



The unbearable lightness of GOing

The projection parameter as a pure parameter governing the distribution of elliptic motion verbs in Germanic

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Key words: ellipsis, Germanic, language acquisition, licensing, light verbs, modals, motion verbs, OV-languages, parameter theory, projection, Swiss German

Abstract. It is a well-known fact that most of the Germanic languages can use modal verbs with non-verbal complements. In the present paper I will focus on modals with directional PPs such as the German *Ich muss nach hause* (I must <go> home). There are two ways to analyze such constructions. Either we say that the modal can (also) be used as a main verb, in which case it can have a complete theta-structure, a full-blown subcategorization frame (e.g., Barbiers (1995)), or we say that, among the verbal complements the modal verb can combine with, there is a super-light motion verb [e]_{GO}. Swiss German presents us with two incontrovertible arguments to the effect that there has to be an empty GO. The first, due to J. Hoekstra (1997), is based on the distribution of PPs in verbal clusters. A second argument comes from Verb Doubling. Dutch and German differ from Swiss German in this respect. It is tempting to assume that these languages lack the empty GO. However, West Flemish confronts us with a paradox: according to one argument it must have empty GO, according to the other argument it must lack it. The only way in which the paradox can be resolved, it is argued, is to assume that all varieties (there are relevant additional data from Afrikaans, Alsatian, German, Frisian, and Luxemburgish) have the phonetically empty super-light motion verb GO but that the variation is due to a ‘Pure Parameter’. This parameter, the Projection Parameter, is argued to regulate the licensing of empty light motion verbs as well as the occurrence of Verb (Projection) Raising.

1. The problem¹

In all Germanic languages except Modern English, modal verbs can be used with non-verbal complements.² The possibilities are somewhat limited

¹ My interest in the problem under consideration was aroused during the workshop on Syntactic microvariation organized by Sjeff Barbiers at the Meertens Institute, Amsterdam, in August 2000. I would like to thank the Swiss German contingent at that conference for making me think about empty verbs, the Verb Cluster Sprachbund Group, where I presented this material for the first time, as well as the audience at the Comparative Germanic Syntax Workshop in Montreal, May 2001, for stimulating discussion. Thanks are also due to Werner Abraham, Hans den Besten, Norbert Corver, Marcel den Dikken, Jürg Fleischer, Günther Grewendorf, Casper de Groot, Liliane Haegeman, Jarich Hoekstra, Riny Huijbregts, Katharina Köhler, Eric Reuland, Guido Seiler, Ylva Sjögren, and Elias Thijssen for helpful discussion, data, and e-mail exchanges on these issues. Special thanks go to Joe Emonds and to the editors of the present special issue, Jonathan Bobaljik and Susi Wurmbrand, for detailed and thoughtful comments on the prefinal version.

² Possible exceptions in English are *need* and *dare* as in *I need you very much* or *I dare you*

in Scandinavian in that not all modals can take non-verbal complements, but the Continental West Germanic OV-languages (henceforth abbreviated to Germanic OV-languages)³ make extensive use of this possibility. Here are a few examples from Dutch.

- (1) a. *Stoute kinderen mogen geen snoepje* *Dutch*
naughty children may no candy
 Naughty children can't have candies
- b. *Jan wil dood*
John wants dead
 John wants to die
- c. *Die doos kan naar de zolder*
that box can to the attic
 That box can be put in the attic

If modals are auxiliaries, that is, functional heads, in Dutch and the other Germanic OV-languages, the question arises as to how such cases should be analyzed. It appears that there are two ways to go: either we assume that the modals are full lexical verbs, or we hypothesize that they are auxiliaries and that there is an invisible main verb in the structure. In other words, we could assume that *mogen* in (1a) is a transitive verb that means something like 'be entitled to' or that it is an auxiliary whose verb, here something like *hebben* ('have') or *krijgen* ('get'), is somehow elliptic. Similarly, *wil(len)* in (1b) could be a main verb subcategorized for a resultative small clause, or it could be an auxiliary accompanying a phonetically unexpressed verb of the type BECOME. Finally, *kan/kunnen* in (1c) may be taken to be a full lexical verb taking a directional PP as its complement, or it too could be a true functional element accompanying an empty motion verb GO. In the present article, I will be exclusively concerned with modals that take a directional complement. For ease of reference, let us refer to these two main analytical options as follows⁴

(to . . .). More likely, however, *need* and *dare* have a dual status as auxiliaries and as lexical verbs. Note that Modern English is also unique in having a defective paradigm for modals in that the modals have no non-finite forms. The use of modals with non-verbal complements persisted well into Shakespearean times, especially with *must*, as in *I must to Coventry* and *I must away*. These diachronic aspects will not be pursued here, however.

³ While Afrikaans, a descendant of Dutch, is included here, Yiddish is not. There is no principled reason for this. At the time of writing, I did not have the relevant data. This remains a task for future research.

⁴ I will use the abbreviation V to mean 'lexical verb' as opposed to semi-lexical, functional, or auxiliary verb, and I will use M to refer to modal verbs.

- **M = V**: the hypothesis according to which modals (at least in this use) are analyzed as main (or full, or lexical) verbs whose theta-structure specifies the range of complements that they can have.
- **M = AUX**: the hypothesis according to which modals are always true auxiliaries, i.e., functional elements; the complement (such as the directional PP in (1c)) must then be a dependent of a phonetically unexpressed verb of motion which I will refer to as GO.

The question, then, is how we can determine which of these two hypotheses is correct, first in a given analytical situation in some language, and second from the perspective of Universal Grammar and language acquisition. It turns out that Swiss German provides us with two straightforward arguments in favor of the M = AUX hypothesis. These are discussed in sections 2 and 4, surrounding a more detailed specification of the analysis in section 3. Section 5 discusses a number of arguments that Barbiers (1995) has presented against analyses based on empty motion verbs.

Up to that point in the article, the main questions discussed have to do with the analytical problem of choosing between the two options within the grammar of one particular language. In the second part of the article, starting with section 6, we turn to a cross-linguistic comparison of other Germanic OV-languages, some of which, in particular Dutch, differ crucially from Swiss German. This suggests that the choice between M = V and M = AUX might well be a source of parametric variation. However, the data from Dutch and West Flemish presented in sections 6.6 and 6.7 will show that such an approach cannot be correct. Therefore, section 7 presents an alternative solution according to which all Germanic OV-languages uniformly work according to the M = AUX hypothesis. In other words, the cross-linguistic differences must be attributed to some other factor. This factor, it is argued, is the licensing condition on the occurrence and distribution of the elliptic motion verb GO. The central claim is that, in some languages, licensing targets the empty head directly while in other languages it is the projection of the empty head which must be licensed. In this way, the parameter chosen to account for the observed differences can be identified with that responsible for another overall difference observed among the Germanic OV-languages, viz. the difference between Verb Raising and Verb Projection Raising patterns. I will call this the Projection Parameter.

When parameters were first introduced into generative syntax, this would have led to the claim that a single abstract parameter is responsible for differential behavior in apparently unrelated empirical domains. In view of the much more morpho-lexically oriented approach to para-

meters in more recent years, however, it is not so clear what the status of the Projection Parameter is. In fact, the conclusion from section 6.7 on West Flemish will be that even within a single language the parameter can be set in different ways relative to different constructions. This leads to a reintroduction of abstract parameters into linguistic theory but in a somewhat different, more low-level, way. I will call this type of parameter ‘pure parameters’. Some general claims and observations, including an assessment of their role in the language acquisition process, will be discussed in section 8.

2. Extreme right directionals in Swiss German

It was Jarich Hoekstra (1997) who first pointed out the relevance of the Swiss German examples like (2) for the choice between the M = V hypothesis and the M = AUX hypothesis.

- (2) . . . wil mer hettet söle häi *Swiss German*
 . . . *because we would've had-to home*
 . . . because we should've gone home

The crucial fact here is that a directional PP, *häi*, follows the verb cluster at the end of the clause. This is remarkable because, as we will see in more detail below, directional PPs can never occur in that position in Germanic OV-languages. For ease of reference, I will refer to such PPs as ‘right edge directionals’. In order to highlight the relevance of right edge directionals, I will digress briefly to discuss some general aspects of the word order in Germanic OV-languages.

The clause structure of Germanic OV-languages can be characterized in a variety of ways. A traditional approach that has much to recommend it is the so-called topological view, cf. Drach (1937), Engel (1972), Paardekooper (1986). With some simplification, we can render this view as follows.⁵

⁵ In more modern terms, these notions correspond fairly directly to notions from X-bar Theory:

- Pre-Field: Spec, CP and anything that precedes it (topicalized and left-dislocated elements)
- Opening Bracket: C°
- Middle Field: anything between C° and the final V-cluster (Closing Bracket, CB)
- Closing Bracket: the verb or verb cluster in final position
- Post-Field: anything that follows the V-cluster: extraposed material

(3) Pre-Field – Opening Bracket – Middle Field – Closing Bracket – Post-Field

If we concentrate on the Middle Field and the Closing Bracket (CB), this zone could be characterized succinctly as in (4).

(4) $XP^* - V^*]_{CB}$

In such a structure, the XPs can be considered to be dependents (subcategorized by or adjunct to) one or several of the verbs. Such a characterization of Continental West Germanic clause structure is, however, simplified in one important respect in that it disregards the process of Verb Projection Raising (often abbreviated to VPR, cf. Haegeman and Van Riemsdijk (1986)). What Verb Projection Raising amounts to, descriptively speaking, is that the XPs are sometimes interspersed with the verbs in the cluster. This option is found in a number of languages/dialects in the Continental West Germanic area, including West Flemish and Swiss German. Using curly brackets for arbitrary order, this would amount to (5).⁶

(5) $\{XP, V\}^*]_{CB}$

But (5) does not quite cover the whole truth. There is one important generalization to be made. In (5), dependents always precede ‘their’ verb(s). A corollary of this generalization is that the sequence of XPs and Vs will always end in a V. We can therefore modify (5) accordingly.⁷

(6) **General Word Order Template for Germanic OV-Languages**

- a. $\{XP, V\}^*]_{\alpha}^*]_{Verb\ Cluster}$ (where X ranges over N/D, A, P)
- b. $\forall XP_i, V_j$ if $XP_i \subset \alpha$ and $V_j \subset \alpha$ and XP_i is a dependent of V_j then XP_i precedes V_j

This template can be illustrated by the following examples from Swiss German.⁸

⁶ It may be useful to generalize this template further to include non-verbal heads: $\{XP, Y^{\circ}\}^*$. This would suggest that heads (or phrases consisting of a head only) line up towards the right even if they are not incorporated into the verbal cluster. Cf. Van Riemsdijk (1997).

⁷ It should be noted that the formulation in (6) abstracts away from the effect of such processes as Verb Second (V2) and the topicalization of verbs or their projections. These typical A-bar processes can change the order of verbs and their dependents. Also undiscussed are various extraposition processes affecting the XPs.

⁸ The verb cluster is shown in bold face, and the directional PP, which is the constituent entering the verb cluster, is in italics. Note that the text example also has a direct object phrase, which could also enter the verb cluster as long as it stays to the left of the directional PP. This means

- (7) a. . . . wil si iri tochter i Swiss German
 . . . because they their daughter into
 s chloster händ wele schicke
 the monastery have wanted send
 . . . because they wanted to send their daughter to the monastery
- b. . . . wil si iri tochter händ i s chloster wele schicke
- c. . . . wil si iri tochter händ wele i s chloster schicke
- d.* . . . wil si iri tochter händ wele schicke i s chloster

Template (6) demands that the directional PP *i s chloster* must be to the left of the verb it is dependent on, that is, *schicke*. Therefore (7d) is excluded.

With this much by way of background to the essentials of word order in Germanic OV-languages, consider again the examples of right edge directionals such as (2) above, repeated here as (8a) along with two other examples of the same type.

- (8) a. . . . wil mer hetted söle häi Swiss German
 . . . because we would've had-to home
 . . . because we should've gone home
- b. . . . wil mer hetted häi söle
- c. . . . wil mer häi hetted söle
- (9) a. . . . wo-n-er hät müese-n-abe
 . . . when he PST must down
 . . . when he had to come down
- b. . . . wo-n-er hät abe müese
- c. . . . wo-n-er abe hät müese

that in addition to the text examples (7a–d), repeated here, we also have the following orders to take into account (where we start from the basic order DO DIR V₁ V₂ V₃):

- | | | | |
|-----|--|--|--|
| (i) | DO DIR V ₁ V ₂ V ₃ | V ₁ DO DIR V ₂ V ₃ | V ₁ V ₂ DO DIR V ₃ |
| | DO V ₁ DIR V ₂ V ₃ | V ₁ DO V ₂ DIR V ₃ | *V ₁ V ₂ DO V ₃ DIR |
| | DO V ₁ V ₂ DIR V ₃ | *V ₁ DO V ₂ V ₃ DIR | *V ₁ V ₂ V ₃ DO DIR |
| | *DO V ₁ V ₂ V ₃ DIR | | |

See Haegeman and Van Riemsdijk (1986) for ample illustration, Cooper (1994) for more discussion of the Swiss German data, Ackema (forthcoming) for more recent discussion including a comparison with Hungarian verb clusters, and Wurmbrand (2001a, 2001b, forthcoming).

