Comparative Germanic Syntax Workshop
Edinburgh 12th-13th June, 2008
Version 4.0

Cross Linguistic Variation in the Realm of Support Verbs

Christer Platzack
Lund University

1. Introduction

English do-support in cases like (1)-(3) does not have a counterpart in the mainland Scandinavian languages (Swedish, Danish, Norwegian), where *göra/gøre/gjøre* are the cognates of *do*. This is illustrated with Swedish examples; Danish and Norwegian behave the same. For Swedish, see e.g. Källgren & Prince (1989) and Teleman et al. (1999, III:265 ff,), for Danish Houser et al. (2006) and for Norwegian Faarlund et al. (1997:334 ff., 517, 775, 876))

(1) a. *John **did** not drive the car.* [negation]
b. **Johan gjorde inte köra bilen.*
c. *Johan körde inte bilen.*
Johan drove not car.DEF

(2) a. *John **DID** drive the car.* [polarity focus]
b. **Johan **GJORDE** köra bilen.*
c. *Johan KÖRDE bilen.*
Johan drove car.DEF

(3) a. ***Did** John drive the car*? [polarity question]
b. ***Gjorde** Johan köra bilen*?
c. *Körde Johan bilen?*
drove Johan car.DEF

On the other hand, in cases with VP Topicalization and VP Ellipsis, the mainland Scandinavian languages have do-support, illustrated with Danish examples in (4b,d):

(4) a. *John promised he'd drive the car, and drive the car he **did**.* [VP Topicalization]
b. *Johan lovede at køre bilen og køre bilen **gjorde** han.*
Johan promised to drive car.DEF and drive.INF car.DEF did he
c. *Mary didn't drive the car but John **did**.* [VP Ellipsis]
d. *Maria kørde ikke bilen men Johan **gjorde**.*
Mona drove not car.DEF but Johan did

In the case of VP topicalization, there is a difference between English, Danish/Norwegian and Swedish: in English, the verb in the fronted VP must be infinitival (5c), in Danish and Norwegian it may be either infinitival or finite as shown in (5a), whereas in Swedish, only the finite option is available (5b).

(5) a. … *og kørde/køre bilen gjorde han* (Danish)
and drove/drive car.DEF did he
b. *och körde/*köra bilen gjorde han.* (Swedish)
and drove/drive car.DEF did he
c. *and *drove/drive the car he did* (English)

It should be mentioned, however, that Teleman et al. (1999:266) give Swedish examples with a fronted infinitival verb, but stress that the finite form is more natural. See also Lødrup (1990), who claims that all three Mainland Scandinavian languages accept both finite and in-

finitival VP topicalization. According to Lødrup, Danes and Norwegians prefer the infinitival form, Swedes the finite one. For me and many other Swedes, however, the finite form is the only grammatical option, and in my discussion below I will treat Swedish as a language where a topicalized VP in the absence of a modal or temporal auxiliary must be finite.

For the record, it should also be pointed out that VP Topicalization behaves like other cases of A'-movement. The Swedish examples in (6) show that VP can be extracted from an embedded clause under the same conditions as a wh-phrase:

(6) a. *Läste boken sa John att han gjorde.*
read bookDEF said John that he did
b. **Läste boken tillbakavisade John påståendet att han gjorde.*
read book.DEF rejected John claim.DEF that he did
c. *Vad sa John att han gjorde*?
what said John that he did
d. **Vad tillbakavisade John påståendet att han gjorde*
what rejected John claim.DEF that he did

There is a difference between Swedish, Danish/Norwegian and English also with respect to VP Ellipsis: a word for word translation of (5b) is not well-formed in Swedish, where *det* 'it' has to be added. Houser et al. (2006) refer to this construction as VP Pronominalization, a term that I will take over here. VP Pronominalization is an option in Danish and Norwegian as well, but not in English:

(7) a. *Maria körde inte bilen men Johan gjorde* *(*det*). (Swedish)
b *Maria kørde ikke bilen men Johan gjorde* (*det*). (Danish)
Mary drove not car.DEF but Johan did it
c *Maria didn't drive the car but John did* (**it*).
d. **Max loves studying French, and Mary does so, too.*

See Hallman (2004) for a discussion of English *do so*. According to Hallman, *do* in *do so* is a main verb, distinct from the "dummy auxiliary *do*". This is indicated, among other things, by the fact that *do so* cannot replace non-eventive VPs, whereas support *do* and *gøre/göra det* can; see (7d) and compare with the examples in (10).

When VP Topicalization, VP Ellipsis and VP Pronominalization are used in sentences with auxiliaries, there is no obligatory *do*/*göra*/*gøre*/*gjøre*-support. In English, there is furthermore no support *do* in sentences with auxiliaries and negation, polarity focus and polarity questions (8a-c), and since English has residual V2 in these cases, its syntax is here identical to main-land Scandinavian; compare the English and Swedish examples in (8).

(8) a. *John will not drive the car.*
a'. *Johan ska inte köra bilen.*
b. *John WILL drive the car.*
b'. *Johan SKA köra bilen.*
c. *Will John drive the car*?
c'. *Ska Johan köra bilen*?
d. *Maria promised to drive the car, and drive the car she will, since…*
d'. *Maria lovade att köra bilen, och köra bilen ska hon, eftersom …*
e. *Maria will not drive the car, but John will.*
e'. *Maria ska inte köra bilen, men Johan ska* (*det*).

Note that VP Pronominalization (8e') is an option in Swedish when there is a visible auxiliary, not an obligation as was the case with *göra*-support.

(9) a. *Johan kan inte betala, men Maria kan* (*det*).
John can not pay but Mary can it
b. *Johan betalade inte men Maria gjorde* *(*det*).
John payed not but Mary did it

As mentioned, the support verb *do*/*gøre*/*gjøre*/*göra* replaces all verbs except auxiliaries and copulas, as shown with Swedish examples in (10):

(10) a. *Maria kommer inte men det gör Johan.*
Maria come.PRES NOT but it does Johan
b. *Maria gav henne inte boken men det gjorde Johan.*
Maria gave.PAST her not book.DEF but it did Johan
d. *Maria gillar inte fisk men det gör Johan.*
Maria like.PRES not fish but it does Johan
e. *Maria bor inte i Lund men det gör Johan*
Maria live.PRES not in Lund but it does Johan
f. *Maria kan inte simma men det kan/*gör Johan.*
Maria can not swim but it can/does Johan
g. *Maria är inte sjuk men det är/*gör Johan.*
Maria is not sick but it is/does Johan.

Hence, the support verb differs from the main verb *do*/*gøre/göra* in not necessarily assigning Agent theta role to the subject.

In this paper I will suggest a way to account for the variation found with respect to *do*/*göra*/*gøre*-support in English, Danish/Norwegian and Swedish. The paper has the following organization. In section 2 I present the analysis of *gøre*-support in Danish recently suggested by Houser et al. (2006). Certain Danish-Swedish differences are not captured by this account, and this fact, together with the fact that this account cannot handle *gøre*-support in embedded clauses, motivates a new attempt to describe *göra*/*gøre*-support. The solution I will suggest is outlined in sections 4 to 6, preceded by section 3, where I present my theoretical framework. In section 4 I start with a discussion of what part of the structure is topicalized, elided or pronominalized. The evidence indicates that √P is the relevant phrase. I proceed in section 5 to notice that v seems to have exactly the same properties as the support verb: it can be used with any type of main verb, irrespectively of the event-type or situation type that this verb derefers to, and it has the right placement below auxiliaries and sentence adverbs but before √P.[1] My tentative hypothesis is thus that little v, when it is not realized in some other way, is realized as a support verb in those languages that have such an option. In section 6 I discuss the variation in the languages studied with respect to VP Topicalization, VP Ellipsis and VP Pronominalization, showing that the variation at hand can be described if there are two options for the root: it may lack any tense feature, in case it will be realized as an infinitive or (given the right auxiliary) a past participle (supine), or it may have a tense feature, which in that case must be identical to the tense feature found in v. Having shown that this hypothesis accounts for the English – Mainland Scandinavian variation, I add a discussion of Icelandic, which differs from the other Germanic languages in not allowing VP Topicalization

[1] With respect to word order, this could also indicate that the support verb is an auxiliary as argued in Lødrup (1990). However, such a solution does not account for the fact that the support verb may replace all types of main verbs.

of any sort. Section 7 presents some independent evidence taken from comparative clauses, and section 8 is the conclusion.

