holmberg's Generalization. However, it is suspicious that just the languages in which V2 alternates with V-final (German and Dutch) fail to obey Holmberg's Generalization. Why just these languages? The remnant movement analysis has an answer. According to the remnant movement analysis, (15a-b) do not differ in the position of the finite verb. The verb moves to the verb-second position (T) in both cases. Holmberg's Generalization then leads us to expect to find no difference in the behavior of objects in German between V2 and V-final contexts, since there is no difference in the position of the verb, and that is exactly what we find. Given the remnant movement analysis, German and Dutch obey Holmberg's Generalization to a tee.

Apparent exceptions to Holmberg's Generalization are epiphenomena of an incorrect analysis of the V2/V-final alternation. Dutch and German are not exceptional in the remnant movement analysis.

2.5 Morphological implications

Kosmeijer (1986), Platzack (1988), Holmberg & Platzack (1991), Roberts (1993), Vikner (1994) and others claim that there is, across the Germanic languages, a tendency for verb-movement to INFL to correlate with the appearance of rich inflectional morphology on the verb. However, there is no language that displays this generalization across clauses that putatively differ in the position of the verb. In particular, neither German nor Dutch shows any distinction in verb morphology between V2 and V-final clauses. If the difference between V2 and V-final really relates to a difference in the position of the verb, the prediction based on the generalization above is that verbs in final position should be less inflected than verbs in second position, or not inflected at all. Yet no such difference is attested, casting doubt on any analysis of the V2/V-final alternation that relates it to the position of the verb.

In the remnant movement analysis, the position of the verb is constant across clause types in German and Dutch, so there is not predicted to be any difference in finite inflectional morphology between root and non-root clauses, true to fact. Lack of inflectional distinctions indicates that there is no difference in the position of the verb between V2 and V-final clauses, as in the remnant movement analysis, but not in the V-to-C analysis.

3. A Note on Extraposition

Extraposition is the phenomenon in which certain categories, primarily PPs and finite and non-finite CPs, appear to the right of the clause-final position of the verb, as marked below by the vertical bar ('|').

- (16) weil Maria gesagt hat | daß sie kündigen wird
 because Maria said has that she quit will
 'because Maria said that she will quit.'

Extraposed material is often thought to be adjoined to VP. Extraposed categories which are semantically clausal complements of the matrix verb (e.g. the *daß*... clause in (16)) are argued by Kayne (1994) to be *in situ*, i.e. to be sisters of V at S-structure. Both the adjunction to VP analysis and the *in situ* analysis are incompatible with the restructuring approach to verb-second because movement of AgrSP, which includes the entire VP, both its adjuncts and complements, would carry the extraposed material to a position to the left of the finite verb, deriving ungrammatical strings such as the following.

- (17) *weil [_{AgrSP} Maria gesagt [daß sie kündigen wird]] hat
 because Maria said that she quit will has

However, there is independent evidence that extraposed material is much higher in the clause than the adjunct-of-VP or the *in situ* analyses suggest, in particular higher than the canonical subject position. Consider (18).

- (18) weil mehr Leute glauben daß Hans gewählt wird als daß er zurücktreten wird.
 because more people believe that H elected will-be than that he step-down will
 'because more people believe that Hans will be elected than that he will step down.'

In (18), gapping targets a constituent containing the subject and verb but not the extraposed finite CP, as illustrated in (19).

- (19) weil mehr [Leute glauben], daß Hans gewählt wird als [e], daß er zurücktreten wird.

As illustrated in (19), the second clause of the comparative contains a gap which is anaphoric off the constituent *Leute glauben* (*people believe*) in the first clause. The antecedent of the gap contains the subject but not the extraposed CP *daß er zurücktreten wird* (*that he step-down will*). Assuming that gapping targets syntactic subtrees and not arbitrary strings of words, (19) shows that there is a constituent containing the subject and not containing the extraposed CP, meaning the surface position of the extraposed CP is syntactically higher than the subject position AgrSP. Movement of AgrSP is therefore not predicted to carry extraposed material along. Extraposition phenomena therefore do not in any way encroach on the generative power of the remnant movement analysis of the V2/V-final alternation.

4. Conclusion

The V-to-C analysis does not accommodate cross linguistic variation on the V2 theme, incorrectly characterizes constituency in German and Dutch, and fails to express cross linguistic connections between the V-final property, COMP-agreement, and Holmberg's Generalization. The remnant movement analysis captures all of these facts and the implicational relations that hold between them.

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