- (10) a. . . . das si nöme hät wele i d schuel
 . . . *that she no-longer has wanted in the school*
 . . . that she no longer wanted to go to school
- b. . . . das si nöme hät i d schuel wele
- c. . . . das si nöme i d schuel hät wele

It should be clear now that the a-examples violate the template in (6) if the directional PP is dependent on the modal verb (*söle*, *müese*, and *wele*, respectively) and follows it. Indeed, Dutch and German do not tolerate right edge directionals, as is shown in the following examples, which are direct translations of the a-examples above.⁹

- (11) a.* . . . omdat we hadden moeten/gemoeten naar huis *Dutch*
because we had must_{INF} / must_{PART} to home
 because we would have had to go home
- b.* . . . toen hij moest omlaag
when he must_{PAST} down
 when he had to go down
- c.* . . . dat zij niet meer wilde naar school
that she not more wanted to school
 that she didn't want to go to school anymore
- (12) a.* . . . weil wir hätten müssen/gemusst heim (= (11a)) *German*
 b.* . . . als er musste runter (= (11b))
 c.* . . . dass sie nicht mehr wollte in die Schule (= (11c))

⁹ Note that the form of the modal verb in (8–10) is the infinitive. This is due to the so-called *infinitivus pro participio* (IPP) effect. The Dutch and German examples in (11–12) are ungrammatical regardless of whether we take IPP to be involved; therefore both the infinitival and the participial form are given. Observe, however, that the corresponding examples in which the PP is not rightmost prefer the participle form, at least in the standard language: . . . *omdat wij naar huis hadden gemoeten/*moeten*, . . . *weil wir heim gemusst/*müssen hätten* (both: 'because we would have had to (go) home'). This fact might suggest that there is a correlation between the IPP effect and the occurrence of right edge directionals. Essentially, we would expect IPP to apply to the auxiliary use of the modal verb, in which case there would have to be an empty motion verb, while we would expect a participle to show up if the modal is used as a main verb. The corresponding examples with overt motion verbs do indeed show this: . . . *omdat wij naar huis hadden moeten/*gemoeten gaan*, . . . *weil wir heim hätten gehen müssen/*gemusst* (both: 'because we would have had to go home'). Examination of further data and the conclusion that the M = AUX analysis is valid for all Germanic OV-languages suggests, however, that this is a spurious correlation. See the end of section 6 for more discussion.

Before drawing a firm conclusion from these facts, there is one more angle to be covered. How does the PP end up in its surface position in examples like (8a), (9a), and (10a)? There are at first sight two distinct processes that could be held responsible. These are Verb Projection Raising (cf. Haegeman and Van Riemsdijk (1986)) and PP-Extrapolation. The former process, as discussed above, is responsible for the possibility in some of the Germanic OV-languages of deviating from the strict XP* – V* pattern and interspersing one or more of the XPs in the verb cluster. PP-extrapolation is the process that extraposes PPs (and CPs) all the way across the verbal cluster to the right edge of the clause. But the observed right-edge directional phenomena cannot be attributed to PP-extrapolation. It is a general fact, true in all Germanic OV-languages, that directional PPs, that is, the predicates of directional small clauses, cannot be extraposed. This is illustrated for Dutch and German in the examples (11) and (12). And as far as Swiss German is concerned, right-edge directionals are only tolerated in the construction involving modals, not with overt motion verbs, as shown in the following examples.

- (13) a.* *De Hans isch scho ggange häi* *Swiss German*
 the Hans is already gone home
 Hans has already gone home
- b. *De Hans isch scho häi ggange*
- (14) a.* *Du chasch nonig faare abe*
 you can not-yet drive down
 You cannot drive down yet
- b. *Du chasch nonig abe faare*
- (15) a.* . . . *das si äntli gaat i d schuel*
 that she at-last goes in the school
 . . . that she goes to school at last
- b. . . . *das si äntli i d schuel gaat*

These examples show quite clearly that the problematic modal construction found in (8a–10a) cannot be an instance of extrapolation. Instead these examples pattern with the Verb Projection Raising construction, in apparent violation of the condition (6) on Verb Projection Raising clusters since it appears as if the directional PP is directly dependent on the modal verb despite the fact that the PP follows the modal. It appears, then, that we have a paradox. According to well-established descriptive principles of

Continental West Germanic, to which Swiss German adheres, the PPs in (8a–10a) cannot be part of the verb cluster nor can they be extraposed.

3. A solution

The problem created by the Swiss German examples in (8a–10a) can be quite easily solved if we assume that the directional PPs are not directly dependent on the modal verb but that there is an invisible verb of motion, call it GO, which mediates between the two. This is what J. Hoekstra (1997) proposes. Such a solution can be constructed essentially along two lines:

- PF-deletion of *gaa*;
- empty motion verb GAA (\approx GO) in lexicon.

The PF-deletion variant has been proposed, without much argument, in Vanden Wyngaerd (1994). Barbiers (1995) argues against this proposal. I will discuss Barbiers' arguments in section 5. There I will argue that the second alternative is by and large immune to his counterarguments. Hence this is the solution I will adopt here.¹⁰

The Swiss German infinitival form of the verb *to go* is *gaa*. Accordingly, since particular languages must be distinguished even when lexical items have no phonetic content, I will use GAA to refer to the phonetically empty motion verb in Swiss German.¹¹ For convenience, I will further assume that the semantics of GAA is, essentially, [+DIR(ECTIONAL)]. Syntactically, of course, GAA is a verb. In addition, GAA has a number of specific properties. For our purposes, the most important of these is that GAA typically cooccurs with modal verbs and nothing else.¹² This formulation is deliberately vague. In common generative parlance, we

¹⁰ It is not entirely clear what J. Hoekstra's position is. He talks about 'elliptic' verbs, but this term may be applicable to both alternatives.

¹¹ In equal fashion, I will use GAAN for Dutch and the capitalized equivalents of 'go' in the other languages under discussion. I am doing this to make explicit the fact that I am not assuming that there is a single empty verb of motion for all these languages. The empty motion verbs in these languages is like normal lexical items in that they can have idiosyncratic conditions of use, collocations, etc. This is a consequence of the considerations presented in section 5.

¹² J. Hoekstra (1997) points out that Frisian can use an empty motion verb in all kinds of infinitival complements. See footnote 43 below for more details. Since this option is apparently not found in the other Germanic OV-languages, it will be left out of the discussion in the present context.

would probably have to say that the modal can select or subcategorize GAA. Thereby lexical selectional properties are attributed to function words that it is not clear they have.¹³ Instead, as I will argue below in section 7, there is a specific licensing relation between the modal and the empty verb.¹⁴

Let us, accordingly, define the following (simplified) lexical entry for GAA.

$$(16) \quad \text{GAA} = \left[\begin{array}{ll} \text{phonetic form:} & [\emptyset] \\ \text{categorial status:} & [+V, -N] \\ \text{semantic content:} & [+DIR] \\ \text{licensing condition:} & \text{requires M} \end{array} \right]$$

On these assumptions, and making full use of the Verb Projection Raising option, in which dependents can enter into the verb cluster immediately to the left of the verb that they depend on, we now have the following analysis for the problematic examples in (8–10). The arrow symbolizes the selectional dependency of the directional PP on GAA, a selectional dependency in conformity with template (6).

- (17) a. . . . wil mer hettet söle häi \Leftarrow GAA (cf. (8a))
 b. . . . wo-n-er hät müese-n-abe \Leftarrow GAA (cf. (9a))
 c. . . . das si nöme hät wele i d schuel \Leftarrow GAA (cf. (10a))

In this way, we no longer have to conclude that the PP is extraposed. The paradox disappears.

¹³ See Van Riemsdijk (1998b) and Huijbregts and Van Riemsdijk (2001) for extensive discussion of my views on this matter.

¹⁴ I have shown in the text (examples (13) and (14)) that lexical verbs do not license GAA. But what about other auxiliaries? As in other Germanic languages, it is possible to use directionals with a past auxiliary, leaving the participle of the verb of motion (GGANGE) unexpressed, as in *si isch häi* ('she is home' = 'she has gone home'). In such cases, obviously, it is the participle that remains empty. While it would be tempting to combine this case with those discussed in the text, it is not clear that this is possible. In particular, the right edge directionals found with GAA are impossible with the past auxiliary: *das si cha häi* 'that she can home' alongside *das si häi cha* vs. **das si isch häi* ('that she is (gone) home') alongside *das si häi isch*. Further complications arise from the fact that while other Germanic OV-languages also have this construction, the meanings differ. This becomes evident when a time adverbial is added: *si isch i d stadt* 'she went to town' and *wänn isch si i d stadt* 'when did she go to town?' vs. Dutch *zij is de stad in* 'she has gone to town' vs. **wanneer is zij de stad in?* I have therefore decided to leave these cases out of consideration here.

4. An argument from verb doubling in Swiss German

Now that we have a solution for the paradox, let us ask ourselves if there is any evidence to support that solution. It turns out that the phenomenon of verb doubling yields considerable support for the presence of a phonetically empty verb of motion.

In addition to the two commonly found types of infinitival complements in Germanic languages, viz. bare infinitivals and infinitives introduced by a prepositional marker corresponding to English *to*, Swiss German has a third type generally referred to by the name of Verb Doubling. In Verb Doubling constructions, infinitives are introduced by a phonologically reduced copy of that same verb, and sometimes there is even a second, phonologically even more reduced, copy.¹⁵ In analogy with the term ‘prepositional infinitive marker’ I will call this the ‘verbal infinitive marker’ (henceforth VIM) without prejudice to the exact syntactic status of these elements. The table in (18) shows that this copying option is used obligatorily with the verbs meaning ‘go’ and ‘come’ while it alternates with the bare infinitive under the verbs meaning ‘let’ and ‘begin’.

¹⁵ For discussion of this construction, see Christ-Schaengold (1999), Lötscher (1993), Schmidt (2000), Schönenberger and Penner (1995a, 1995b). It should be noted that there is some variation among dialects and speakers. Personally, I do both doubling and tripling with *gaa* and *choo* fully productively, I find doubling with *laa* perfectly OK and might perhaps use it occasionally, and I find doubling with *aafaa* awkward and would never use a doubled form myself though I recognize it as occurring in other speakers.

The second copy, *gə*, should not be confused with the participial prefix *gə-* found in German. The most straightforward reason to keep the two separate is that the participial prefix in Swiss German is actually *g-* without a vowel. This morpheme assimilates with the stem it attaches to whenever it can. The participle of *chochə* is *g+chochət* which is pronounced with an affricate: [kxoxət], whereas the tripled variant of (19a) is sharply impossible with schwa-drop and assimilation: **si gaat de zmittag go* [kxoxə]. Furthermore, the participial prefix *g-* attaches to the stem, inside separable prefixes, while the reduced VIM always precedes separable prefixes: *uuf+g+gεε* (‘up+Pref+give’ = ‘given up’, pronounced [uufkεε]) vs. *go gə uuf+gεε*.

From here on, for the sake of simplicity, I will use the letter ‘e’ instead of schwa (*ge* instead of *gə*) for the fully reduced tripled form, as I have been doing in the Swiss German examples more generally. More generally, the transliterations of the dialect examples is impressionistic. There are no official spelling conventions and there is considerable cross-dialect variation. Umlauts stand for fronted vowels throughout, double vowels are used for long vowels, and occasionally some phonetic symbols are used. The extensive use of diacritics has been avoided, however.

(18)	<i>V</i>	<i>gloss</i>	<i>V with doubled Inf-Marker</i>	<i>V with tripled Inf-Marker</i>	<i>obl./opt. and dialect var. (%)</i>
a.	<i>gaa</i>	<i>go</i>	<i>gaa go</i>	<i>gaa go gə</i>	the use of the VIM
b.	<i>choo</i>	<i>come</i>	<i>choo cho</i>	<i>choo cho gə</i>	is obligatory
b'.	<i>choo</i>	<i>come</i>	<i>choo go</i>	<i>choo go gə</i>	
c.	<i>laa</i>	<i>let</i>	<i>laa la</i>	–	alternates with bare inf. / %
d.	<i>aafaa</i>	<i>begin</i>	<i>aafaa afe</i>	–	alternates with bare inf. / %

These five cases can be illustrated by means of the following examples.

- (19) a. *Si gaat de zmittag go (ge) choche*
she goes the lunch VIM (vim) cook
 She is going to cook lunch
- b. *Si chunt de zmittag cho (ge) choche*
she comes the lunch VIM (vim) cook
 She is coming to cook lunch
- b' *Si chunt de zmittag go (ge) choche*
 <idem>
- c. *Si laat de zmittag la aabräne*
she lets the lunch (VIM) burn
 She is letting the lunch burn
- d. *Si faat de zmittag afe choche*¹⁶
she begins the lunch (VIM) cook
 She is beginning to cook lunch

Let us now consider a number of properties of this construction. Note first that the use of the VIM is indeed obligatory with *gaa* and *choo*.¹⁷

¹⁶ Note that there is a further peculiarity connected with *aa+faa* in that the separable prefix *aa* seems to disappear in the copy construction.