2. Gøre-*Support in Danish*

Houser et al (2006) advocate a description of tense marking which has its roots in Chomsky (1957). In this work Chomsky distinguisthed between Tense as a category and tense as inflection, claiming that the category Tense (T) is the locus of semantic tense interpretation, distinct from the tense inflection of the finite verb. Following this theory, Houser et al (2006) see two ways of combining tense semantics with tense inflection, either the tensed verb is raised to T (V-to-T), or tense is lowered to the verb (Affix hopping). The verb second property of Danish, Norweigan and Swedish indicates that these languages use the first option whereas English uses the second one. In cases where T is not adjacent to V, Affix hopping is blocked, and English has to rely on *do*-support in T, cf. examples (1)-(3) above. Since V-to-T does not presuppose adjacency, nothing prevents V from going to T in Danish and Swedish, picking up the tense inflection here before moving on to C (V2).

As Houser et al. (2006) note, when VP is topicalized, elided or pronominalized (VP Topicaliation, VP Ellipsis and VP Pronominalization), there is no V in VP to move to T to pick up tense: in these cases, Danish/Norwegian and Swedish must rely on *gøre*/*göra*-support in T, just like English. This account of tense marking is the basis for the account of *gøre*-support in Danish that Houser et al. (2006) propose, partly built on ideas in Merchant (2001, 2004).

Concerning VP Topicalization and VP Ellipsis, illustrated in (4)-(6), where English, Danish/Norwegian and Swedish have *do*/*gøre*/*göra*-support, Houser et al. (2006) argue that decisions about whether something is pronounced or not are made before head movement, at the point where narrow syntax is transferred into PF; in line with Chomsky (1995, 2001), head movement is seen as a PF phenomenon. Thus, in cases like (4b/5b), at the point in the derivation where VP has been topicalized or deleted, there is no verb available to carry the tense feature, hence *do*/*gøre*/*göra* is inserted in T (and subsequently raised to the V2 position in Danish/Norwegian/Swedish). Consider finally (7), illustrating VP Pronominalization, which is possible (or obligatory) in Danish/Norwegian/Swedish but not in English. Houser et al. (2006) suggest more or less the same analysis as of VP ellipsis, but with pronominalization of VP instead of deletion. Like VP Ellipsis, pronominalization takes place before head movement. When VP is pronominalized, there is no verb to carry the tense features and *gøre*/*göra* must be inserted in T, followed by T-to-C.

Whereas the description suggested by Houser et al. (2006) captures the general properties of *do*/*gøre*/*göra*-support, there are some loop holes in their account. The most striking one is that their account fails to describe *gøre*/*göra*-support in embedded clauses. Consider the examples in (11), where the embedded clause is underlined:

(11) a. *Maria liker melk* <u>*mens Johan ikke gør det*</u>. (Danish)
b. *Maria gillar mjölk* <u>*medan Johan inte gör det*</u>. (Swedish)
Mary likes milk while Johan not does it

Notice that Danish *gør* and Swedish *gör* are placed after the negation, which is assumed to have its position to the right of T and to the left of vP. This word order indicates that no verb-movement has taken place in the embedded clauses in (11). In main clauses, however, where the verb is in second position, it appears in front of the negation: [2]

[2] Notice that also the object pronoun is to the left of the negation. This is due to independent reasons (Object shift, see e.g. Holmberg 1999).

(12) a. *Maria liker melk men Johan gør det ikke.* (Danish)
b. *Maria gillar mjölk men Johan gör det inte.* (Swedish)
Mary likes milk but Johan does it not

According to the description proposed by Houser et al. (2006), VP is pronominalized as *det* before head movement, presumably at the point of transfer to PF. However, this means that there is no verbal head to the right of the negation into which *gør* may be inserted, the only available head being T, which, however, is to the left of the negation. Examples like (11) are thus, contrary to facts, predicted by Houser et al (2006) to be ungrammatical. As will be demonstrated below, examples like (11) are unproblematic for my account.

There are also other problems with the proposal by Houser et al. (2006). One problem regards VP topicalization, where the verb that occurs in the fronted VP has different forms in English, Danish/Norwegian and Swedish, as mentioned above in connection with example (6), here repeated:

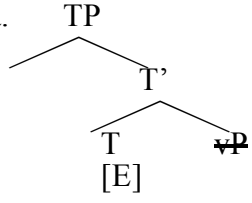
(6) a. … *og kørde/køre bilen gjorde han,* (Danish)
and drove/drive car.DEF did he
b. *och körde/*köra bilen gjorde han.* (Swedish)
and drove/drive car.DEF did he
c. *and *drove/drive the car he did.* (English)

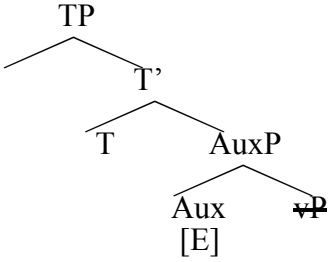
According to Houser et al (2006), only the case with a non-tensed verb in the fronted VP should be well-formed: in their description, a tensed verb is in T (or C), but since VP Topicalization does not involve T, the verb in the fronted VP is predicted to be untensed, contrary to facts.

Houser et al. (2006) will also have trouble accounting for the fact that at least in Swedish, VP Ellipsis with auxiliaries is much more acceptable than VP Ellipsis with *göra*-support.

(13) a. **Lisa läste inte boken, men Johan gjorde.*
Lisa read not book.DEF but Johan did
b. *Lisa hade inte läst boken men Johan hade.*
Lisa had not read book.DEF but Johan had
c. *Lisa kunde inte läsa boken men Johan kunde*
Lisa could not read book.DEF but Johan could

When T is merged, (13a) and (13b,c) have the structures (14a) and (14b), respectively:

(14) a.


b.


Following Merchant (2001), Houser et al (2006) take VP Ellipsis to be the result of a feature [E] that causes the non-pronounciation of the sister of the head that bears it. The structure in (14a) is directly taken over from Houser et al (2006), whereas (14b) is my interpretation of how they would handle a case with VP Ellipsis in connection with a visible auxiliary. In the latter case, Aux will raise to T to pick up tense, hence there is no need for *göra*-support. In

(14a), on the other hand, there is no verb to move to T, forcing *göra*-support (insertion of *göra* in T).

It is not to be expected, given this account, that VP Ellipsis in contrast to VP-pronominalization should be impossible in cases with *göra*-support, but possible in the presence of an auxiliary. Hence, Houser et al (2006) do not account for the differences illustrated in (13).

The embedded clause problem, the problem with tensed V in a topicalized VP, and the different behavior of VP Ellipsis in cases with or without auxiliaries will be discussed below. My solution is based on the assumption that the support verb has the function of making little v visible in cases with VP Topicalization, VP Ellipsis and VP Pronominalization, where V[3] itself for various reason is not an available realizer of v. As I will show, this hypothesis accounts not only for the facts captured by Houser et al. (2006), but it accounts also for the facts that Houser et al. (2006) have to leave unaccounted for.

3. Theoretical background

In this work I will assume the feature-driven implementation of the Minimalist program, resently launched in works by Chomsky (2001, 2007, 2008) and Pesetsky & Torrego (2001, 2004, 2007), among others. In line with Chomsky's intentions, I will try to keep the machinery to a minimum.

3.1. Merge and lexical information

According to Chomsky (1995, 2001, 2007), syntax is a computational system (an algebra), mediating between form and meaning. The computation is driven by the operation **Merge**, which works on grammatical features, see 3.3. Merge adds a syntactic object to the edge of another syntactic object, leaving the two objects unchanged. Hence, merge of X to Y yields the set {X,Y}. Having formed the syntactic object *the bed* we may merge the syntactic object *in* to the edge of *the bed*, yielding the PP *in the bed*, where *in* c-commands *the bed*.

Chomsky (2007:6) notes that"[i]n addition to Merge, UG must at least provide atomic elements, lexical items LI, each a structured array of properties (*features*) to which Merge and other operations apply to form expressions. [---] A particular language is identified at least by valuation of parameters and selection from the store of features made available by UG, and a listing of combinations of these features in LIs (the lexicon)". Regarded in this way, the lexicon is simply a list of idiosyncratic, memorized information, as argued recently within Distributed Morphology (see e.g. Halle & Marantz (1993), Marantz (1997), Embick (2003), Embick & Noyer (2007)). Following Embick & Noyer (2007:301), I assume that lexical information not necessary for narrow syntax enters the system as two additional lists, the Vocabulary, containing rules "that provide phonological exponents to abstract morphemes" and the Encyclopaedia which contains semantic information "that must be listed as either a property of a Root, or of a syntactically constructed object (idioms like *kick the bucket*)". These lists are accessed outside the system of narrow syntax, the Vocabulary at the SM[4] interface, and the Encyclopaedia at the CI interface. From the point of view taken in this paper, only the lexical information that merge is working on needs to be taken into consideration.