¹⁷ A reviewer asks why the copying is obligatory. I cannot answer this. I would put the question slightly differently, however: why is the use of the VIM obligatory. This type of question is on a par with the question why certain infinitival complements have to be bare while others obligatorily use the prepositional infinitive marker *to/zu/te/*. Note that two orders are possible in the examples in (20). Personally, I prefer the non-primed version, but there is some inter-speaker variation here. As far as I am aware this fact has no bearing on the argument.

- (20) a. . . . das si de zmittag gaat *(go) choche
that she the lunch goes VIM cook
 that she goes cook lunch
- a'. . . . das si de zmittag *(go) choche gaat
- b. . . . das si de zmittag chunt *(cho/go) choche
that she the lunch comes VIM cook
 that she is coming to cook lunch
- b'. . . . das si de zmittag *(cho/go) choche chunt

Note second that the reduced form of the verb cannot be used independently in infinitivals.¹⁸

- (21) a.*Si wil häi go
she wants home VIM
 She wants to go home
- b. Si wil häi gaa
- (22) a.*Häi (z) go wεεr en fεeler
home (to) VIM would-be a mistake
 To go home would be a mistake
- b. Häi (z) gaa wεεr en fεeler

Observe furthermore that these VIMs cannot occur with other verbs in a Verb Projection Raising cluster. As the following example shows, verbs like *ksee* or *versueche* can only be construed with bare infinitives and the standard infinitive marker *z* ([ts], the Swiss German variant of German *zu*), respectively, even though the examples in question would be perfectly compatible with a semantic component of going.

¹⁸ Interestingly, it is possible to use the reduced form of the VIM with independent infinitival constructions of the type given in (22), as is shown in (i).

- (i) Jetzt go tschuute wεεr ən fεeler
now VIM/go play-soccer would-be a mistake
 To go play soccer now would be a mistake

This probably means that there is an empty GAA here as well, suggesting that its licensing by a modal verb must be extended to a number of other non-finite contexts, cf. also footnote 43 below.

- (23) a. Mer händ en ksee (*go) abfaare
we have him seen VIM drive-away
 We have seen him drive away
- b. Mer händ en versuecht ab z hole / *go abhole
we have him tried up to pick / VIM up-pick
 We tried to (go) pick him up

All of these observations strongly suggest that the VIM is indeed a copy of the governing verb, as has been assumed by all those who have worked on the topic (cf. note 15). The only fact that might be thought to be problematic here is the availability of both *go* and *cho* with *choo*, that is, the b- and b'-variants of (18)/(19). The choice between the two variants is not semantically neutral. Consider the following two examples.

- (24) a. Chunsch cho ässe?
come-you VIM eat
 Are you coming (**to** me/us) for dinner?
- b. Chunsch go tschuute?
come-you VIM soccer-play
 Are you coming (**with** me/us) to play soccer?

(24a) is used in a situation in which I am asking someone who is now elsewhere whether he is coming to where I am for dinner. (24b), on the other hand, is used when the speaker addresses the hearer directly, asking him whether he will join me to go somewhere else to play soccer: 'are you coming with me to go play soccer?' The reduced infinitive marker thus retains some of its semantic force. In this sense, the case in (18b') and the corresponding example in (24b) might not be an instance of true copying. This invites a question. Why can't the verb *gaa* 'go' be used inversely with the infinitive marker *cho*? The answer must be that that is a situation that cannot arise for pragmatic reasons: it makes no sense to ask someone whether he is going somewhere to come do something. Even when two separate motions are involved (which is not the case in (24b)), it is awkward to say something like 'are you going there to come home?' even though we might force ourselves to give this some interpretation. An itinerary from the point of origin via some intermediate place to the speaker is most adequately expressed as 'coming', despite the detour. Another way of expressing this is to say that 'come' and 'go' are two sides of the same coin but that 'go' is the default value. The fact that the two alternatives disappear in the third element in tripling, where *cho* is followed by *ge*, supports this view.

One way to state this is to say that underlyingly ‘come’ and ‘go’ differ only in one single feature, say $[\pm\text{proximal}]$, where the plus value signifies motion toward and the minus value motion away. We then have the following lexical specifications:

$$(25) \quad \begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} \Rightarrow \text{gaa}(\text{SwG}), \text{go}(\text{E}) \quad \begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} \Rightarrow \text{choo}(\text{SwG}), \text{come}(\text{E})$$

Taking this as a point of departure, we may say that the copying process only affects the feature $[\pm\text{proximal}]$ optionally. Let us call the two options the Full Copy Option (FCO) and the Default Copy Option (DCO) respectively. This yields the following four situations:

(26) a. FCO: $\text{choo} \Rightarrow \text{choo cho}$

$$\begin{bmatrix} \text{GO} \\ +\text{proximal} \end{bmatrix} \rightarrow \begin{bmatrix} \text{GO} \\ +\text{proximal} \end{bmatrix} - \begin{bmatrix} \text{GO (red.)} \\ +\text{proximal} \end{bmatrix}$$

b. FCO: $\text{gaa} \Rightarrow \text{gaa go}$

$$\begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} \rightarrow \begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} - \begin{bmatrix} \text{GO (red.)} \\ -\text{proximal} \end{bmatrix}$$

c. DCO: $\text{choo} \Rightarrow \text{choo go}$

$$\begin{bmatrix} \text{GO} \\ +\text{proximal} \end{bmatrix} \rightarrow \begin{bmatrix} \text{GO} \\ +\text{proximal} \end{bmatrix} - \begin{bmatrix} \text{GO (red.)} \\ u\text{proximal} \end{bmatrix}$$

d. DCO: $\text{gaa} \Rightarrow \text{gaa go}$

$$\begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} \rightarrow \begin{bmatrix} \text{GO} \\ -\text{proximal} \end{bmatrix} - \begin{bmatrix} \text{GO (red.)} \\ u\text{proximal} \end{bmatrix}$$

This schema shows that, due to the default option of the feature $[\pm\text{proximal}]$ ($[u\text{proximal}] \Rightarrow [-\text{proximal}]$), the results of copying are the same in (26b) and (26d) while the impossible pattern **gaa cho* cannot be derived because it would involve the non-copying process $[-\text{proximal}] \Rightarrow [+proximal]$.¹⁹

¹⁹ Susi Wurmbrand (p.c.) suggests that this schema can be further reduced by assuming that proximality is a unary feature: present or absent. Combined with my proposal that copying is full or partial, this would reduce the b- and the d-case to a single one:

- (a) $[\text{GO}, \text{PROX}] \Rightarrow [\text{GO}, \text{PROX}]$ (*choo cho*)
- (b) $[\text{GO}, \text{PROX}] \Rightarrow [\text{GO}]$ (*choo go*)
- (c) $[\text{GO}] \Rightarrow [\text{GO}]$ (*gaa go*)

I will not pursue this possibility here because it invites rather complicated discussions about underspecification and the status of unary features in general. In any case, the technicalities are immaterial to the general point made in the text.

Note, finally, that, as mentioned above, the form of the third element in the tripling variant shown in (18) is always the default form, presumably since no further semantic differentiation between *choo cho* and *choo go* is ever necessary or even imaginable. Taking these considerations together, we can safely maintain the claim that the occurrence of the non-canonical infinitival markers with the four verbs listed in (18) is truly a process of copying.

With this much by way of background about the Verb Doubling Construction in Swiss German, let us now turn to its relevance for the issue of empty light motion verbs. There is one conspicuous deviation from the observed copying pattern: VIMs do occur with infinitival complements to modal verbs, apparently without the higher motion verb that they are supposed to be a copy of.

- (27) a. . . . wän i mues go poschte
 when I must VIM shop
 . . . when I have to go shopping
- b. . . . wil si es chääschüechli wänd go ässe
 because they a cheese-pastry want VIM eat
 . . . because they want to go eat a cheese pastry
- c. . . . das er gschnäl hät müese go bisle
 that he briefly has had-to VIM pee
 . . . that he briefly had to go pee

Observe, first, that the VIMs in these examples are phonologically reduced, as in the true copying cases discussed above. That is, the following phonologically unreduced variants are ungrammatical unless the reduced copy is also present as a VIM.²⁰

- (28) a. . . . wän i mues gaa *(go) poschte
 b. . . . wil si es chääschüechli wänd gaa *(go) ässe
 c. . . . das er gschnäl hät müese gaa *(go) bisle

²⁰ It should be noted that two orders of motion verb and complement verb occur in Swiss German:

- (i) a. . . . wän i mues gaa go poschte
 b. . . . wän i mues go poschte gaa

There is some variation among speakers concerning which variant is preferred. I take this issue to be irrelevant to the discussion presented in the text, however.

The reason for this is, simply, that the verb *gaa* cannot take a bare infinitive as its complement.

A further significant fact is that it is possible to use *cho* instead of *go* when this is semantically plausible:

- (29) . . . wil si sött cho ässe
because she should VIM eat
 . . . because she should come eat

Observe, finally, that tripling is also perfectly possible in all these cases.

- (30) a. . . . wän i mues go ge poschte
 b. . . . wil si es chääschüechli wänd go ge ässe
 c. . . . das er gschnäl hät müese go ge bisle
 d. . . . wil si sött cho ge ässe

The pattern we observe can be summarized as in (31)

- (31) M + (gaa) + $\left\{ \begin{array}{l} \text{g}^{\text{O}} \\ \text{cho} \end{array} \right\}$ + (ge)

The real problem with the M+VIM construction is, then, that we ostensibly lose the generalization that VIMs are copies. However, if we assume that there is an empty light motion verb GO involved in these constructions, the generalization stands with full force. In other words, we can straightforwardly account for the examples in (27) if we assume that they have GAA instead of *gaa*.²¹

- (32) a. . . . wän i mues GAA go (ge) poschte
 b. . . . wil si es chääschüechli wänd GAA go (ge) ässe
 c. . . . das er gschnäl hät müese GAA go (ge) bisle
 d. . . . wil si sött CHOO cho/go (ge) ässe

There is a question lurking behind this assumption: why should the copy of GAA, which is phonetically empty, be *go* rather than zero? And to the extent that we assume that the copy of GAA does have phonetic content in the first place, why should it be *go* rather than any arbitrary string of phonemes? My assumption, in conformity with the conclusions to be reached in the present article, is this. Suppose that the VIM were an empty element. We would then expect its licenser to be visible. This is so, quite

²¹ Here I am using GAA and CHOO as abbreviations for the Swiss German variants of

$\left[\begin{array}{c} \text{GO} \\ \text{-proximal} \\ \text{e} \end{array} \right]$ and $\left[\begin{array}{c} \text{GO} \\ \text{+proximal} \\ \text{e} \end{array} \right]$, respectively.

simply put, because it does not make sense for a flag to signal the presence of something invisible if that flag is invisible itself. This means, in turn, that the VIM of the phonetically empty GAA must be visible, that is, it must have phonetic content. But what will its phonetic shape be? Here I will assume that the closest analogue must be found, that is, the element, which shares the most features with the phonetically empty verb, which is *gaa*. Of course, in synchronic grammar these elements are fully grammaticalized anyway, so we are not really talking about a productive process in the grammar.²²

Taken together, the considerations presented thus far constitute solid evidence for the correctness of the assumption of an empty light verb GAA in Swiss German.

5. Arguments against empty verbs

5.1. *Some general considerations*

At this point, it seems safe to conclude that empty verbs exist and hence that any theory of Universal Grammar that rules them out is seriously flawed. To most scholars of Germanic, the issue may have seemed quite controversial, at least until now, but in a wider perspective this is a matter that most linguists would consider settled anyway. To mention just one example, Inkelas (1993, pp. 610ff) presents powerful arguments for the existence of zero verb roots in the Papuan language Nimboran. These zero roots include typically grammatical verbs such as ‘be’ and ‘become’, but they are by no means limited to grammatical verbs since roots meaning ‘dream’, ‘kiss’, ‘laugh’, etc. also have a zero root. Nimboran has very rich morphology and makes extensive use of verbal particles, which we may take to serve as licensers of the empty root.

Before turning to a discussion of some more general questions regarding empty (light) verbs, we must nevertheless address a set of arguments against the type of analysis proposed here. By way of background, it should be noted that an analysis with an empty verb is by no means new. While traditional grammar tends to be either silent or vague about these issues, a certain variety of positions can be discerned, though with some difficulty. Paardekooper (1986, pp. 249–251), while in general quite fond of

²² This is also the reason why I do not think that the VIM could be the spell-out of an intermediate trace of moved verbs, as suggested to me by Günther Grewendorf (p.c.). In addition, it is also far from obvious where the governing verb should be moving from, where it is going, and why it should move in the first place.

null elements for a structuralist, does not posit any null verbs to account for the fact that modal verbs can be directly construed with directional PPs without the intervention of some other verb. Haeseryn et al. (1997, pp. 1004–1007) explicitly discusses the conditions under which some additional infinitive can and cannot be present in these constructions, however without explicitly positing the presence of some null verb to account for cases of this sort.

In the generative literature, we find the same spectrum.²³ Vanden Wyngaerd (1994, pp. 65–68) proposes that there is a verb present underlyingly in all cases where a modal verb apparently takes a non-verbal complement. More specifically, he suggests that these verbs are present but are deleted at PF.²⁴ For present purposes, we can discount the case where the complement is a DP and the null verb, correspondingly, is HAVE. In the other cases, essentially resultative adjectives and directional PPs, a verb akin to *go* is posited. The main advantage of this type of approach is that it makes a uniform analysis of modal verbs possible. That is, it avoids positing a dual analysis of modals with an auxiliary variant and a main verb variant.

5.2. *Barbiers' arguments*

Barbiers (1995, section 5.2) takes issue with Vanden Wyngaerd's approach. He gives four arguments, based on Dutch, that militate against the presence of a deleted verb. If these arguments are at all valid and, furthermore, if they apply to Swiss German as well, our analysis in terms of GAA faces serious problems. I will therefore summarize and discuss these arguments in some detail here and address them in the order in which they are presented in Barbiers' work.²⁵

²³ For a recent extensive discussion of German modal verbs, see Reis (2001). Reis' conclusion is that modals do not constitute a separate category as distinct from V. It is not clear to me that her arguments would apply to an approach like mine in which modal verbs are auxiliaries or semi-lexical verbs of the category [+V,–N] but part of the same (extended) projection as the lexical verb, cf. Corver and Van Riemsdijk (2001), Van Riemsdijk (1998b).

²⁴ This is also the analysis that Barbiers' (1995) counterarguments are more specifically addressed to. In Robbers (1998, p. 93) the alternative in terms of a phonetically empty verb is suggested as an alternative, an idea that she credits Hans Bennis with. That is, indeed, the approach adopted in section 3 above and the one I will develop in more detail below.

²⁵ Actually, the arguments listed here as A. and C. are very similar in type to the arguments I gave in my dissertation (Van Riemsdijk (1978, pp. 66ff)) to argue that there was no missing verb in absolute *met* (*with*) constructions in Dutch: *with John (being) in the hospital*. The objections I have against Barbiers' line of argumentation apply to those arguments as well. It should be mentioned that Barbiers presents five arguments, not just four. However, the fifth argument concerns the extraposition data that have been discussed extensively in section 2.

A. *What exactly is missing?*

The most straightforward way to establish the nature of the supposedly missing verb is to go by the closest paraphrase. But, as Barbiers (1994, (14)–(16)) argues, this method very quickly gets us into trouble. Consider first the examples in (33). The most plausible verbs here are *gaan* ‘go’ or *zijn* ‘be’.

- (33) a. Deze lampen moeten uit (#gaan / #zijn)
these lights must out (go/be)

These lights must be switched off

- b. Die boeken mogen weg (#gaan / #zijn)
those books may away (go/be)

Those books can be thrown away

Neither paraphrase is fully adequate, however. With *gaan* the real meaning would be that the lamps go out by themselves and that the books go away by themselves, contrary to the real meaning of the verbless construction. Similarly, the variant with *zijn* misses the change-of-state aspect. The closest paraphrase, in fact, is one that uses a complex verbal expression, as shown in (34).

- (34) a. Deze lampen moeten uit **worden gedaan**
these lamps must out be done

These lamps must be switched off

- b. Die boeken moeten weg **worden gedaan**
those books must away be done

Those books must be thrown away

The passive paraphrase correctly captures the fact that there is an implied agent in (33). But if we assume that the PF-deletion process applies to *worden gedaan* in these examples, we face trouble from yet another direction. For as is shown in (35) and (36) the overt agent phrase, which is perfectly acceptable in the non-deleted variant, leads to ungrammaticality when the verbal complex is deleted.

- (35) a. Deze lampen moeten door jou (‘by you’) uit worden gedaan
 b.*Deze lampen moeten door jou uit

- (36) a. Die boeken mogen door niemand (‘by nobody’) weg worden
 gedaan
 b.*Die boeken mogen door niemand weg

On the face of it, this is a good argument. But I feel that Barbiers overstates his case. What may be at stake is a pragmatic inference. Since lamps and books are inherently unagentive, it is quite clear that if we say that the lamps must change into a state of being out, some external agent must be responsible. Similarly for the books. Furthermore, if we say something like

- (37) Deze boeken gaan d'r uit
these books go there out
 These books will be discontinued

we mean that these books will not be for sale anymore. While some agent might be involved here, it is the agent taking the decision to discontinue the books, not any agent removing any books. In fact, there is no implication that any books have to be removed at all.

At a more principled level, Barbiers' argument rests quite heavily on one presupposition. If we assume PF-deletion, then there must be a source. And the simplest way to identify such a source is to go by the closest paraphrase. Yet, there really is nothing to stop us from positing some abstract source which has all the right properties: it is not passive, hence it will not tolerate a passive by-phrase, it implies a change-of-state, and it pragmatically implies the involvement of some external agent. Of course, you might say that by positing some abstract verb-to-be-deleted we increase the lexicon. But then, what are a few, or even a few dozen, additional lexical entries on a total of several thousands of them? Furthermore, you might also object that Ockham's razor is heavily taxed if we adopt this method. True, but I wish to suggest that we can go one step further. Indeed, why posit PF-deletion in the first place? Why not assume that the lexicon may contain a number of grammatical formatives that happen to lack phonetic content. This is essentially the same move as the shift from 'Deletion in COMP' (cf. Chomsky and Lasnik (1977)) to 'Empty Operators' (cf. Chomsky (1982)). Indeed, the simplified lexical entry shown in (16) already anticipates this. My point here is that there is nothing to prevent us from attributing a variety of syntactic and semantic properties to such an empty light verb. After all, while phonetically non-null light verbs are semantically bleached, they nevertheless have to be specified for the constructions that they can and cannot occur in. My Webster's dictionary, for example, lists 55 ways in which *take* (transitive) can be used and 35 for *go* (intransitive). Most of these would qualify as 'light' or at least semantically bleached to a certain extent. It is hardly surprising, then, that Dutch has an empty light verb GAAN that has precisely the proper-

ties listed by Barbiers which differentiate it from *gaan*, *zijn*, *worden* *gedaan*, etc.

B. *There is no plausible source*

A second, closely related, argument comes from a number of expressions in which an even remotely plausible source simply cannot be found. Consider (38).

- (38) Jan kan zijn werk niet aan
Jan can his work not on
 Jan cannot cope with his work

Any attempt to insert some verb here fails. But again, from the perspective of empty light verbs just outlined this is not surprising. That is, we should not be surprised that, say, *gaan* cannot be used in this context but that GAAN can.²⁶

- (39) a. *Jan kan zijn werk niet aan gaan
 b. Jan kan zijn werk niet aan GAAN (~~∇~~ *aangaan* in this meaning)

C. *Gaan cannot be deleted*

On the assumption that the source for the deletion process is *gaan*, we encounter quite a number of cases in which deletion is apparently blocked. Barbiers (1995, (18)) lists the following examples.

- (40) a. Deze maatregel moet vandaag in *(gaan)
this measure must today in go
 This measure must take effect today
 b. Jan wil de vervuiling tegen *(gaan)
Jan wants the pollution against go
 Jan wants to fight pollution

Again, from a deletion perspective this argument is well taken. But from the perspective of an empty light verb GAAN with its own lexical specifications, all we have to say is that *in-GAAN* and *tegen-GAAN* do not exist while *in-gaan* and *tegen-gaan* do.²⁷

²⁶ Indeed, as Joe Emonds (p.c.) points out, idioms are often characterized by a very specific choice of the grammatical formatives that occur in them, e.g., *head [for/*to] the hills*, *take [a/*one/*some] powder*, etc.

²⁷ The verbs involved in the text examples are particle verbs. This invites the speculation that we might be able to account for these facts by means of a general principle rather than by way

D. *Meaning differences*

The fourth argument that Barbiers presents concerns some rather subtle differences in interpretation ranges. His example (Barbiers (1995, (19))) is based on the behavior of the modal verb *mogen* ‘may’. When used as a ‘true modal,’ that is with another verb like *gaan*, *mogen* can be three ways ambiguous, as shown in (41a).

- (41) a. Jan mag (dan) weg gaan (, hij zal ooit terugkeren)
Jan may then away go, he will ever return
- $\left. \begin{array}{l} \text{(i) John has permission to leave} \\ \text{(ii) It is permissible that John leaves} \\ \text{(iii) It may be true that John is leaving, but one day he will return} \end{array} \right\}$

of lexical stipulation. On the assumption that the particle is adjoined to its host verb, we could say that adjunction to a deleted or empty verb is excluded as a matter of principle. A principle of this kind was proposed, for example, in Fiengo (1980, pp. 97ff) under the name ‘Affix Principle’. Observe first, however, that the particle need not be incorporated. That is, it need not be adjoined to the motion verb in question. The embedded version of the two text examples shows this:

- (i) . . . dat deze maatregel vandaag moet in *(gaan)
 (i') . . . dat deze maatregel vandaag in moet *(gaan)
 (ii) . . . dat Jan de vervuiling wil tegen *(gaan)
 (ii') . . . dat Jan de vervuiling tegen wil *(gaan)

Also, the analysis of zero roots in Nimboran by Inkelas (1993) cited above shows that empty verb roots do combine with particles. Finally, many syntacticians appear to accept adjunction to empty heads as a matter of course. To take just one example, note that my analysis in terms of phonetically empty light verbs recalls Kayne’s (1992, 2000) analysis of optional clitic climbing in imperatives as found in certain varieties of Italian. The two variants are as shown in (iii).

- (iii) a. Non far-lo!
not do-it
 Don’t do it!
- b. Non lo fare!

The general rule in Italian is that clitics precede finite verb forms but follow infinitives. (iii)b) apparently deviates from this rule. Kayne assumes that the order in (iii)b) is actually due to an empty modal to which the clitic attaches:

- (iv) Non lo-M fare!

Unlike Barbiers (1995), Kayne (rightly) does not attempt to identify this empty modal with some existing overt modal.

One might say, of course, that GAAN must be licensed by M and that the particle prevents licensing because it induces a locality violation, unlike Nimboran, where the particles themselves are the licensors. But the main fact of the matter is that verb-particle combinations are lexically determined: *gaan* combines with certain particles but not others, yielding specific meanings, and GAAN combines with others, yielding other specific meanings.

- b. Jan mag (dan) weg (, hij zal ooit terugkeren)
 (i) and (ii) = OK, but (iii) = *

As (41b) shows, however, the reduced form (without *gaan*), only has two of these three meanings. More generally, and perhaps simplifying somewhat, modal verbs with non-verbal complements lack the epistemic interpretation.

Since I am now committed to the view that there is an empty light motion verb involved in the constructions under discussion, this is indeed potentially problematic. Minimally, of course, I can say that there is no principled reason why this difference could not be ascribed to the lexical properties listed in the entry for GAAN. But in this case it would appear that we are talking about a quite general property that we would like to have a general account for, independent of individual lexical entries. While I do not have such a general account, I do object to the view that the presence vs. absence of a verb in the complement of the modal is the decisive factor. There is, in fact, one modal verb in Dutch that does yield an epistemic reading with a non-verbal complement: *zou*, which most readily translates as ‘were supposed to’.²⁸

- (42) a. Jij zou toch naar Antwerpen?
you should prt. to Antwerp
 Weren’t you supposed to have gone to Antwerp?
- b. Zou hij niet de boer op met zijn waar?
should he not the farmer onto with his goods
 Wasn’t he supposed to have gone out peddling his goods?

I conclude from such facts that the factors determining whether an epistemic reading is available are independent of the presence vs. absence of a verb. Undoubtedly there are deeper semantic principles involved here. J. Hoekstra (1997, p. 143), who also argues against Barbiers’ position, proposes that “V-ellipsis of bare infinitives is only possible in root modal complements, since these are the only complements in which I contains a positive I-feature ([+Irrealis])”. Pursuing this issue would go beyond the confines of the present article, however, but the idea is definitely worthy of future research.²⁹

²⁸ Thanks to Casper de Groot for pointing this fact out to me.

²⁹ Counterfactuality is also a central element in the account of missing auxiliaries in Scandinavian presented in Julien (2000, this volume).

Clearly, much more research is needed to sort out the conditions under which (apparent) epistemic readings appear and disappear, cf. von Stechow and Iatridou (to appear). See also Abraham (2001) and Drubig (2001) for more discussion.

In summary, let me repeat that Barbiers' arguments were directed towards the PF-deletion proposal in Vanden Wyngaerd (1994). The discussion above shows that they do not apply to the empty-verb-in-lexicon hypothesis. GAAN may simply have its own set of lexical properties. In other words: GAAN \neq *gaan*.

5.3. *Barbiers' arguments applied to Swiss German*

What the considerations in the previous section show is that it is possible to posit an empty motion verb in Dutch. But that does not necessarily mean that we have to posit it. After all, we still have the difference between Dutch and Swiss German (the (im-)possibility of right edge directionals) to account for. That is, we might consider the possibility that Barbiers might have drawn (for the wrong reasons) the right conclusion for Dutch and that the difference between Swiss German and Dutch could be attributed to the presence vs. absence of the empty light motion verb. In other words, could it be the case that Swiss German has empty GAA but that Dutch has no empty verb and analyzes modals as lexical main verbs instead?

The answer must be negative, as will be shown below on the basis of several considerations. At this point we may simply note that Barbiers' observations do not differentiate between Dutch and Swiss German since they are straightforwardly reproducible for Swiss German. Since the existence of an empty light motion verb has been strongly demonstrated above, this corroborates my rejection of Barbiers' arguments.