There are two types of merge: either the merged element X is not a part of Y (external merge), or X is a part of Y (internal merge); this is equivalent to **Move** in older versions of

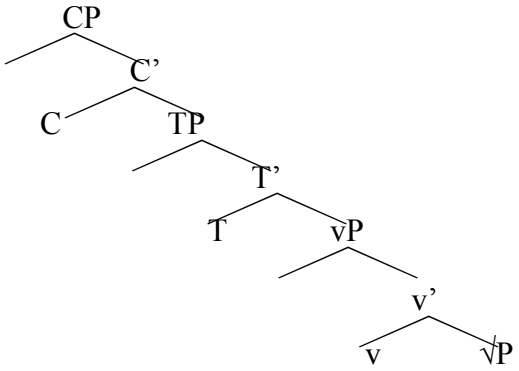
[3] In this paper I will assume that the complement of v is a root phrase, √P, and not a VP, as in the traditional analysis. In most cases, this distinction has no consequence for my discussion, I will stick to VP when referring to analyses by other scholars.

[4] SM is the sensory motor interface (roughly *phonology*), CI the conceptual-intensional interface (roughly *semantics*).

the theory. The formation of the PP *in the bed* above was an example of external merge. Internal merge results if we take *John* in the syntactic object *has John bought a car* and merge it to this object, yielding *John has ~~John~~ bought a car*, where the stricken through of the second instance of *John* indicates that this is a copy and hence not pronounced.

In line with Chomsky (2001), I will assume that the computation of a sentence results in the following schematic structure:

(15)



Roughly speaking, the lowest part of this structure, vP and √P, determines the event or state described in the sentence; it is in this part of the tree that argument structure is represented. The middle part of the structure, TP, determines among other things the tense and mood of the sentence, and the upper part, CP, has the function to ancor the sentence in the context. C mediates information between the sentence and its discourse, linguistic and non-linguistic. At this level, the information given in the sentence is put in relation to the speaker's view, and the speaker's here and now.

3.2. Derivation by Phase

Chomsky (2001:11f.) suggests that the derivation proceeds by **Phase**, motivated as a reduction of the computational burden. According to Chomsky (2005) there are two levels in the computation of a structure like (15), levels where the proceeding computation is in what Chomsky calls "active memory". These levels are CP and vP. Deriving the structure from bottom up, the vP phase is first computed. T is then merged to vP. Since T is not a phase by itself, everything within vP is still available for the computation. As soon as C is merged, however, the complement of v, i.e. √P, is no longer in active memory, and hence no longer accessible.[5] [6]

3.3. Features

As mentioned above, a syntactic structure is the result of merging syntactic objects built from lexical entries, where the lexical entries consist of features with semantic values. These features may come in two guises, interpretable and valued or uninterpretable and unvalued. Only interpretable and valued features are allowed at the Conceptional-Intensional (CI) interface or

[5] Technically, Chomsky (2001:13) achieves this result from the *Phase-Impenetrability Condition (PIC)*:

(i) The domain of H (the head of a phase) is not accessible to operations outside HP (the phase); only H and its edge are accessible to such operations.

[6] To avoind misunderstanding it must be stressed with Chomsky (2007:6) that the "generative system involves no temporal dimension. In this respect, generation of expressions is similar to other recursive processes such as construction of formal proofs. Intuitively, the proof 'begins' with axioms and each line is added to earlier lines by rules of inference or additional axioms, but this implies no temporal ordering. It is simply a description of the structural properties of the geometrical object 'proof'. The actual construction of a proof may well begin with its last line, involve independently generated lemmas, etc. The choice of axioms might come last. The same is true of generation vs. production of an expression, a familiar competence-performance distinction."

the Sensory-Motor (SF) interface, hence the syntactic computation must assign a value to the uninterpretable and unvalued instances for the derivation to converge. This is a direct consequence of seeing syntax as a system zipping together form and meaning at the sentential level – if an uninterpretable/unvalued feature is present when the sentence is computed for form and meaning, these two aspects will not be combined into an undivisible whole.

To illustrate the differense between interpretable/valued and uninterpretable/unvalued features with a case where a feature is accompanied by morphology, consider the number morphemes (underlined) in the Swedish Noun Phrase in (16):

(16) *bruna* *hästar*
brown.PL horses

Number is an interpretable feature on nouns but uninterpretable on adjectives; the word *horses* refers to several individuals of the category "horse", but there is no similar reading of "brown.PL". Hence only the plural affix in bold face on the noun in (16) corresponds to an interpretable/valued feature that is visible at the CI interface. In my discussion below I will, in addition to an ontological feature Ak(tion),[7] restrict myself to just one feature, τ (tense), interpretable in T° and valued in v° and in √.

3.4. The operation Agree

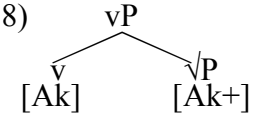
Uninterpretable features are valued with the help of an operation called **Agree**, see Chomsky (2001:3ff.). This operation proceeds in three steps:

(17) **Agree**
Step 1: Select a **probe** i.e. a head with at least one unvalued feature x.[8]
Step 2: Search the c-command domain of the probe for the closest **goal** with the same feature valued, x+.
Step 3: Value the unvalued feature of the probe in accordance with the value of the goal.

According to Chomsky (2005), the relevant probes are v-V and C-T; V and T are supposed to inherit Agree-features from v and C, respectively.[9] I will assume that v has the same inherent features for all types of verbs, contra Chomsky (2001, 2005).[10] In the rest of this paper I will refer to the probes as v and C-T, not being convinced by Chomsky (2005) that V (or √ in my system) inherits features from v.

3.5. The categorial phrase

As mentioned above, little v is a categorial marker for verbs. Taking a root phrase valued for Aktion as its complement, v makes a verb out of a root:

(18)


[7] **Aktion** (with -k-) subsumes whatever situation a verb may refer to, e.g. an action, an event, a process, a state, a relation or a property. I assume with Josefsson (1998:37) that the root √, i.e. the lexical item with its features, comes with information about ontological category.

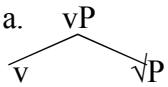
[8] x is to be read "unvalued x", where x is a variable over features. A valued x is represented as x+.

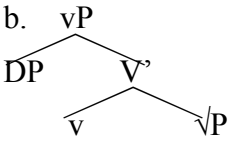
[9] According to Chomsky (2001, 2005), this only holds for v*, i.e. transitive v. See discussion in section 2.5.2. below.

[10] Some v:s assign a thematic role to a DP merged in Spec-vP, whereas others do not, This distinction corresponds to the distinction v*P / vP in Chomsky (2001, 2005). I will claim that this difference has no implications at the level of details chosen for this study.

Making a verb out of a root means several thing in the present context, e.g. that the root is embedded under particular functional projections that select for v, like T and C. Hosting an unvalued feature Ak, little v is selecting for the ontological category *Aktion*.

Little v comes in two forms, with or without a DP in its specifier:

(19) a. 

b. 

In (19a), the subject DP must be an argument within the root phrase (Spec-√P or complement of the root), whereas in (19b), the DP in Spec-vP will also be the subject of the clause. Irrespectively of that, vP is a phase in the system presented here. I deviate from Chomsky (2005:9) who claims that vP is a phase only if it is what he calls v*P, where v* "is the functional head associated with full argument structure, transitive and experiencer constructions, and is one of several choices for v, which may furthermore be the element determining that the selected *root* is verbal" (Chomsky 2005; 9).

From a theoretical point of view, it is obvious that distinguishing between different types of v that all determine that the selected root is verbal must be an imperfection of language that has to be postulated as an unexplained property of UG. Chomsky's reason for assuming that only v*P is a phase is that he wants operations based in the higher phase to be able to look into vP in cases of passives and unaccusatives: if every v is a phase, PIC (see footnote 5 above) appears to prevent the complement of the root from agreeing with T and becoming the subject of the clause. Assuming an EPP at the edge of vP that attracts the subject DP makes it unnecessary for T to look into the root phrase, hence there is no need to distinguish v* and v.

Empirical arguments for the assumption that all vPs are phases have been provided by Legate (2003), see also Richards (2006). Legate uses English data from constructions that all must involve the edge of a vP-phase, viz. reconstruction effects, quantifier raising in antecedent-contained deletion, parasitic gaps and the Nuclear Stress Rule, showing that the same effects as with transitive verbs are found with passive and unaccusative verbs.

4. The complement of the support verb is a root phrase

With the theoretical background in place, I will now proceed to suggest an account of support verbs in English and the Scandinavian languages. This presentation is divided in three sections, 4 to 6. In the present section 4 I will give arguments for the view that the complement of the support verb is a root phrase, thus open up for my analysis in section 5 according to which the support verb is a way to phonetically realize little v. Together, these two sections lay the foundation for my account of the variation with respect to support verbs that is found between the languages studied here.

4.1. No negation or sentence adverb in the fronted phrase

I will here begin to determine the status of the phrase that is topicalized in VP Topicalization. Firstly, we may note that negation, sentential adverbs, and auxiliaries, are impossible in a topicalized VP, despite the option in Mainland Scandinavian to have a tensed verb in the fronted phrase. From this follows that the fronted part cannot be more than vP, especially if the negation, as is often assumed, marks the border of vP. See the Swedish examples in (20)

(20) a. **Läste inte boken* *gjorde* *han* (or: **Läste boken inte* or **Inte läste boken*)
read not book.DEF did he

b. **Läste troligen boken gjorde han.*
read probably book.DEF did he
c. **Hade läst boken hade/gjorde han*
had read book.DEF had/did he

A similar argumentation indicates that the elided part and the pronominalized part that may follow the support verb cannot be more than vPs. Consider the following case with VP Pronominalization, where the pronoun cannot be interpreted as referring to a negated Aktion:

(21) a. *Maria läste inte boken, men det gjorde Johan.*
Maria read not book.DEF but it did Johan
b. *Maria läste inte boken, och Johan gjorde det *(inte), men Eva gjorde det.*
Maria read not book.DEF and Johan.did it not but Eva did it

Note especially the middle conjunct of the b-example, where the negation must be overt and cannot be part of what *det* refers to.

So far we have seen that the fronted, elided or pronominalized part is either vP or √P. Note that the fact that the subject is never part of the topicalized phrase, see (22), does not exclude the possibility that vP is fronted: in the languages discussed here, the subject DP is obligatorily raised to Spec-TP, hence it has evacuated vP.

(22) **John open the door did .*

As we will see below in section 4.4, also in languages where the subject is not forced to leave vP, it still does not appear in the fronted part, indicating that the fronted part is √P and not vP.

4.2. The topicalized phrase and VP internal / VP external adverbials

In this subsection we will point at some facts that indicate that it is √P and not vP that is fronted; this is also the analysis proposed by Merchant (2008). If √P is the relevant phrase, we expect to find √P-internal adverbials fronted with the verb and a possible object, whereas adverbials that are adjoined to vP should not be part of the topicalized phrase. This is a correct prediction, as seen by the Swedish examples in (23)–(25), where the underlined adverbials are classified as "free" (i.e. adjoined to vP) in Teleman et al. (1999, III:410). The fronted VP is put within square brackets.

(23) a. *Alla aktieägare förlorar pengar <u>om kontrollen skärps</u>.*
All shareholdeers will-lose money if control.DEF is-sharpened
b. [*Förlorar pengar*] *gör alla aktieägare <u>om kontrollen skärps</u>.*
lose money do all shareholders if control.DEF is-sharpened
c. ??[*Förlorar pengar <u>om kontrollen skärps</u>*] *gör alla aktieägare.*
lose money if control.DEF is-shrpened do all shareholders
(24) a. *Han la henne i sängen <u>trots hennes protester</u>.*
he put her in bed.DEF in-spite-of her protests
b. [*La henne i sängen*] *gjorde han <u>trots hennes protester.</u>*
put her in bed did he in-spite-of her protests
c. ??[*La henne i sängen trots hennes protester*] *gjorde han.*
put her in bed in-spite-of her protests did he
(25) a. *Vi sjunger <u>ofta</u> i kyrkan.*
we sing often in church.DEF
We are often singing in the church.

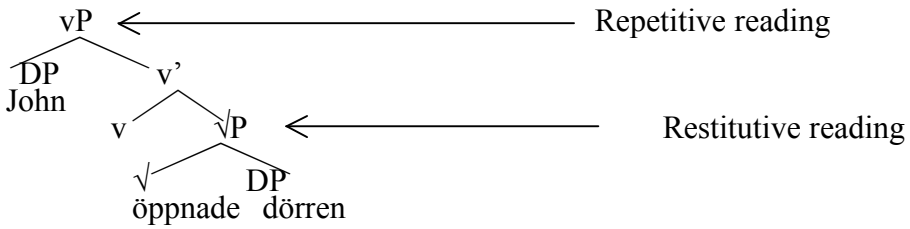
b. [*Sjunger*] *gör vi* *ofta* *i kyrkan*.
sing do we often in church.DEF
c. *[*Sjunger* *ofta*] *gör vi* *i kyrkan*.
sing often do we in church.DEF
d. [*Sjunger* *i kyrkan*] *gör vi* *ofta*.
sing in church.DEF do we often

An similar picture is provided by the adverb *igen* 'again' which has both a repetitive reading and a restitutive reading, see Dobler (2008):

(26) a. *John öppnade dörren igen.*
John opened door.DEF again
Rep: John has opened it before
Rest: the door has been opened before
b. *Hon målade lådan röd igen*.
she painted box.DEF red again
Rep: She has painted it red before
Rest: It used to be red

Presumably *igen* 'again' is adjoined to vP in the repetitive case, but to √P in the restitutive case, see also Dobler (2008).

(27) a. *John öppnade dörren igen*.
John opened door.DEF again

b.


Applied to the question whether vP or √P is topicalized, the *igen*-test makes different predictions for the two competing analyses. If the fronted, elided or pronominalized phrase is vP, we expect to be able to find repetitive *igen* in the topicalized part. This is not possible, however:

(28) a. ?[*Öppnade dörren igen*] *gjorde Johan*.
opened door.DEF again did Johan
b. [*Öppnade dörren*] *gjorde Johan igen*.
opened door.DEF did Johan again.
c. [*Målade lådan röd igen*] *gjorde Johan.*
painted box.DEF red again did Johan
d. [*Målade lådan röd*] *gjorde Johan igen*.
painted box.DEF red did Johan again

Especially in (28c) it is clear that you get the restitutive reading of *igen* 'again' when this adverb is part of the fronted phrase, and in both (28b) and (28d) only the repetitive reading is available. In these cases *igen* 'again' is not fronted and thus presumably adjoined to vP. Ex-

ample (28a) is less clear, however. Nevertheless, these data point in the direction that √P and not vP is topicalized.

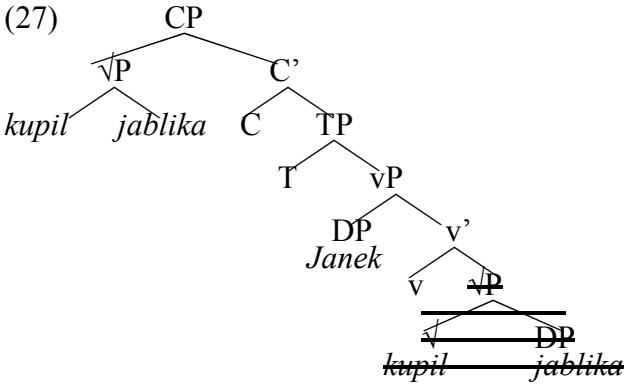
4.4. VP Topicalization in languages where the subject is not in Spec-TP

Turning to languages without obligatory subject movement to Spec-TP, the vP hypothesis would be supported if such languages lack VP Topicalization. However, at least some languages without obligatory subject movement to Spec-TP have VP Topicalization similar to the English/Scandinavian type. Hebrew, Russian and Polish are illustrative in this respect, see Landau (2006), Pereltvaig (p.c.) and Szczegielniak (to appear). None of these languages have *do*-support: in Hebrew and Russian, the verb in the fronted VP is infinitival, and is repeated by its tensed correspondence in the main part of the clause, whereas in Polish the verb in the front is tensed, and there is no second verb in the construction:

(26) a. *Liknot et ha-praxim, hi kanta* (Hebrew, Landau 2006:37)
buy.INF ACC the-flowers she bought
b. *Kupit' knigu on kupil.* (Russian, Pereltsvaig (p.c.))
buy.INF book he bought
c. *Kupil jablika Janek* (Polish, Szczegielniak (to appear, ex. (15))[11]
bought apples John

In the absence of obligatory subject movement to Spec-TP, the Polish example indicates that √P is fronted, see (27). The part of the tree that is stricken through is not pronounced.

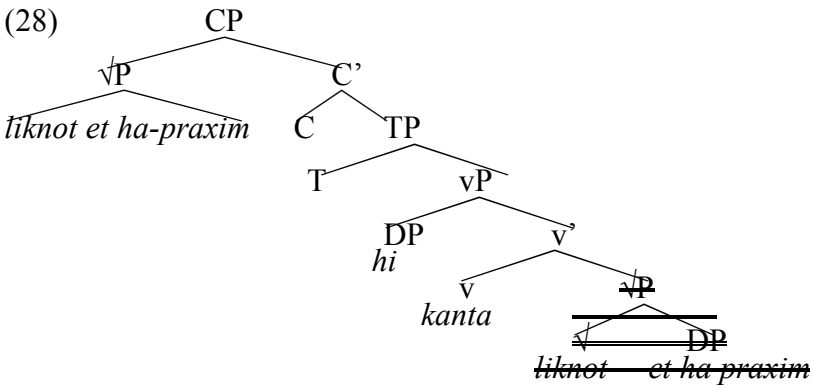
(27)



Szczegielniak (to appear) argues that tense is not an affix in Polish, hence the Stray Affix filter (Lasnik 1997, see 6.1. below) will not apply, and there is no need for a support verb.