Ad argument A. This argument carries over straightforwardly to Swiss German:

- (43) a. Die buecher mönd (vo öppertem) weg gheit werde
those books must (by someone) away thrown be
 Those books must be thrown away (by someone)
- b. Die buecher mönd (*vo öppertem) weg

Ad argument B. The relevant examples are not easy to find in Dutch. The same is true for Swiss German. But the following example pretty much qualifies.³⁰

³⁰ Thanks to Jürg Fleischer and Guido Seiler (p.c.) for confirming these facts.

- (44) a. Si händ nöme möge naa (*naa gaa)
they have no-longer may after
 They were no longer able to keep up (sc. with our speed)
- b. Mer händ em nöme möge naa (≠ naa gaa 'go
we have him no-longer may after after, follow')
 We were no longer able to keep up with him (sc. with his speed)

This construction is specifically tied to the modal verb *möge* which, in Swiss German, can be used to express physical ability. No plausible source can be found. *Naa-gaa* does not exist as a particle verb, and while *naa-choo* does exist, it essentially means 'understand,' 'grasp' in the figurative sense.

Ad argument C. Such cases are easy to construct for Swiss German.

- (45) a. D rächnig mues natüürli scho uuf *(gaa)
the calculation must of-course PRT up go
 The calculation has to come out right, of course
- b. Die chüe döörfed aber nöd ii *(gaa)
those cows may but not into go
 Those cows mustn't die

Ad argument D. There are cases in which the absence of the light verb is compatible with a deontic reading but not with an epistemic reading of the modal.

a = deontic b = epistemic

- (46) a. Dee wanderer chönti scho abe (choo) wän er de
that hiker could indeed down come if he the
 muet het
courage had
 That hiker could easily come down if he had the courage
- b. Die schneemasse chönti abe *(choo) wän s nomal
that snow-mass could down come if it again
 chunt cho schneie
comes VIM snow
 That mass of snow could come down if it starts snowing again

(46a) has been chosen to favor a deontic reading. This reading is readily available on both variants. (46b) on the other hand facilitates an epistemic reading. But this reading is only available if *choo* is present.

The situation in Swiss German, we may conclude, is not different from that found in Dutch. The reservations I have concerning the force of Barbiers' arguments apply with equal force to the Swiss German variants of the arguments.

5.4. *Two theories*

At this point, taking stock, we should ask what all of this means. In principle, we could adopt what might be called the strongest position, viz. that all languages subsumed under Continental West Germanic are like Swiss German and do have an empty light verb of motion. On such an account, modal verbs are always auxiliaries. Call this the **Uniform Theory**. Alternatively, we might nevertheless try to capitalize on the presence vs. absence of the empty light motion verb to account for the differences between Swiss German and Dutch. On this account modals are auxiliaries in some languages and main verbs in others. I will refer to this alternative as the **Mixed Theory**. While the latter theory might seem to offer an elegant way to account for the observed cross-linguistic differences, there are good reasons to pursue the former alternative.

In addition to these two, there is a third theory according to which modals are always main verbs. This is a uniform theory as well, but since I am arguing that modals are uniformly auxiliaries, the main verb theory will be disconfirmed by implication. See Heine (1993, p. 14) for a useful overview. Heine states that the Uniform Theory is the minority view and refers to Hudson (1976, p. 151) and Schachter (1983, p. 190) as exponents of this minority view. Many criteria have been invoked to argue for this or that theory. For example, the defective nature of the paradigms of the English auxiliaries (cf. Lightfoot (1979)) has been taken to be a definitional criterion by many linguists, leading to the view that the 'auxiliaries' of the other Germanic languages must be main verbs, erroneously, as I now argue. See Kenesei (2001) for an interesting discussion of a wide range of possible criteria that may have a bearing on the issue.

Consider the question of what the Mixed Theory has to offer in regard to the language acquisition problem.³¹ We may assume that evidence from right edge directionals is readily available to the Swiss German child. On

³¹ Thanks are due to Katharina Köhler for helping me clarify my thinking on this issue.

the other hand, we have seen that there is no obvious trigger for a choice among the two options in Dutch. From this we would have to conclude that the unmarked or default option is for the modal to be analyzed as a main verb while the marked option in which the modal is an auxiliary is only accessible when right-edge directional triggers are abundantly present. In view of the fact that the M-as-AUX analysis can handle all the facts that the M-as-Main-Verb analysis can account for plus the right-edge directional facts, it is clear that the M-as-AUX grammar constitutes the superset grammar while the M-as-Main-Verb grammar is the subset grammar.³² So, if the subset grammar is the unmarked option and the superset grammar the marked one, there are no problems from this point of view. There is, however, another important principle: the Uniqueness Principle.³³ This principle says that children prefer unique mappings between form and meaning. And from this perspective the Uniform Theory is definitely to be preferred over the Mixed Theory.

This, then, is a good reason to pursue the Uniform Theory. Needless to say, on this theory some other parameter must be found to distinguish Dutch and Swiss German. And this parameter will then have to be scrutinized from the perspective of acquisition as well. I will indeed return to this issue in sections 7 and 8. It will turn out, however, that there are also some cross-linguistic considerations that favor the choice of the Uniform Theory over the Mixed Theory. In order to pave the way for such an argument, let us first examine the relevant facts in a number of other Germanic OV-languages.

6. Now you see them – now you don't: empty light motion verbs in other Germanic OV-languages

All Germanic OV-languages have final V-clusters, but not all of them have Verb Projection Raising nor do all of them have the English/Dutch order of verbs inside the cluster.³⁴ This is important background that we have to keep in mind when examining these languages with respect to the phenomena under scrutiny. The main focus in this examination has to be on whether right edge directionals occur or not. This is so because the other

³² See Berwick (1985) and references cited there for an overview of Subset Theory.

³³ Cf. Berwick (1985), Roeper (1981), and Grimshaw (1981, p. 182, note 11) for discussion.

³⁴ For explanations and examples of the various notions invoked here (Verb Projection Raising, right edge directionals, etc.) the reader is referred back to section 2.

diagnostic, Verb Doubling, seems to be pretty much unique to Swiss German although, as we will see in subsection 6.7, it also occurs in West Flemish.

The argument based on right edge directionals in Swiss German requires (a) Verb Projection Raising, and (b) the Dutch (= English) order of verbs to go through:³⁵

- (47) a. . . . wil mer *hetted*₁ *söle*₂ **hää** GAA₃
 . . . *because we would've had-to home*
 . . . because we should've gone home
- b. . . . wo-n-er *hät*₁ *müese*₂-n-**abe** GAA₃
 . . . *when he PST must down*
 . . . when he had do come down
- c. . . . das si nöme *hät*₁ *wele*₂ **i d schuel** GAA₃
 . . . *that she no-longer has wanted in the school*
 . . . that she no longer wanted to go to school

6.1. Afrikaans

Afrikaans, as shown in detail in Robbers (1997, 1998), has the equivalent of the Swiss German examples in (8a), (9a), and (10a). The examples are cited from Robbers (1997, pp. 167–171).

- (48) a. As hulle weer wou dorp toe, . . .
if they again want village to
 If they again want to go to the village, . . .’ (R: (32a))
- b. Pa sal moet Eiland toe om haar te haal
dad will must Island to COMP her to get
 Dad will have to go to Island in order to get her (R: (32b))
- c. Ek sal moet terug
I will must back
 I will have to go back (R: (32d))

Afrikaans, like Swiss German, has overt Verb Projection Raising:

³⁵ In the examples in (47) the whole verb cluster is in italics, the Dutch/English order of the verbs is indicated by subscripts in the order 1-2-3-. . . , and the right edge directional is in bold face.

- (49) a. As hulle weer wil dorp toe gaan (cf. (48a)) (R: (45a))
 b. Pa sal moet Eiland toe gaan (cf. ((48b)) (R: (45b))

Right edge directionals as in (48) contrast with extraposed PPs. That is, right edge directionals are possible with modal verbs but not with others.

- (50) a. die drif waar ons môre moet deur (R: (42a))
the corridor where we tomorrow must through
 the corridor which we must (go) through tomorrow
- a'.* die drif waar ons môre ry deur (R: (42a'))
the corridor where we tomorrow drive through
 the corridor which we drive through tomorrow
- a''. die drif waar ons môre deur ry
- b. . . . waar ons die ruigte wil in (R: (42b))
 . . . *where we the underwood want in*
 . . . where we want (to go) into the underwood
- b'.* . . . waar ons die ruigte gaan in (R: (42a'))
where we the underwood go into
 where we go into the underwood
- b''. . . . waar ons die ruigte in gaan

For all intents and purposes, then, Afrikaans is like Swiss German. Positing an empty light motion verb GAAN in Afrikaans will explain all the facts without any violation of the Germanic OV Word Order Template (6).³⁶

³⁶ There is one intriguing and potentially problematic fact that Robbers cites.

- (i) a. As hulle weer dorp toe wil *(gaan) (cf. R: (38/39a))
 b. Pa sal eiland toe moet *(gaan) (cf. R: (38/39b))

Descriptively speaking, this means that the PP must always be left adjacent to the empty light motion verb GAAN. In terms of the contrast between Verb Raising and Verb Projection Raising (which Robbers rejects, incidentally), one way of expressing this would be to say that GAAN is too light to undergo Verb Raising by itself. If there is a possibility to avoid vacuous Verb Raising by applying Verb Projection Raising, the latter option must be chosen. While this sounds plausible enough, the question immediately arises as to why the same condition does not apply in Swiss German. I have no choice but to leave the matter open at this point.

6.2. *Alsatian*

Not too unexpectedly, Alsatian, which like Swiss German is Alemannic, also has Verb Projection Raising and right edge directionals. The data presented here are from the town of Kayserberg, and the examples are from Heitzler (1975).

- (51) ix had derfə le:re na:jə (H: p. 37)
I would've may learn sew

I would have been allowed to learn sewing

- (52) a. mr han mü:ə halfə dr gâ:rdə umšdaxə (H: pp. 39/40)
we have must help the garden dig-up

We had to help dig up the garden

b. mr han mü:ə dr gâ:rdə halfə umšdaxə

c. mr han mü:ə dr gâ:rdə umšdaxə halfə

- (53) a. dr jeŋšd hed mü:e ens glo:šdr (H: p. 66)
the youngest has must into-the monastery

The youngest had to enter the monastery

- b. mr han gråd velə ens bed (H: p. 70)
we have just wanted into-the bed

We just wanted to go to bed

6.3. *Luxemburgish*

We know that Verb Projection Raising³⁷ is found in Alemannic and in West Flemish. What do these two relatively distant variants of Germanic OV have in common? One rather obvious answer to this question is that both areas border on areas where French is spoken, and, furthermore, both areas are historically characterized by relatively intensive language contact between French on the one hand and Swiss German or West Flemish, respectively. From this perspective, it is natural to investigate the situation in the intermediate zone along the French language border. While no data are available for the other Flemish dialects (East Flemish, Limburgish)

³⁷ Recall that Verb Projection Raising presupposes (partial) Dutch/English order of the verbs in the verb cluster if it is to be visible. This means that in 'standard' German Verb Projection Raising can only be detected in the permissible 1-3-2 orders since the 'complete' Dutch/English order 1-2-3 is excluded in German.

nor for the Riparian area of German, Luxemburgish is well documented, fortunately. And, needless to say, French and German are in close contact there.³⁸ As Hoekstra (1997), citing data from Bruch (1973), points out, Luxemburgish has the Dutch/English order, as shown in (54), and it has Verb Projection Raising, as shown in (55).

- (54) . . . wann ech op dem Iesel hätt kënne reiden (B: p. 95)
 . . . *if I on the donkey had could ride*
 . . . if I could have ridden on the donkey
- (55) . . . dat kee brauch no him ze kucke (B: p. 94)
 . . . *that no-one needs after him to look*
 . . . that noone needs to look after him

That Luxemburgish also has right edge directionals is shown in the following examples.³⁹

- (56) a. mir lousen aus, wien als éischte muss (B: p. 100)
we draw lots who as first must
 op d' wuecht
on the guard
 We draw lots about who must take the first guard
- b. an der paus han ech missen op de pissoir (p. 160)
in the break have I must on the urinal
 During the break I had to go to the toilet

6.4. *Frisian*

Leaving the French language border now, let us briefly consider the situation in Frisian. Frisian has the German order of verbs and no Verb Projection Raising, hence we do not expect to find more evidence of the empty light motion verb from the occurrence of right edge directionals here. However, as J. Hoekstra points out, there is an interesting argument

³⁸ I am putting forward this suggestion as a heuristic. I do not mean to imply that there is a diachronic 'explanation' for the emergence of these patterns in sight. It might be said that the use of the Verb Projection Raising pattern makes a language look less OV-like and more VO-like, but this is a very impressionistic way of putting things. The language contact literature is notoriously poor in concrete proposals as to how surface likenesses or dissimilarities translate into formal systems of grammar.

³⁹ Since Bruch (1973) does not give any examples of this type, Hoekstra (1997, p. 26 (65)) cites these sentences from a book by Manderscheid (1991) *De Papagei um Käschtbam*, Editions Phi, Echternach.

for the empty light motion verb of a rather different type. This argument is based on certain properties of 19th century Frisian. It is based on what Hoekstra calls the *trijetiidwurdkonstruksjes*⁴⁰ ('three verb constructions'). The argument runs like this.

The regular modern order of verbs in a three verb cluster is as in (58a). This is the German order. But in 19th century Frisian, two alternative orders are also found, both also attested in various varieties of German.⁴¹ When the 'highest' verb in a cluster is *soe(ne)* (Dutch *zou*, 'would'), the cluster must comprise three verbs, an additional modal and the main verb. In short:

- (57) a. $\sqrt{V_3 - M_2 - soe(ne)}_1$ (alt. orders: 3 – 1 – 2 cf. (58b) and
 b. * $V/M - soe(ne)$ 1 – 3 – 2 cf. (58c))
- (58) a. dat er dat dwaan kinne soe (modern order)
that he that do can would (H: p. 21 (56))
 that he would be able to do that
- b. dat er dat dwaan soe kinne (19th century)
 c. dat er dat soe dwaan kinne (19th century)

There is one exception to the three-verb restriction (57). This is precisely when the modal verb takes an apparently non-verbal directional PP-complement. This is shown in the following examples.⁴²

- (59) a. dat er hast **ût it hospital** *scoe matte*
that he soon out the hospital would must
 that he soon would have to leave the hospital
- b. In syktme hâldt jamk in minske út de tsjerke of
an illness holds often a person out the church or
 by in forgearing wei, dêr't er oars tige graech
from a meeting away where he otherwise gladly
soe hinne wolle
would to want

An illness often keeps someone from going to church or to some meeting to which he otherwise would have liked to go

⁴⁰ The reader should be warned that the relevant chapter (J. Hoekstra 1997, ch. 3) is written in Frisian, but section 3.3 in his introductory chapter 1 has a brief summary in English.

⁴¹ See Wurmbrand (forthcoming) for extensive discussion.

⁴² Observe that (59b) is actually an instance of Verb Projection Raising with a stranded post-position in the cluster.

With Hoekstra we may conclude that 19th century Frisian provides us with interesting additional evidence for the existence of an empty light motion verb.⁴³

6.5. Dutch (and German)

While Dutch has the required ‘English’ order of verbs, it does not have Verb Projection Raising (modulo certain particle constructions to which I return shortly). So, while it is easy to show that right edge directionals do not exist, this does not tell us much because the prerequisite Verb Projection Raising structure, shown here in (60), is excluded on more general grounds.

$$(60) \quad \dots \text{AUX} - \text{M} - \text{PP}_{\text{DIR}} - \left[\text{GAAN} \right]_{\text{V}}^{\text{e}}$$

The examples in (61) show that Dutch does not have Verb Projection Raising, those in (62) demonstrate that right edge directionals are not possible, as expected.

- (61) a. ?* . . . omdat we hadden moeten naar huis gaan *Standard*
because we had must to home go Dutch
 because we should have gone home
- b. ?* . . . toen hij had moeten naar beneden gaan
when he had must to downstairs go
 when he had to go downstairs
- c. ?* . . . dat zij niet meer heeft willen naar school gaan
that she not more has wanted to school go
 that she no longer wanted to go to school

⁴³ It should be noted that Frisian, as Hoekstra shows, makes far more extensive use of empty verbs than the other languages under consideration. For example, it is possible to omit the motion verb in *om te* infinitives (J. Hoekstra 1997, ch. 6), an option absolutely impossible in Dutch:

(i) a. Jan is fan doel [om nei Grins ta [e]_V] *Frisian*
Jan is of plan for to Groningen to (sc. to go)
 Jan plans to go to Groningen

b. * Jan is van plan [om naar Groningen (toe) [e]_V] *Dutch*
 Hoekstra does mention that there are some indications that there are Flemish dialects that also allow a broader range of ellipsis sites, referring to Karsten (1946). (Cf. J. Hoekstra 1997, p. 155.)

- (62) a.* . . . omdat we hadden moeten naar huis
 b.* . . . toen hij had moeten naar beneden
 c.* . . . dat zij niet meer heeft willen naar school

Note, first, that there is a slight contrast between the examples in (61) and those in (62). This is a result of the general fact that Verb Projection Raising patterns are clearly degraded but not sharply ungrammatical in Dutch (and German). Observe also, in this context, that the above examples all involve full directional PPs. If we take one-word directionals into consideration, it turns out that these are only mildly ungrammatical when inside a verb cluster. And in such cases, a contrast appears that is quite sharp.

- (63) a. . . . omdat de productiviteitscijfers omhoog moeten (gaan)
 . . . *because the productivity-figures up have-to (go)*
 . . . because the productivity figures have to go up
 b. ? . . . omdat de productiviteitscijfers moeten omhoog gaan
 c. * . . . omdat de productiviteitscijfers moeten omhoog
- (64) a. . . . als we eindelijk weer terug mogen (gaan)
 . . . *when we finally again back may (go)*
 . . . when we finally may go back again
 b. ? . . . als we eindelijk weer mogen terug gaan
 c. * . . . als we eindelijk weer mogen terug
- (65) a. . . . dat de aandelenkoersen achteruit kunnen (gaan)
 . . . *that the share-values backward can (go)*
 . . . that the share values can go down
 b. ? . . . dat de aandelenkoersen kunnen achteruit gaan
 c. * . . . dat de aandelenkoersen kunnen achteruit

What do the data in (63–65) mean? There are two possible approaches.

- **Hypothesis A.** These examples involve a limited form of Verb Projection Raising: while full PPs are not tolerated inside the verb cluster, as shown in (61), single word directionals are.
- **Hypothesis B.** These examples involve an extension of (optional) particle incorporation to one-word (i.e., intransitive) directionals that are not, normally, subject to incorporation. Cf. Van Riemsdijk (1978, pp. 51ff), Den Dikken (1995, pp. 29ff).

While Hypothesis A seems initially unattractive, it should be kept in mind that varieties of Dutch in which Verb Projection Raising is limited to

specific items do exist. A well-known case is the variety spoken on Belgian (Flemish) radio and television in which full XPs are not tolerated in verb clusters but stranded prepositions are, unlike in the Standard Dutch of the Netherlands, cf. Van Riemsdijk (1997). An incorporation analysis for such examples appears to be implausible to the extent that the stranded preposition can appear anywhere in the cluster, not just next to the verb it is governed by or which it modifies.

What do these two hypotheses have to say about the contrast between the b- and the c-examples in (63–65)? On the limited Verb Projection Raising hypothesis (A), we could say that Dutch does not have the empty light motion verb GAAN and that the c-sentences are therefore excluded by the general word order template (6). Recall, however, that a general line of reasoning was presented in subsection 5.4 to the effect that it would be preferable to pursue the uniform $M = \text{AUX}$ theory, in which case the modal would have to be a functional head in the Dutch c-examples as well, and hence there would have to be an invisible main verb. On this view, another reason would have to be found for the ungrammaticality of the c-examples. We turn to an account along these lines in section 7.

The extended particle incorporation hypothesis (B) leads to similar conclusions. If Dutch lacks the empty light motion verb, then there is nothing for the single word directional to incorporate into in the c-examples. If, however, Dutch does have empty GAAN, we would have to say that empty verbs cannot serve as hosts for incorporation, or something along those lines. As will be seen in section 7, it may not even matter which of the two hypotheses is correct. The adjacency/locality (cf. footnote 27) condition on the licensing of empty verbs proposed there will exclude the c-examples under both analyses.

Turning now to German, we can be brief. The order of the verbs is basically the inverse of the Dutch/English order. However, some deviations from that order are possible with finite auxiliaries and sometimes with modals. Hence it is in principle possible to simulate the Dutch/English order. With regard to Verb Projection Raising the situation is rather similar to that in Dutch though perhaps the standard language (High German) rejects this pattern somewhat more radically than Dutch. Any data that can be brought to bear on the matter are marginal at best,⁴⁴ so I will not

⁴⁴ As Wurmbrand (2001b, forthcoming) shows, there is considerable variation in this regard in the various dialectal regions in the German speaking area. This is not unexpected, of course, in light of the data from the dialects along the French language border discussed earlier in this section. Much research on syntactic differences among German dialects still needs to be done. See also Broekhuis (1992), Den Besten and Broekhuis (1992), and Zwart (1996) for discussion of the distribution of Verb Projection Patterns in the Germanic OV-languages.

pursue the complexities and subtleties of the situation in German any further here.

It would appear, then, that the cross-linguistic or, perhaps more accurately, areal linguistic, survey yields a rather mixed picture. There are clear differences in the surface patterns, and hence an account based on the Mixed Theory has some initial appeal. On the other hand, the general reasoning in section 5.4 in favor of the Uniform Theory can be corroborated in a number of ways. First, section 6.6 will present an argument to the effect that Dutch, in principle a prime candidate for the Mixed Theory, avails itself of the elliptic light motion verb as well. And in section 6.7 we present evidence from West Flemish which also supports the Uniform Theory.

Before turning to that evidence, however, let us first briefly summarize the relevant facts from the Germanic OV-languages that we have looked at. Table (66) lists the main properties that we have investigated. Simplifying somewhat, we can distinguish two main groups or types: the Swiss German (SG) type and the Dutch/German (DG) type. The IPP (*infinitivus pro participio*) effect has been added to show that it only partially correlates with the other properties. +/- in parentheses means that deviations from the pattern indicated do occur. RED stands for right edge directional, and VPR for Verb Projection Raising.

(66)

	<i>M takes non-verbal PP_{DIR}</i>	<i>Dutch order of Vs</i>	<i>VPR</i>	<i>GO- doubling</i>	<i>REDS</i>	<i>IPP</i>	<i>Type</i>
<i>Swiss German</i>	+	+	+	+	+	+	SG
<i>Alsatian</i>	+	+	+	-	+	+	SG
<i>Luxemburgish</i>	+	+	+	-	+	+	SG
<i>Afrikaans</i>	+	+	+	-	+	0 ⁴⁵	SG
<i>Dutch</i>	+	+	(-)	-	-	(+)	DG
<i>German</i>	+	(-)	(-)	-	-	(+)	DG
<i>Frisian</i>	+	-	-	-	-	-	
<i>English</i>	-	+	-	-	-		

⁴⁵ As Robbers (1997, p. 166) states, "it is impossible to ascertain whether modals indeed trigger the IPP-effect in Afrikaans".

6.6. *Dutch revisited: another test for elliptic verbs?*

As the case of the three-verb restriction in archaic Frisian discussed in section 6.4 above shows, it is possible to devise diagnostic tests for the presence or absence of empty verbs other than those based on Swiss German. Norbert Corver (p.c.) has suggested a further test to probe for the presence or absence of an empty verb. This test is based on Left Dislocation, at least in Dutch. The most common type of Left Dislocation in Dutch is Contrastive Left Dislocation, in which the correlative pronoun is a d-word which is fronted and hence adjacent to the left dislocated constituent. In addition to NP/DP, other types of XP can also be left dislocated. With respect to directional PPs, we observe that it is generally possible to have a left dislocated NP/DP with a stranded P, as in the a-examples, while the b-examples with the whole PP left-dislocated is excluded.

- (67) a. De hoofdstad, daar verhuisde zij pas later naartoe
 the capital there moved she only later to
 The capital, she moved (to) there only later
- b.*Naar de hoofdstad, daar/dat/. . . verhuisde zij pas later
 to the capital there/that/. . . moved she only later
 To the capital, she moved there only later
- (68) a. Het diepe water, daar dook hij niet in
 the deep water there dived he not into
 The deep water, he did not dive into it
- b.*Het diepe water in, daar/dat/. . . dook hij niet
 the deep water into there/that/. . . dived he not
 Into the deep water, he did not dive into it

It turns out, however, that the b-variants are possible when (a) the verb is a modal, and (b) the d-pronoun is *dat*.⁴⁶

⁴⁶ With semantically rich lexical verbs such as those in the text examples (67) and (68), the contrast with the modals in (69) is quite sharp. With lighter (semantically more bleached) verbs such as *gaan* 'go', the contrast is not as sharp for many speakers: %*Naar de hoofdstad dat ging zij pas later*.

It should also be pointed out that the correlative d-pronoun also shows up with adjunct-directionals, where a (small) clausal interpretation is much less plausible. Consider the following example.

- (69) a. Naar de hoofdstad, dat/*daar moest zij pas later
to the capital that/there must-past she only later
 To the capital, she had to go there only later
- b. Het diepe water in, dat/*daar mocht hij niet
the deep water into that/there may-past he not
 Into the deep water, he was not allowed to go there

If we assume that, despite earlier appearances (cf. section 6.5), Dutch also has an empty light motion verb GAAN, licensed by modals, then we can account for these facts. This is so because the choice of the correlative pronoun *dat* indicates the presence of a verbal element in the left dislocated constituent. This is seen most clearly when we consider the equivalents of the b-examples in (67) and (68) in which the verbal projection including the overt verb has been left dislocated.