In Hebrew, v is realized as the tensed version of the main verb.

(28)



[11] Since Polish has free word order, it is not clear to me how to determine if the verb, the object and the subject are in the illustrated order due to scrambling or due to VP Topicalization.

The Polish and Hebrew data thus indicate that VP Topicalization is topicalization of √P, not of vP.

4.5. Summary

In this section I have shown that the fronted part in VP Topicalization presumably is the root phrase. First of all, it was shown that sentence adverbs, including the negation, cannot be part of the fronted phrase, not even in languages like the Mainland Scandinavian ones where the verb in the fronted phrase may be or must be finite. Secondly, it was shown that VP internal adverbials may occur in the fronted phrase, whereas VP external adverbials, that presumably are adjoined to vP, cannot. Finally, looking at languages where the subject DP may remain in vP, it was shown that VP Topicalization does not involve the subject. Together, these facts indicate that the fronted (elided, pronominalized) phrase is the root phrase.

5. The support verb is spelled–out little v

5.1. Properties of the support verb equals properties of little v

The purpose of this section is to argue that the support verb (*do/gøre/göra*) is a spelled out version of little v. Initial support for this is that the support verb, like little v, may refer to any Aktion that a main verb refers to, that is an action, an event, a process, a state, a relation or a property. See (10) above. Furthermore, if the support verb is a spelled-out little v, it is correctly predicted to appear below sentence negation, unless it is V2-fronted. Hence analyzing the support verb as a spelled out little v accounts for the word order in Mainland Scandinavian embedded clauses that was problematic to describe with the analysis proposed in Houser et al (2006), see (11), here repeated:

(11) a. *Maria liker melk mens Johan ikke gør det.* (Danish)
b. *Maria gillar mjölk medan Johan inte gör det.* (Swedish)
Mary likes milk while Johan not does it

Furthermore, if the support verb is a spelled-out little v, we expect it to occur after all auxiliaries. This is also a correct prediction, as shown in (29).

(29) a. *Maria måste inte simma, men Johan måste göra det.*
Mary must not swim but Johan must do it.
b. *Maria kan inte ha läst boken, men Johan kan ha gjort det.*
Maria can not have read book.DEF but Johan may have done it
c. *Tvättat bilen hade Kalle inte gjort.*
washed car.DEF had John not done

Whereas auxiliaries do not necessarily appear in a fixed order (see 30), the position of the support verb never varies: it can never occur in between auxiliaries (31b):

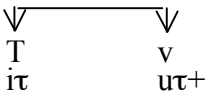
(30) a. *Maria hade kunnat öppna dörren.*
Maria had could open door.DEF
b. *Maria kunde ha öppnat dörren.*
Maria could have opened door.DEF

(31) a. *Maria sjöng men John hade inte velat göra det.*
Maria sang but John had not wanted do it
b. **Maria sjöng men John hade inte göra velat det./ *gjort vilja det*
Maria sang but John had not do wanted it done want it

5.2. Tense, agree and little v

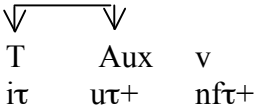
Since the support verb may be tensed, it should be in an Agree-relation with T, hence both T and v must have the tense feature τ, see section 3.3. above. With Pesetsky & Torrego (2007), I will assume that T has an interpretable and unvalued τ–feature, iτ, and v an uninterpretable but valued τ–feature, uτ+, as schematically indicated in (32):

(32) **The Agree-relation T – v**



If the structure contains an auxiliary, this is merged to vP, hence it will be closer to T than v is. If this auxiliary has the feature uτ+, i.e. is valued for tense, it will be probed by T. In this case, v cannot also contain valued tense. In this case, v will get a suffix indicating non-finite tense; here I will simplistically represent this as nfτ+, where + indicates infinitive or past participle. The Agree-relation is schematically presented in (33); notice that I have not specified the agree relation involving the non-finite tense feature here, but see 6.5. below.

(33) **The Agree-relation T – Aux**

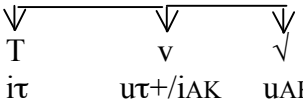


Note, finally, that in cases with several Aux, it is the first Aux that is tense valued and in an Agree-relaton with T; additional Auxes will just be marked nfτ+.

5.3. The relation little v – √P

Understanding the relation between little v and √P is the key to begin to understand the syntax that involves support verbs. When introducing little v, I mentioned that it selects a root with an Aktion feature, hence there is an Agree relation between little v and √P, based on the feature Ak. More precisely, little v has an interpretable but unvalued Ak-feature, whereas √ has an uninterpretable but valued Ak-feature. In this way, the root specifies the type of aktion, but this aktion must be linked to a categorical marker to be interpretable, i.e. to play a role at the CI interface. This is schematized for a tensed little v in (34).

(34) **The Agree-relation T – v – √P**



In (34), √ is only specified for the Ak-feature.

5.4. Summary

In this section I have presented arguments for the hypothesis that the support-verb *do/gøre/göra* is a manifestation of little v, and I have also briefly introduced the agree-relations that hold in a sentence with respect to tense. In the next section I will show that the various possibilities to specify √ for the tense feature, i.e. the choice between uτ+ and no tense feature at all, holds the key to a description of the cross-linguistic variation found in the realm of support verbs.

6. Syntactic variation and support verbs

As noticed in the introduction to this study, there is a certain cross-linguistic variation in relation to support verbs, also in closely related Germanic languages. Many attempts have been made to understand and account for this variation, but so far with little success. One recent study, Houser et al (2006) makes the wrong prediction with respect to the word order of negation and support verb in embedded clauses in Danish (Norwegian, Swedish), see the discussion about (11), and in another recent study, Holmberg (2007), the solution is dependent on the assumption that the support verb *gøre*/*göra* in Scandinavian cannot "replace" passive verbs; as the examples in (35) show, this assumption can be falsified. (35a) is a Swedish example, (35b) a Danish one.

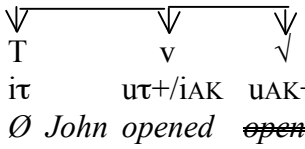
(35) a. *Boken borde läsas av alla, och lästes av alla gjorde den också.*
book.DEF should be-read by everyone, and was read by everyone did it too

b. *Der kan siges meget ondt om NN. Og det gør der.*
there can be-said many bad-things of NN. And that does there.
Many bad things can be said of NN. And that is also what they do.

I will claim that the variation observed is dependent on the relation between v and √. To show this, I will in 6.1. and 6.2. investigate the options available for √ with respect to the tense feature. In section 6.3. I will show the consequences for VP Topicalization, and in section 6.4. VP Ellipsis and VP Pronominalization are looked at from the same perspectve. Section 6.5 discusses VP Topiclaization, VP Ellipsis and VP Pronominalization in sentences with auxiliaries, and section 6.6. takes a closer look at Icelandic, which lacks VP Topicalization, but accept VP Pronominalization.

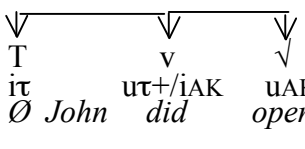
6.1. No tense feature in √

As the first option, consider the case where no tense-feature is assigned to the root when it is picked from the lexicon. This will give us the situation outlined in (34) above. Assuming that valued tense equals a tense affix, it follows from Lasnik's (1997) *Stray Affix Filter*[12] that the agree relation between T and v must be visible at the SM interface. In a case like (34), one way to obtain this is to move the root to little v, which agrees with the root in terms of the feature Aktion. In this way, the tense affix is spelled out on the verb, and we get the situation in (36):

(36)


It is easy to see that moving the root to v has more or less the same effect as Affix hopping.

Alternatively, v is spelled out at the SM interface as the appropriate tensed form of *do*:

(37)


[12] Lasnik (1997) proovides the following formulation of The Stray Affix Filter:

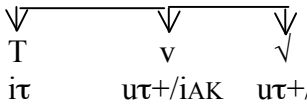
(i) **The Stray Affix Filter**
A bound morpheme must be within an X° that contains a full word.

In this case the complement of little v is a root phrase with a verb in the infinitive. When this root phrase is topicalized, we get the English type of VP Topicaliztion, as in *Open the door John did.* Note also that the support verb in (37) must move to T to be pronounced.

6.2. Roots with the feature uτ+

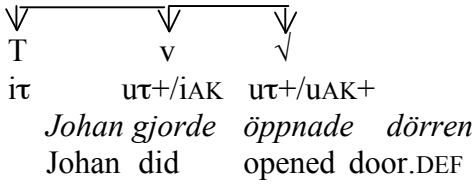
The second option is that the root is picked from the lexicon with a valued but uninterpretable tense-feature; this will give us the situation in (38):

(38)

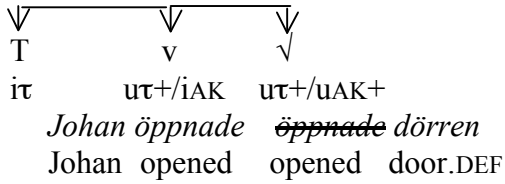


This case differs from the one in (36) with respect to the presence of uτ+ in the root. As a consequence, both instances of this feature may be pronounced, or alternatively, the two instances of uτ+ must be collapsed, which is what happens if the root is moved to little v. The two options are illustrated in (39) and (40) with Swedish examples.