- (70) a. Naar de hoofdstad verhuizen, dat/*daar moest zij
to the capital move that/there must-past she
 pas later
only later
 Move to the capital, she only had to do that later
- b. Het diepe water in duiken, dat mocht hij niet
the deep water into dive that may-past he not
 Dive into the deep water, he was not allowed to do that

If we assume that GAAN is present in the examples in (69), these examples are accounted for along the same lines:

- (71) a. Naar de hoofdstad GAAN, dat moest zij pas later
 b. Het diepe water in GAAN dat mocht hij niet

The tentative conclusion is that Dutch is like the languages of the Swiss German type in that it also has the empty light motion verb GAAN, licensed by modal verbs, despite the absence of right edge directionals.

-
- (i) De berg op, dat is altijd lastiger fietsen dan de berg af
the mountain up, that is always harder bicycle than the mountain down
 Up the mountain, bicycling is always harder than down the mountain

If an elliptic GAAN were present here there would be overlap between this GAAN and the overt verb *fietsen*.

These questions must remain open at this point.

6.7. *A paradox: West Flemish*

It has been known for some time that West Flemish is surprisingly similar to Swiss German, cf. Haegeman and Van Riemsdijk (1986). What is particularly relevant to the present discussion is that West Flemish also has Verb Doubling. The verb *goan* 'go' takes infinitival complements that are introduced by a phonetically reduced copy *gon*.⁴⁷ Even the tripling that we know from Swiss German occurs in West Flemish, as shown in (72b).

- (72) a. . . . dank morgen goan gon vissen
 . . . *that-I tomorrow go go fish*
 . . . that I'm going to go fishing tomorrow
- b. . . . dank morgen goan go gen vissen
 . . . *that-I tomorrow go go go fish*
 . . . that I'm going to go fishing tomorrow

And as in Swiss German, we find that modal verbs in West Flemish can take infinitival complements introduced by the phonetically reduced copy *gon* or the tripled *go gen* alone. The phonetically unreduced form of the verb is not acceptable in the same role.

- (73) a. . . . dank zun willen gon vissen
 . . . *that-I would like go fish*
 . . . that I would like to go fishing tomorrow
- b. . . . dank zun willen go gen vissen
 . . . *that-I would like go go fish*
 . . . that I would like to go fishing tomorrow
- c.?* . . . dank zun willen goan vissen
 . . . *that-I would like go fish*
 . . . that I would like to go fishing tomorrow

We may conclude from this that there are excellent *prima facie* reasons to adopt the empty light motion verb analysis for West Flemish as well.

West Flemish also has Verb Projection Raising, and it has the Dutch/English order of verbs. Example (74) shows this.⁴⁸

⁴⁷ The doubling construction was described in Haegeman (1990). Haegeman also notes there that the copy is phonetically reduced though she does not represent this in the transcription. I would like to thank Liliane Haegeman (p.c.) for providing the text examples.

⁴⁸ The example is from Haegeman and Van Riemsdijk (1986, p. 444, ex. (60b)), where these properties of Swiss German and West Flemish were already amply documented.

- (74) . . . da Jan hee willen vee boeken lezen
 . . . *that Jan has wanted many books read*
 . . . that Jan wanted to read many books

Therefore, West Flemish satisfies all the prerequisites for right edge directionals, hence we have every reason to expect right edge directionals to be possible in this language. But surprisingly this is not the case. As the following examples demonstrate, right edge directionals are impossible.

- (75) a.* . . . da ze nie meer hee gewild/willen no tschule
 . . . *that she no longer has want/-ed to school*
 . . . that she no longer wanted to go to school
 b.* . . . da ze nie meer eet no tschule willen/gewild
 c. . . . da ze nie meer no tschule gewild/*willen eet

As (75) shows as well, the impossibility of right edge directionals is independent of whether IPP does or does not apply.⁴⁹

In light of these findings, consider again table (66), updated for West Flemish as (76).

(76)

	<i>M takes non-verbal PP_{DIR}</i>	<i>Dutch order of Vs</i>	<i>VPR</i>	<i>GO- doubling</i>	<i>REDs</i>	<i>IPP</i>	<i>Type</i>
<i>Swiss German</i>	+	+	+	+	+	+	SG
<i>Alsatian</i>	+	+	+	-	+	+	SG
<i>Luxemburgish</i>	+	+	+	-	+	+	SG
<i>Afrikaans</i>	+	+	+	-	+	0	SG
<i>West Flemish</i>	+	+	+	+	-	(+)	WF
<i>Dutch</i>	+	+	(-)	-	-	(+)	DG
<i>German</i>	+	(-)	(-)	-	-	(+)	DG
<i>Frisian</i>	+	-	-	-	-	-	
<i>English</i>	-	+	-	-	-		

We are thus faced with the task of accounting for three main types: SG, WF, and DG. Observe that the difference between Swiss German on the

⁴⁹ What is somewhat mysterious on the other hand is why the c-example, which is an instance of Verb Raising with the directional PP outside the verb cluster, has the German rather than the Dutch/English order, and why precisely in this instance IPP is blocked.

one hand and Alsatian, Luxemburgish, and Afrikaans on the other with respect to Verb Doubling is irrelevant here since the absence of Verb Doubling presumably is just a morpholexical fact that is neutral with respect to the presence of the empty light motion verb.

If we were to pursue the Mixed Theory, we would now be faced with a serious paradox. West Flemish would have to have the empty light motion verb GOAN to account for Verb Doubling, but it would have to have $M = V$ without GOAN in order to explain the absence of right edge directionals. I conclude from this paradox that the Mixed Theory has to be rejected. Instead, the Uniform Theory has to be adopted. In turn, this means that another parameter must be found to account for the different patterns found in the various Germanic OV-languages that we have studied. This is the topic that we turn to in the next section.

7. Variable licensing conditions on empty verbs: the projection parameter

If all Germanic OV-languages under scrutiny have the empty light motion verb, it must be the case that the variation we have found has to do with differences in its distribution. It is, indeed, natural to ask what the licensing conditions are when empty elements are posited.⁵⁰ Elliptic elements are frequently, perhaps always, signaled by a kind of flag that serves as an indicator that something is missing in the sentence. Though not one of the most prominent foci of theoretical syntactic research over the past two decades or so, a number of interesting proposals have been put forward.

Observe, first, that the choice between deletion at PF vs. empty elements in the lexicon dates back at least to the switch from free deletion in COMP (cf. Chomsky and Lasnik (1977)) to the use of empty operators, which were introduced, as far as I am aware without argument, in Chomsky

⁵⁰ Note that when I talk about ‘licensing’ here, I specifically mean the licensing of empty or elliptic elements. I do not pretend by any means to address the broader notion of licensing which is mostly used to describe the situation in which some element (a feature for example) sanctions the presence of some other (not necessarily empty) element. So, for example, some people would say that a modal licenses the verb it modifies, or that an accusative case feature licenses a direct object DP. Again, such uses of the term are not taken into account here. By this I do not mean to imply that these are necessarily different concepts. What I do mean, however, is that it is, for the time being, hard enough to develop some coherent notion as to when an elliptic element is and is not tolerated.

(1982).⁵¹ Deletion in the ‘Filters and Control’ framework was subject to a vague notion of recoverability (a *wh*-pronoun can be deleted if there is an agreeing head, as in relative clauses, but not if there is not, as in questions or headless relatives). Presumably such considerations carry over to the distribution of empty operators. Furthermore, empty operators can occur in certain specified positions such as Spec, CP, but not, apparently, *in situ*.

Under a deletion theory, one of the most fundamental distinctions to be drawn is that between deletion under identity and specified deletion of designated elements. In the case of deletion under identity, it is clear that the identity relation is central in recovering the content of the missing element. In the case of specified deletions it is generally assumed that there is some trigger element in the immediate vicinity of the element to be deleted. After deletion, this trigger, which I have referred to as a flag here,⁵² signals the absence of the deleted element and serves to recover its identity. These informal notions carry over quite straightforwardly to a non-deletion approach. Specifically, we now identify the flag as the licenser of the elliptic element.

A particularly relevant early discussion of missing or elliptic light verbs concerns the absence of the auxiliary *ha* in Swedish and Norwegian. This process exhibits certain properties that appear to be ‘anti-root’ in the sense that the auxiliary can be missing in embedded clauses but not in main clauses:

- (77) a. Knut *(har) inte kommit *Swedish*
 Knut has not come
- b. . . . att Knut inte (har) kommit
 . . . *that Knut not has come*

Den Besten (1977) argues that this apparent anti-root behavior is due to the fact that Verb Second bleeds the deletion rule. In more modern terms, V2 destroys the licensing environment. Apparently a certain degree of proximity between the licenser and the licensee is required in order for

⁵¹ This is, of course, just one example out of many that can be given here. Equi NP Deletion used to be a deletion rule and was replaced first by DOOM (cf. Postal (1970)) and then by the current PRO/pro, for example. The Equi-to-PRO case is an instance of ‘deletion under identity’ as opposed to ‘specified deletions’ which is what the text example of empty operators and the whole issue of empty light verbs is about.

⁵² If you take the metaphor seriously, it is important to distinguish the flag on the sunken ship and that on the buoy that signals the presence of the (invisible) foundered ship. Clearly, what is meant here is the flag on the buoy.

licensing to be possible.⁵³ Recent proposals to account for the domain restriction on licensing are mostly based on the notion of proper government. Characteristic in this respect are Zagana (1988), Lobeck (1995), and J. Hoekstra (1997). In addition to the problem of determining the domain within which licensing is possible, there is also the issue of identifying the class of potentially licensing elements.⁵⁴ In a majority of cases, it appears that the licenser is a functional head, cf. Lobeck (1995).⁵⁵

It is not my purpose here to take sides in the extant debates, nor to propose yet another general theory of licensing.⁵⁶ In fact, with the demise of (proper) government in the Minimalist framework, many of the above proposals may have to be rethought. Instead, I prefer to offer an account of the facts covered here in an attempt to lay out some basic notions that future work on ellipsis licensing will have to address.

What, then, are some of the basic elements that our analysis will have to take into account? First, the licenser is a modal verb *M*.⁵⁷ Second, licensing takes place in Verb (Projection) Raising clusters. Third, Verb Second applied to the licenser does not bleed the licensing of the empty verb. In other words, while we assume that the flag must be in close proximity of the empty element, the trace of the flag will also do.⁵⁸ Fourth, it is quite restricted in the DG-type, much freer in the SG-type, and inter-

⁵³ For more detailed and recent discussion, see Platzack (1986), Julien (2000, this volume) and references cited there. Interestingly, modal verbs constitute one licensing context for empty *ha*.

⁵⁴ It would also be interesting to explore the question of what elements are subject to licensing. It may well be the case, for example, that it is not only empty elements but also phonetically realized pleonastic elements. A particularly instructive case in the present context is pleonastic *tun* 'do' in German. As Erb (2000) shows, this *tun* is only licensed in [+tense] environments.

⁵⁵ If it is possible to restrict the class of possible licensors, what about the licensee? Emonds (2001, p. 119) proposes that only grammatical formatives may be null. In his terminology, the syntacticon may contain phonetically zero morphemes, but the dictionary (the repository of open class lexical items) may not. In the case under consideration, this means that light verbs have to be part of the syntacticon, and in Emonds' terms they are.

At a more general level, however, it is not clear that Emonds' proposal can be maintained. A popular example from Dutch is the expression *patat met* which is short for *patat met mayonnaise* 'French fries with mayonnaise'. In a culture in which French fries are routinely and preferably eaten with mayonnaise rather than, for example, with ketchup, such a deletion is perfectly recoverable. But it may well be the case that *patat met* is grammaticalized as a whole and hence that this is not a case of ellipsis at all. A more serious problem for Emonds' view arises in view of the Nimboran data discussed in section 5.1.

⁵⁶ See Ackema and Szendrői (this volume) for interesting discussion.

⁵⁷ I am disregarding the much more widespread verb ellipsis possibilities found in Frisian as discussed in note 43.

⁵⁸ This, then, is a clear contrast with the Scandinavian case mentioned above. But there is a crucial difference. In the Swedish example (77) it is the element to be deleted, the would-be elliptical element, that is moved away from the flag. This, clearly, is not allowed. Elliptical elements can be licensed by a flag-chain, but a flag can only license the head of an elliptical chain.

mediate in the WF-type. Let us start, then, with a simple initial hypothesis: empty light motion verbs are licensed by a modal verb:

(78) $[e]_{+V, +DIR}$ must be licensed by M

Consider next the contrast between DG and SG. This contrast has an obvious correlate in the choice between Verb Raising and Verb Projection Raising.⁵⁹ One way of taking advantage of this correlation would be to say that what is licensed in SG is not the (empty) verb but its projection, essentially as in (79).

(79) Swiss German: $[M \text{ licenses } [GAA]P(\text{hrase})^{60}]_{\text{Verb Cluster}}$
 Dutch: $[M \text{ licenses } [GAAN]^{\circ}]_{\text{Verb Cluster}}$

Note that such a formulation implies adjacency between M and the licensee. This will ensure that when applied to $[M [PP_{DIR} [e]_{V^{\circ}}]_{V'}]$ the empty V will be licensed in Swiss German (via the intermediary of the adjacent V') while it is not licensed in Dutch. Note that this means that hierarchical domain adjacency is insufficient, otherwise the two cases cannot be distinguished from one another. To the extent that string adjacency is a necessary (though not sufficient) component in the definition, we may conclude that ellipsis licensing is indeed a more restrictive relation than the type of licensing found in, say, the more commonly discussed licensing of negative polarity items or parasitic gaps.