(39)



(40)



In (39) the complement of little v is a tensed root phrase. When this root phrase is topicalized, we get the Swedish kind of VP Topicalization where both the verb in the fronted part and the support verb are tensed. It should also be noticed that the realization of little v with a support verb in (39) takes place at the SM interface, just like the English example in (37).

Since Swedish is a V2 language, the material in little v is later forced to raise to C. One question remains to be answered, however: why cannot (39) be realized as it stands, i.e. why is **Johan gjorde öppnade dörren* 'Johan did opened the door' ungrammatical? This follows straightforwardly from (39), I will claim. Notice that the root has an uninterpretable valued tense-feature that cannot remain uninterpretable when the derivation reaches the CI interface. There is a corresponding interpretable tense feature in the higher C-T phase, but the agree-relation based on this feature, placed in T, is used to remove the uninterpretable tense feature in little v. There is, however, still a way open for uτ+ in the root to get in contact with T and its interpretable tense-feature: √P may go to the edge of the higher phase, which in this case is Spec-CP. Interpreted in this way, VP Topicalization in a langage where the verb in the fronted √P is inflected for tense is taken place in order to avoid an uninterpretable feature to reach the CI interface.

Note that there is another option as well: uτ+ in the root may be removed from syntax by being hidden inside a lexical element, that is in this case the pronoun *det*. Hence both VP Topicalization and VP Pronominalization offer ways to get rid of uninterpretable features.

6.3. VP Topicalization

Based on the presentation in 6.1. and 6.2., we will now take a closer look at VP Topicalization, i.e. the fronting of the root phrase. Recall from the Introduction that both the verb in the fronted √P and the support verb are inflected for tense in Swedish, whereas in English only the support verb is inflected for tense. Only in the absence of a support verb or auxiliary, Eng-

lish spells out the inherited tense affix on the main verb, see the discussion around (37). Danish and Norwegian have both the Swedish and the English option.

(41) a. *Johan lovade att köra bilen och* ***körde*** *bilen* ***gjorde*** *han.*
Johan promised to drive car.DEF and drove car.DEF did he
b. *John promised he'd drive the car, and* ***drive*** *the car he* ***did****.*

The variation in (41) can be accounted for if we assume, as already indicated above, that the English case has its basis in a structure like (37), whereas the Swedish case has its basis in a structure like (39). The underlying difference beetween (37) and (39) is that the root comes from the lexicon without tense features in the first case, with tense features in the second case. For Danish and Norwegian, it thus seems to be the case that the root may come either with or without a tense feature.

6.4. VP Ellipsis and VP Pronominalization

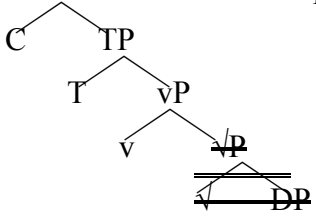
Also with respect to VP Ellipsis and VP Pronominalization, Swedish and English are different: Swedish does not accept VP Ellipsis in the absence of an auxiliary, and English does not have VP Pronominalization. Danish and Norwegian once again have both options.

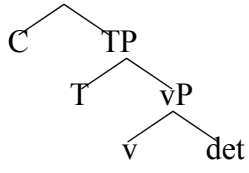
(42) a. *Maria körde inte bilen men Johan gjorde* *(*det*). (Swedish)
Mary drove not car.DEF but Johan did it
b. *Maria didn't drive the car but John did* (**it*).

Since the languages group themselves in the same way with respect to VP Ellipsis and VP Pronominalization as with respect to VP Topicalization, it lies near at hand to assume that the difference in (42) between Swedish and English can be accounted for in the same way as the difference in (41), i.e. Swedish and English differ with respect to the root: it comes with tense features in Swedish, without tense features in English. Hence once again the relevant difference is the one between (37) and (39). Danish and Norwegian are assumed to have both options.

Why is a non-tensed root associated with ellipsis and a tensed root with pronominalization? To answer this question we need to take a closer look at the two phenomena. I will here assume that ellipsis and pronominalization in this context both are operations on a root phrase: in the elliptical case, the root phrase is not spelled out, whereas in the pronominal case, it is spelled out as a pronoun. This is schematically indicated in the following structures:

(43) a. CP VP Ellipsis b. CP VP Pronominalizatiuon





In the ellipsis case, there is an agree-relation between v and √, just as in the case without ellipsis. If the root lacks tense-feature, (43a) corresponds to (37): the situation where the root inherits uτ+, i.e. (36), cannot be spelled out, since in that case there is no visible host for the tense affix. If the root comes with tense features, (43a) has the structure in (39). Recall from the discussion above that this structure cannot be realized as it is, due to the uninterpretable tense-feature in the root. Furthermore, the two ways to save (39), VP Topicalization or VP

Pronominalization, are not available in the elliptical case, hence (43a) is impossible with a root that carries a tense feature. In the pronominal case, on the other hand, the agree-relation is between v and the pronoun, and v cannot reach inside its complement. Thus, it should be no surprise that comparing the structures (37) and (39), it is the more self-contained one, (39), that is the basis for pronominalization, whereas the more dependent one, (37), is the basis for ellipsis. Furthermore, as mentioned above, the uninterpretable tense-feature found in the root in (39) will be invisible from the syntactic point of view as soon as the root-phrase is pronominalized – hence we do not see VP Pronominalization as a purely phonetic process.

6.5. Cases with auxiliaries

As we have seen, Swedish does not allow for VP Ellipsis. However, when there is an auxiliary within the sentence, something that looks like VP Ellipsis is possible.

(44) *Johan kan inte betala, men Maria kan* ((*göra*) *det*).
Johan can not pay but Mary can do it

As shown in (45), there are actually three possibilities in Swedish in this case: no visible material after the auxiliary, as in (45a), a pronoun after the auxiliary, as in (45b), or both a support verb and a pronoun, as in (45c). Swedish does not allow an auxiliary followed only by a supportverb, as in (45d).

(45) a. …*men Maria kan*.
but Mary can
b. *men Maria kan det*.
but Mary can it
c. *men Maria kan göra det*.
but Mary can do it
d. **men Maria kan göra*.
but Mary can do

So far, we have only briefly looked at the relations between an auxiliary and T, v, and √. In (34), I suggested a structure for the case with a tensed auxiliary, introducing the feature nfτ+ for the valued cases of non-finite tense, subsuming the infinitive and the past participle. Since an auxiliary determines the type of non-finite inflection of its complement, we expect (33) to be extended in the way shown in (46). Using the same conventions as before, the probe Aux is assumed to host an interpretable but unvalued feature for non-finite tense, infτ. Concerning the features available for √, finite tense uτ+ is impossible, since there would be no way to get rid of the uninterpretabel feature. The two options for the root are to come without any tense feature, similarly to the cases illustrated in 6.1, see (46a), or it may come with unfτ+, parallel to the valued tense feature in 6.2., see (46b):

(46) a.

T	Aux	v	√
iτ	uτ+/infτ	unfτ+	--
		iAK	uAK+

b.

T	Aux	v	√
iτ	uτ+/infτ	unfτ+	unfτ+
		iAK	uAK+

The structure in (46a) represents the ungrammatical sentence in (45d). Such a judgement is not surprising, since Swedish does not seem to accept the situation where a root is inserted without some kind of tense feature (see 6.1. and 6.2)..

Proceeding to (46b), this is the structure underlying (45c). This sentence is correctly predicted to be grammatical, since (46b) is analoguous in structure to (38), which is well-formed in Swedish.

Consider next (45a,b), which are both grammatical in Swedish. Examples like (45a), where there is nothing behind the auxiliary, are candidates for the case where the whole vP is elided. As noted in my review of Houser et al. (2006), (45a) was problematic for their account since it was assumed to have a structure parallel to the ungrammatical (43). My analysis predicts different structures, and thus different behavior is no problem. In (45b), finally, we seem to have *det* replacing √P, and an invisible little v, thus (45b) has the same structure as (45c), but with no support verb spelled out. The well-formedness of (45b) indicates that non-finite little v does not have to be pronounced, indicating that the non-finite affix does not fall under the Stray affix filter, as the tensed affix does.

6.6. No VP Topicalization in Icelandic

Icelandic diverges from mainland Scandinavian and English in not allowing VP Topicalization, neither with a support verb. as in (47a,b), nor with an auxiliary, as in (47c):

(47) a. **Las bókina gerði Jóhann.*
read.PAST book.DEF did Jóhann
b **Lesa bókina gerði Jóhann.*
read.INF book.DEF did Jóhann
c. **Lesa bókina vill Jóhann.*
read.INF book.DEF will Jóhann

Like Swedish, Icelandic does not accept VP Ellipsis either, whereas VP Pronominalization is possible:

(48) a. **María keyrði ekki bílinn en Jóhann gerði.*
Maria drew not car.DEF but Johann did
b. *María keyrði ekki bílinn en Jóhann gerði það.*
Maria drew not car.DEF but Johann did it

In section 6.4. I have suggested that a languagae with VP Pronominalization but not VP Ellipsis picks their Aktion roots from the lexicon with a tense feature, see section 6.3. As mentioned, there are two options in this case: either the tense feature remains in the root phrase, and we get a structure with two tensed verbs, as in Swedish VP Topicalization, or the tensed root is moved to little v which has exactly the same tense feature. In this case, no VP Topicalization is possible, presumably because a phrase whose head has been moved away cannot be further moved. If Icelandic for some reason, maybe the fact that it differs from all the other languages discussed here in having a subject agreement marker on the tensed verb, must have (40) but not (39), the lack of VP Topicalization is accounted for.

In this connection it is also interesting to notice that Icelandic does not allow VP Topicalization after a visible auxiliary, see (47c). To obtain (47), we need a structure like (45b) where the root is spelled-out within the root phrase. If the presence of tense feature in the root automatically triggers movement of the root to little v, it follows that cases like (47) are ungrammatical in Icelandic.

6.7. Summary

In this section I have presented my account of the variation found between English and the Scandinavian languages with respect to VP Topicalization, VP Ellipsis and VP Pronominalization. The general idea is that the variation found is an effect of whether or not an aktion-root is picked from the lexicon with an uninterpretable but valued tense feature. English does not allow such a feature in the aktion root, Swedish and Icelandic must pick roots with such a feature, and Danish and Norwegian allow both options.

Before proceeding, I will give further evidence for the assumed difference, discussing a striking contrast between English and Swedish with respect to pseudo-gapping, see e.g. Merchant (2008):

(49) a. Some bought roses and others did lilies.
b. Några köpte rosor och andra *gjorde/köpte/Ø liljor.
some bought roses and others did / bought/ lilies

It is flagrantly ungrammatical to use the support verb in the Swedish case (49b).

The English–Swedish difference in (49) can be directly traced back to the difference between these languages with respect to whether or not an aktion root is picked from the lexicon with an uninterpretable and valued tense feature. In English, where no tense feature is picked, little v may be spelled out as *did*, see (37), followed by deletion of the root. This will give us (49a).[13] In Swedish, where the aktion root is picked with a tense feature, *göra* cannot be inserted because in that case there would be no way to eliminate the uninterpretable tense feature in the root. Swedish has to use the option in (40), i.e. raising the root to little v. Without pseudo-gapping we get the sequence *och andra köpte liljor* 'and others bought lilies', or we may pseudo-gap little v, giving us *och andra liljor* 'and others lilies', both grammatical options in Swedish. Hence, the difference between Swedish and English with respect to pseudo-gapping, illustrated in (49), can be explained by the mechanism introduced in this paper.

7. Ellipsis in Comparative Clauses

In section 6.4. above I pointed out that Swedish does not accept VP Ellipsis with simple *göra*-support, but must have VP Pronominalization (*det* 'it'); consider the difference between Swedish and Danish in this respect, illustrated in (50a,b):

(50)	a.	*Maria	körde	inte	bilen	men	Johan	gjorde.	(Swedish)
	b	Maria	kørde	ikke	bilen	men	Johan	gjorde.	(Danish)
		Mary	drove	not	car.DEF	but	Johan	did	

As pointed out by Teleman et al. (1999, IV:610) the situation is different in comparative clauses, where *göra*-support is used without *det* if the comparison is with an object or bound adverbial in the higher clause, see (51a,b). In this type of comparative clauses, *göra*-support is optional (51c).

(51)	a.	Johan	sprang	fortare	än	Erik	(gjorde	(*det)),
		Johan	ran	faster	than	Erik	did	it
	b.	Maria	köpte	fler	böcker	än	Eva	(gjorde (*det))
		Maria	bought	more	books	than	Eva	did it

[13] It should be noticed that nether Danish nor Norwegian accept the word for word correspondence to (49a) either, despite having the option to pick an aktion root without tense feature from the lexicon. I have presently no suggestion why this is so.

c. *Johan sprang fortare än du.*[14]
Johan ran faster than you

Initially, it might seem to be the case that the account given above of *göra*-support in Swedish is hard to combine with facts like (51). According to the description proposed above, VP Ellipsis, as we seem to have in (51), was analyzed as presupposing a situation where the root lacks tense features when drawn from the lexicon, and Swedish was described as a language where the root must be valued for tense.

I will here claim that examples like (51) do not constitute counter evidence to my proposal. What seems to be a clear case of VP Ellipsis is in fact a case of VP Pronominalization, hence cases like (51) support rather than contradict my account.

Although it is true that *det* is not possible to insert in (51), as indicated, a wh-word may be present in the structure, as shown in (52): [15]

(52) a. *Johan sprang fortare än (vad (som)) Erik gjorde.*
Johan ran faster than what that Erik did
b. *Maria köpte fler böcker än (vad (som)) Eva gjorde.*
Maria bought more books than what that Eva did

As indicated, the wh-word may be followed by the complementizer *som*, here translated as 'that'. The complementizer *som* is used in relative clauses and embedded wh-questions, obligatory when the subject of the embedded clause is extracted, optionally in the presence of a visible subject, as shown in (53) – (54):

(53) a. *pojken som hade läst boken*
boy.DEF that had read book.DEF
the boy who had read the book
b. *pojken (som) läraren hade hjälpt*
boy.DEF that teacher.DEF had helped
the boy who the teacher had helped

(54) a. *Jag undrar vad som orsakade olyckan.*
I wonder what that caused accident.DEF
b. *Jag undrar vad (som) Johan sa.*
I wonder what that Johan said

Since the wh-word is clause initial in Swedish as in English, examples like (52) indicate that *än* 'than' is not a complementizer, but a preposition taking a subordinate clause as its complement. Since *än* in an example like (55) clearly is a preposition (taking oblique case, for instance), this means that we do not have to assume two instances of *än*, one being a preposition and the other one a complementizer, what differs is the structure of the complement of *än*.

---

[14] *Än* 'than' is standardly analyzed both as a complementizer and a preposition. As a preposition it governs non-nominative case, hence in Swedish (i) is a possible alternative to (51c):
(i) a. *Johan sprang fortare än dig.*
Johan ran faster than you.ACC.
As we will see below, *än* 'than' can be analyzed as a preposition in both cases. See also Chomsky & Lasnik (1977:494-497).

[15] Why *det* is not possible here, but a wh-word is, is a question that presupposes a thorough understanding of the difference between comparative clauses and other types of clauses. In the lack of such understanding, I will leave that question unanswered.

(55) *Han är längre än mig.*
he is taller than me

That prepositions can take various kinds of embedded clauses in their complement is shown in Teleman et al. (1999, III:651). In (56), two cases where a preposition takes a wh-clause are presented, based on authentical examples from Teleman et al.

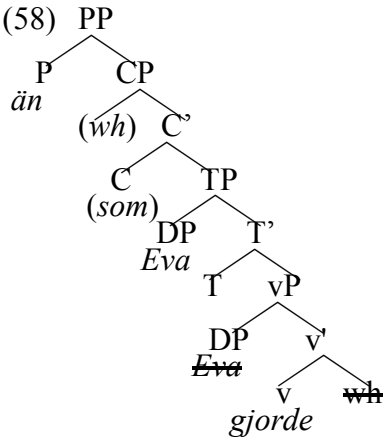
(56) a. *Svaret hade betydelse för vem som skulle anses lämpligast.*
answer.DEF had import for who that should be-considered most-suitable
b. *De ville inte prata om vad som hade hänt.*
they wanted not talk about what that had happened

As Chomsky & Lasnik (1977:495f.) point out, modern English dialects permit the occurrence of *than* and *what*, as shown in the following examples:

(57) a. *John is taller than what Bill is*.
b. *John is as tall as what Bill is*.

Chomsky & Lasnik (1977) conclude that there does not exist any sound argument in favour of analyzing *than* and *as* as complementizers.[16] The same can be said about Swedish *än* 'than'.

Concluding, cases like (51a,b) will be analyzed as involving a specific kind of VP Pronominalization with a wh-word. Contrary to other wh-words in adult Swedish, this wh-word may lack phonological features, as in (51a,b), or it may have such features, as in (51c). Taking (51b), the PP headed by *än* 'than' has the structure given in (58). Since the wh-word and the subjunction do not have to be spelled-out overtly, they are given within parantheses.