Such a simple account would be quite attractive since it would open up the possibility of deriving the licensing parameter from an independently existing difference between the languages in question. Unfortunately, this easy avenue is blocked in view of the West Flemish data. We know that West Flemish has Verb Projection Raising, but nevertheless uses the restricted Dutch option for licensing. I am forced to conclude that the Verb (Projection) Raising parameter and the parameter responsible for licensing the empty light motion verb are independent. Still, we can do slightly better. Suppose, in fact, that we generalize over the processes that are at work in the two situations. What is at stake in Verb (Projection) Raising is, as argued in Haegeman and Van Riemsdijk and, more recently, in Ackema (forthcoming) and Wurmbrand (forth-

⁵⁹ Presumably, there must be a parameter to distinguish Verb Projection Raising-languages from Verb Raising languages. To my knowledge no concrete proposal has as yet been elaborated, however.

⁶⁰ I leave open here the question of what the bar level of the projection of GAA is. In terms of the system I develop in Van Riemsdijk (1998b), the level would be V' or more precisely [+V, -N, -F, +PROJ, -MAX].

coming), reanalysis. What, then, do reanalysis and licensing have in common? Adjacency, as I have just argued above, is crucial in licensing. And adjacency was precisely the reason to prefer reanalysis to adjunction for Verb (Projection) Raising, cf. Van Riemsdijk (1998a). Let us assume, then, that the same formal relationship is involved in both cases. I will call this relationship ‘association’ and I will use the symbol ‘@’ to represent this relation.⁶¹ The general schema for association is as in (80).

$$(80) \quad \text{Association:} \quad [\alpha @ H^i]_{\Delta}$$

This says that α is associated with H^i within a given local structural domain Δ . Furthermore, I will take α to be the licenser / reanalysis-trigger and H^i the licensee / reanalyzee. The parameter is now reduced to the value of i . In the case of Verb Projection Raising and SG-type licensing, $i \geq 0$, in the case of Verb Raising and Dutch-type licensing, $i = 0$. I will refer to the two variants of Association as P-Association (for Projection-Association) and H-Association (for Head-Association), respectively. And together, these two options constitute the Projection Parameter which, using the feature system of Muysken (1983), can be formulated as in (81).

(81) **The Projection Parameter**

- a. P-Association: $[\alpha @ H_{[-MAX]}]_{\Delta}$ notation: @^P
 b. H-Association: $[\alpha @ H_{[-PROJ]}]_{\Delta}$ notation: @^H

Making use of these definitions, we arrive at the following typology for the phenomena in question.⁶²

(82)

<i>type</i>	<i>languages</i>	<i>V(P)R (reanalysis)</i>	<i>licensing of empty light motion verb</i>
SG	Swiss German, Alsatian, Luxemburgish, Afrikaans	@ ^P	@ ^P
WF	West Flemish	@ ^P	@ ^H
DG	Dutch, German	@ ^H	@ ^H

⁶¹ The term ‘association’ is used in Rizzi’s (1986) analysis of null objects in Italian, cf. also Emonds (2001, p. 403). No formal affinity between Emonds’ use of the term and my use of it is intended here, however.

⁶² The table makes it clear how important and attractive it would be to somehow ‘argue away’ the West Flemish case, that is, to assimilate it either to the SG- or to the DG-type. And given those choices, the SG-type would be preferable in that it would permit establishing the full correlation between Verb Projection Raising and the liberal form of licensing for the empty verb. At this point, however, I am unable to push things any further than this.

It should be pointed out that in Emonds' syntacticon theory (Emonds 2001) language specific references to phrase vs. head are excluded on principled grounds. The account developed here challenges that theory. While it is not impossible to imagine ways in which the two approaches might be made compatible, there is a non-trivial issue here, which remains to be explored.

8. Pure parameters and their acquisition

I feel that the following conclusions are warranted on the basis of the materials and arguments presented.

- the Uniform Theory holds throughout the Germanic OV-language area;
- the observed differences among the Germanic OV-languages cannot, therefore, be attributed to differences in the status of the modal verb (M = V in some, M = AUX in others);
- instead, these differences must be attributed to a difference in the way in which empty verbs are licensed;
- the parameter in question, the Projection Parameter, is identical to that responsible for the difference between Verb Raising and Verb Projection Raising;
- nevertheless it is a low-level parameter which can be set differently in different contexts within the same grammar, at least in marked cases such as West Flemish.

The concept of parameter has played an important role in generative linguistics for a quarter century. In the last decade or so, the notion of parameter has undergone a rather considerable change. Formal, abstract parameters such as the pro-drop parameter or the head-initial/head-final parameter have given way to lower-scale parameters such as the relative strength of certain morpho-syntactic features that need to be checked by some constituent moving into their vicinity. The reasoning leading to this change in the conception of parameters is not devoid of persuasiveness. The idea is that syntactic differences among languages are often found in the morphological system. No one in his/her right mind would deny that some languages have overt realizations of case, tense, definiteness, mood, and what have you while other languages do not. By incorporating parameters into these morphological categories, then, we put them right where they belong, viz. where languages differ anyway. This reasoning is also linked to the acquisition scenario: if a child, in the course of the language acquisition process, has to learn how various morpho-syntactic categories

are instantiated in her language, we might as well say that the associated parameters are fixed as part of that process.

Attractive though this reasoning may seem, the evidence I have presented in this study suggests that abstract, formal parameters, which I have called Pure Parameters, are needed as well. I find this a welcome result, for I feel that the argumentation that led to the abolishment of abstract parameters was flawed from the start. For example, I cannot see that there is anything wrong with directionality parameters that were standardly assumed before the advent of the new universal base order hypothesis based on the Linear Correspondence Axiom (LCA) as proposed by Kayne (1994). In fact, accounts of OV-languages within such frameworks tend to rely heavily on extensive multiple movements of everything except the verb around that verb, each instance of movement being triggered by some feature that remains to be independently motivated. My assessment of proposals along these lines, which I will not discuss in detail, is that they fall far short of achieving a satisfactory solidity. Alternatively, use is made of remnant movement, which suffers from similar drawbacks. This is not the place to evaluate the extant alternatives, but to my mind the checks and balances are fully in favor of the 'old' theory based on the headedness parameter.

In accounts in which parameters must be tied to morpho-syntactic features, it is not so clear what the status of category-wide generalizations is.⁶³ Why should we find relatively pure OV-languages and VO-languages? Why do we hardly ever find languages in which definite direct objects precede the verb while indefinite ones follow it? Or in which dative noun phrases precede but accusative noun phrases follow? Or in which locative PPs precede but temporal PPs follow? And so on and so forth. Finally, consider the status of the directionality parameter from the perspective of language acquisition. It is hard to imagine a parameter that is easier to set on the basis of readily available trigger data than the directionality parameter. I conclude from these rough considerations that there may be reasons not to stick to the narrow conception of parameter as it was introduced with the Minimalist Program of Chomsky (1995).

Does this mean that we have to return to the conception of parameters that was popular when they were first introduced? Recall that the most persuasive cases presented at the time were the S vs. S' parameter, introduced to account for certain apparent subjacency violations in Italian and

⁶³ See LeBlanc (in preparation) for a discussion of this point from the perspective of language acquisition.

the pro-drop parameter. See Rizzi (1982). The appeal of these parameters, especially of the pro-drop parameter, was that a single abstract parameter, once set in a specific grammar, could account for a whole cluster of apparently unrelated differences between this language and others in which the parameter was set differently. But in the development after the early eighties there have been hardly any proposals for similarly far-reaching parameters. Also those that were around came under attack, mainly because it turned out that the variation across languages was more matrix-like in that if sufficiently many languages were taken into account each phenomenon could apparently be varied independently of the others. This development gradually led to the realization that parameters had to be more low-level. This was less attractive, perhaps, but more accurate. And the conclusions I have reached in the present article confirm this. I see no reason to be defensive about this conception of parameters, which is why I have given them the name of Pure Parameters. In summary, let me list the most salient properties of the Pure Parameter.

- (83) Properties of the Pure Parameter:
- fairly low level;
 - abstract (i.e., independent of morpho-syntactic features);
 - multifunctional: separately applicable to the mechanisms underlying different sets of phenomena (such as Verb (Projection) Raising and Ellipsis Licensing);
 - subject to markedness metric (for example if we wish to label the case of West Flemish as a marked case).

In the present study I have argued for the existence of the Projection Parameter. This then is my paradigm case of a Pure Parameter. In view of the third property listed in (83), the question arises as to what its (potential) domain of applicability is. Answering this question would take us beyond the scope of this article, but it is not hard to come up with several areas where something like the Projection Parameter seems to be involved. These include

- VP-Fronting vs. Predicate Cleft (cf. Koopman (1984));
- Dutch/German vs. English-type Free Relatives: grafting of *wh*-words vs. *wh*-phrases (cf. Van Riemsdijk (to appear));
- Phrasal adjacency vs. Head adjacency in noun phrase structure (cf. Van Riemsdijk (1992)).

Exploring these and other domains further in view of the extent to which they are amenable to an account in terms of the Projection Parameter must be deferred to future research.

It appears, then, that the theoretical perspective outlined in section 5.4 has turned out to be on the right track. Let us, in conclusion, review the relevant reasoning, which was based on a plausible acquisition scenario. First, the finding that modals are uniformly functional or semi-lexical verbs, not main verbs, throughout the Germanic OV-languages is a welcome one since it is in line with the Uniqueness principle, which says that, unless there is powerful counter-evidence in the primary data, children will assume that there is a biunique relation between forms and meanings. This translates into the following principle for the case at hand.

- (84) FUNCTIONAL UNIQUENESS OF MODALITY: In the unmarked case modality (an element with modal semantics) will be expressed as a functional or semi-lexical head or, in Emonds' terms, as a syntacticon element that licenses a V-projection.⁶⁴

Note that this formulation still leaves open the possibility that certain expressions with a modal semantic component may end up being analyzed as lexical rather than functional categories. This will typically be the case with complex and semantically richer expressions such as *be obliged to* (containing 'must'), *have the permission to* (containing 'may'), etc. Similarly, this may also apply to languages like Russian, in which modal meanings are expressed by means of modal adjectives.

The conclusion embodied in (84) contradicts the majority view that includes such classics as Ross (1969) and Lightfoot (1979) as well as recent analyses such as Reis (2001). But it converges with the theory presented in Wurmbrand (2001, ch. 3) in which the functional status of modals in German is argued for on the basis of quite different considerations.

There is a problem in the way (84) is formulated that we need to address. We are talking about the expression of modality. But what about directionality? How do we know it is a verb? And, perhaps more intriguingly, if it is a verb, is it a lexical verb or a functional one? Quite clearly, its semantics is completely bleached in the sense that no meaning beyond the pure notion of motion is conveyed. This was the reason for always referring to the empty verb as a 'light' motion verb. On the other hand, we also saw that specific lexical properties have to be attributed to the various empty light motion verbs in the different languages under scrutiny. Emonds (2001, p. 119, fn. 10) uses the term 'semi-auxiliary' for *come*

⁶⁴ The term 'syntacticon' is from Emonds (2001). This work represents one of the few comprehensive attempts to elaborate a theory of the functional lexicon, both formally and substantively. For related discussion, see also Corver and Van Riemsdijk (2001).

and *go* in English. In Corver and Van Riemsdijk (2001) we have used the term 'semi-lexical' for precisely this type of situation. Observe, in fact, that there is little doubt that directionality is part of the functional projectional domain of nouns as well, as in directional PPs and complex spatial case systems, as discussed in Huijbregts and Van Riemsdijk (2001). At this point, I can only defer the matter to future research.

Turning now to the other major principle guiding our thinking about plausible acquisition scenarios and syntactic theories that will properly feed them, consider the Subset Principle. In particular, we must ascertain that the parameter that we have built into the notion of Association, which is central both to the choice between Verb Raising and Verb Projection Raising and to the difference in the licensing of the empty light motion verb, is compatible with the Subset Principle. It turns out that the theory we have established is fully compatible with the Subset Principle. In order to see this, note first that a very clear set/subset relation holds both for Verb (Projection) Raising and for SG/DG.

- (85) a. a language that allows Verb Raising is a proper subset of a language that allows Verb Projection Raising
- b. a language that disallows right edge directionals is a proper subset of a language that allows them

Hence, the two subtypes of the association relation, H-Association and P-Association, can directly be linked to the subset and the superset, respectively. This means that the child will approach both empirical issues from the same perspective. The initial or null hypothesis will be that both V-cluster building (reanalysis) and the licensing of the empty light motion verb will be in terms of H-Association. This will yield the DG-type. And indeed it is reasonable to assume that the primary data for these languages do not contain any indications that the more marked option of P-Association should be chosen. For West Flemish, then, examples of Verb Projection Raising, easily detectable in the data, will suffice to conclude that reanalysis works in terms of P-Association. And in the absence of any instances of right edge directionals in the data, there is no reason to depart from the initial hypothesis of H-Association for the licensing of V-ellipsis in West Flemish. For the languages of the SG-group, on the other hand, things are different again. For both empirical questions, ample data are available to show that Verb Projection Raising patterns and right edge directionals exist. Hence the marked option of P-Association is chosen throughout.

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