(58)


In (58), √P is pronominalized as a wh-pronoun, which subsequently is moved to Spec-CP and either pronounced or not. The uninterpretable and valued tense feature in v is spelled out as *gjorde.* Hence, what looks like VP Ellipsis is in fact VP Pronominalization. Why the pronoun is a wh-pronoun (*vad* 'what') and not *det* 'it' is not clear, but it obviously has to do with the fact that this is a comparative clause.

We will now turn to cases where the comparative part of the higher clause is a free adverbial:

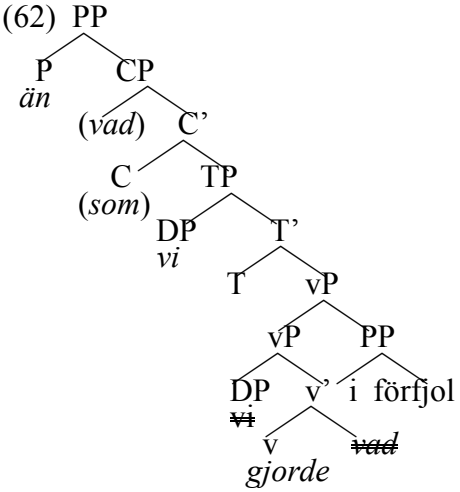
[16] In other languages the situation is reversed. In Spanish, e.g., (see Reglero (2007)) the word *que* 'that' corresponding to *than* must take a nominative pronoun as its complement:
(i) *Maria leyó más revistas que yo/*me/*mi*.
Maria read more magazines than I/me.ACC/me.DAT
Notice that objects following a preposition bear Dative Case in Spanish. Hence, if *que* had been a preposition, we would have expected it to be followed by *mi* in a case like (i).

(59) *Vi lyssnade på konserter oftare i fjol än vi gjorde (det) i förfjol.*
we listened at concerts more-often last year than we did it the year before

In this type of comparative clauses, *det* and a wh-word cannot occur together: inserting a wh-word after *än* 'than' forces us to omit *det*:

(60) … *än vad vi gjorde (*det) i förfjol*
than what we did it the year before

In (62) we give the structure for the case in (60), where the compared part is an adjoined adverbial.

(62)


As in (58) we have here a case of VP Pronominalization where the pronoun is a wh-word (*vad* 'what'). This pronoun is moved to Spec-CP with the option to be either pronounced or not. As in the previous case, what looks like VP Ellipsis at the surface is actually a specific kind of VP Topicalization. The structure of (59) differs minimally in having *det* instead of *vad* as the pronominalized root-phrase. It follows that the structure behind (59) has no wh-movement either. This account immediately tell us why the wh-word and *det* cannot occur simultaneously: the two words are sides of the same coin.

8. Summary and conclusion

In this paper I have investigated a particular case of cross-Germanic variation, namely a number of syntactic differences with respect to VP Topicalization, VP Ellipsis and VP Pronominalization. As we have seen, Swedish and English are the two extremes, with Danish and Norwegaian in between; Icelandic is like Swedish, but lacks the possibility to topicalize VP.

Arguments are given for the analysis that the support verb is a spelled-out little v, and that VP Topicalization is a fronting of a √P. With respect to tense, there are two options for the root: it may lack tense features, or it may have an uninterpretable but valued tense feature; little v always has an uninterpretable but valued tense featur. The first option is chosen by English, Danish and Norwegian, which among other things has the consequence that the fronted root phrase has a non-finite verb, and that these languages accept VP Ellipsis. The second option is chosen by all the Scandinavian languages, Danish, Icelandic, Norwegian and Swedish, and is compatible with VP Topicalization with a tensed verb in the fronted part, no VP Ellipsis but VP Pronominalization.

References

Alexiadou, Artemis & Elena Anagnostopoulou (1998), Parametrizing AGR: Word Order, V-Movement and EPP-Checking. *Natural Language and Linguistic Theory* 16: 491-540.

Anderson, Stephen (1982), Where's morphology? *Linguistic Inquiry* 13: 571-612.

Baker, Mark & Ken Hale (1990), Relativized Minimality and pronoun incorporation. *Linguistic Inquiry* 21: 289-298.

Borer, Hagit (1989), Anaphoric Agr. In *The Null Subject Parameter*, ed. by Osvaldo Jaeggli and Kenneth Safir, 69-109. Dordrecht, Boston, London: Kluwer.

Chomsky, Noam (1957), *Syntactic Structures*. Haag, Paris: Mouton.

Chomsky, Noam (1995), *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam (2001), Derivation by Phase. In *Ken Hale; A life in language*, ed. by Michael Kenstowicz, 1-50. Cambridge, MA: MIT Press.

Chomsky, Noam (2007), Approaching UG from Below. In *Interfaces + Recursion = Language? Chomsky's Minimalism and the View from Syntax–Semantics*, ed. by Uli Sauerland and Hans-Martin Gärtner, 1-29. Berlin, New York: Mouton de Gruyter.

Chomsky, Noam (2008), On Phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, Maria Luisa Zubizarreta. Cambridge, MA, London.

Chomsky, Noam & Howard Lasnik (1977), Filters and Control. *Linguistic Inquiry* 8: 425-504.

Faarlund, Jan Terje, Svein Lie & Kjell Ivar Vannebo (1997) *Norsk Referansegrammatik.* Oslo: Universitetsforlaget.

Fassi-Fehri, Abdelkader (1993), *Issues in the Structure of Arabic Clauses and Words*. Dordrecht: Kluwer.

Hallman, Peter (2004), Constituency and Agency in VP. In *WCCFL 23 Proceedings*, ed. by B. Schmeiser, V. Chand, Ann Kelleher and A. Rodriguez, 101-114. Somerville, MA: Cascadilla Press.

Holmberg, Anders (1999), Remarks on Holmberg's Generalization. *Studia Linguistica* 53: 1-39.

Holmberg, Anders (2007), Talk given at the department of Swedish, Gothenburg University.

Houser, Michael, Line Mikkelsen, Ange Strom-Weber & Maziar Toosarvandani (2006), *Gøre*-Support in Danish. Paper presented at the 21st Comparative Germanic Syntax Workshop, UC Santa Cruz, March 31-April 2, 2006.

Jelinek, Eloise (1986), Empty categories, Case and Configurationality. *Natural Language and Linguistic Theory* 2: 39-76.

Källgren, Gunnel & Ellen F. Prince /1989), Swedish VP-Topicalization and Yiddish Verb-Topicalization. *Journal of Linguistics* 12: 47-38.

Landau, Idan (2006), Chain Resolution in Hebrew V(P)-fronting. *Syntax* 9: 32-65.

Lasnik, Howard (1997), Verbal Morphology: Syntacticv Structures Meets the Minimalist Program. Verbal morphology, in *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, ed. by H. Campos and P. Kempchinsky, 251-275. Georgetown University Press.

Lasnik, Howard (1999). *Minimalist Analysis*. Oxford: Blackwell.

Lødrup, Helge (1990), VP-Topicaliztion and the Verb *gjøre* in Norwegian. *Working Papers in Scandinavian Syntax* 45: 3-12.

Merchant, Jason (2001), *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.

Merchant, Jason (2004), Fragments and Ellipsis. *Linguistics and Philosophy* 27: 661-738.
Platzack, Christer (2004), Agreement and the Person Phrase Hypothesis. *Working Papers in Scandinavian Syntax* 73: 83-112.
Pesetsky, David & Esther Torrego (2001), Tense-to-C Movement. Causes and Consequences. In *Ken Hale. A Life in Linguistics*, ed. by Michael Kenstowicz, 355-426. Cambridge, The MIT Press.
Pesetsky, David & Esther Torrego (2004), Tense, Case, and the Nature of Syntactic Categories. In *The Syntax of Time*, ed. by Jacqueline Guéron and Jacqueline Lecarme, 495-537. Cambridge, MA: The MIT Press.
Pesetsky, David & Esther Torrego (2007), The syntax of valuation and the interpretability of features. In *Phrasal and Clausal Architecture. Syntactic derivation and interpretation*, ed. by Simin Karimi, Vida Samiian & Wendy K. Wilkins, 262-294. Amsterdam, Philadelphia: John Benjamins.
Pollock, Jean-Yves (1989), Verb Movement, UG and the Structure of IP. *Linguistic Inquiry* 20: 365-424.
Reglero, Laura (2007), On Spanish comparative subdeletion constructions. *Studia Linguistica* 61: 130-169.
Richards, Marc (2006), Deriving the Edge: What's in a Phase? Ms., University of Cambridge.
Taraldsen, Tarald (1992), Agreement as Pronoun Incorporation. *GLOW Newsletter* 28: 50-51.
Teleman, Ulf, Staffan Hellberg & Erik Andersson (1999), *Svenska Akademiens grammatik*. Stockholm: Norstedts Ordbok