

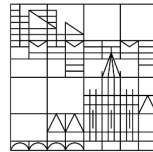
# ALEMANNIC VERB DOUBLING COMPUTATIONALLY

## Master's Thesis

submitted by

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# Preface

Alemannic verb doubling is a unique among verbal multi-occurrence phenomenon in that it occurs in unmarked, instead of topicalizing or fronting configurations. As such it yields hearable evidence on how a verb phrase is built up. The question posed for this thesis is: How can existing grammar theory account for, and explain, Alemannic verb doubling. A model for its computation will be developed and made explicit twice, once in terms of a Minimalist derivation, and once as a lexical-functional model. Central to this work are two claims: Firstly, that the duplicates verb doubling yields in Alemannic stand at  $V^0$  position; and secondly, that these duplicates are pre-categorial roots. The aim of this thesis is to formulate an explicit, full analysis of the generation of a Verb doubling configuration, and thereby argue for an analysis as doubling – that is, multi-occurrence of *one* item (in altered shapes). However transformational in the base, I attempt to keep the discussion framework-agnostic (of LFG or G&B/Minimalism) unless necessary.

This thesis consists of three parts: The first part, which is the description, isolates the phenomenon under investigation in terms of prosody, syntax and semantics in chapter 1. Chapter 2 then surveys verb doubling phenomena in other languages, looking for parallels to the phenomenon at hand. The second part, II, then consists of a framework-agnostic part (3) and two theoretically distinct parts. The framework-agnostic chapters of II serve as the base for the theory-dedicated chapters, which are fully formulated accounts in the Minimalist/Government-and-Binding (GB) (chapter 4) and the Lexical-Functional Grammar (LFG) (chapter 5) framework. Chapter 5.1 demonstrates how the model developed can be implemented in the XLE (Xerox Linguistics Environment) formal language, to be used as a parser (and potentially as a generator, and transfer model) for Alemannic verb doubling.

I am greatly thankful for the incredibly valuable feedback by Josef Bayer and Oliver Schallert, as well as for the supervision by Miriam Butt and George Walkden. My working on this phenomenon of Alemannic verb doubling owes the greatest part of its motivation to Daniel Buring, who encouraged me to pursue it in 2015.

I dedicate this thesis to my brother.



Part I

Description





# Chapter 1

## Alemannic verb doubling

### 1.1 Configuration

This work investigates the Alemannic *verb doubling* configuration, like in (1) below. The phenomenon has first been described and analysed as such (*doubling*) in Hodler (1969). It since has been reinvestigated and further described in Gabriel (1985); Lötscher (1993); Schmidt (2000); Dobler (2002); van Riemsdijk (2002); Schallert (2010); Glaser & Frey (2011) (including Andres (2011); von Rotz (2011); Schlatter Gappisch (2011); Weber (2011)); as well as in my own Bachelor's thesis (Diem, 2015)<sup>1</sup>.

- (1) *i gang ga anglä*  
I go fish  
I go fishing

A verb, here <gaa> (*go*), appears twice: Once in inflected form, here at second position, and once again in the form of a phonetically *shortened infinitive* <ga>. This shortened infinitive differs from other infinitives in that it has a shorter vowel and is necessarily unstressed. Both a normal and a shortened infinitive show up in an *infinitive-subordinating-infinitive* configuration as shown in (2) below:

- (2) *ga anglä gaa*  
fish go  
(to) go fishing

Besides syntactic considerations discussed in the second part, the phonetic similarity in a pair like <ga> and <gaa> above is the most obvious

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<sup>1</sup>“Alemannische Verbverdoppelung”, supervised by Daniel Buring, University of Vienna, 2017

hint that we are looking at a *doubling phenomenon*. It, too, will be discussed in the second section.

Verb doubling thus consists of a long and short version of a verb (not necessarily lexically the same though, as will be discussed subsequently).

Table 1.1: Long and short variants of the doubling verbs

normal	shortened
/go:/	/gə/
/xo:/	/xə/
/lo:/	/lə/
/afo:/	/afə/

Stressing of the *shortened* is ungrammatical. Morphologically, they never bear any affixes whatsoever, nor inflect.

## 1.2 Distribution

The configuration described above occurs for a verb V iff (cf. Hodler (1969) and Lötscher (1993)).

### (3) OCCURRENCE CONDITIONS

1. V lexically is a *doubling verb* and
2. V subordinates some infinitive W

I will first demonstrate condition 1 and will then turn to demonstrate condition 2.

While W can be lexically anything, V above is constrained by the set listed in table 1.2 below:

Table 1.2: The doubling verbs

<goo>	“go”
<khoo>	“come”
<afoo>	“begin”
<loo>	“let”

The shortened infinitive duplicates mirror this list, with the consistent difference of reduced vowel quantity, as given in proper notation in table 1.1 above.

In (4) below are examples for each doubling verb from table 1.2 (1.2) above, giving rise to a respective duplicate from table 1.3(1.3).

Table 1.3: The doubling verbs' duplicates

	normal	shortened
<goo>	/gʊ:/	/gə/
<khoo>	/xʊ:/, /k <sup>h</sup> ʊ:/	/xə/
<afoo>	/afʊ:/	/afə/
<loo>	/lʊ:/	/lə/

- (4) a. *er **goot go** bade* Doubling verb 1: <goo>  
 he goes swim  
 he goes swimming
- b. *si **khunt ga/cho** healfe* Doubling verb 2: <khoo>  
 she comes help  
 she comes (to) help
- c. *s **foot afo** schnaje* Doubling verb 3: <afoo>  
 it begins snow  
 it starts to snow
- d. *si **lönd s la** si* Doubling verb 4: <loo>  
 they let it be  
 they let it be!

*Alemannic verb doubling* consists of a main clause embedding an infinitive (Hodler, 1969), as stated above. The verb duplicate occurs within the embedded clause, as the contrast in (5) displays. Adjuncts (*now*) or further arguments of the matrix verb (*home*, besides the *sleep* complement) cannot appear lower than the duplicate, if they are to maintain scope over the main clause (headed by *gang*).

- (5) a. *I gang huam/jetz **go** schloofe* high object  
 I go home/now sleep  
*I go to sleep now. / I go home to sleep.*
- b. *\*I gang **go** huam<sub>matrix</sub>/jetz<sub>matrix</sub> schloofe* low object  
 I go home/now sleep  
*I go to sleep now. / I go home to sleep.*

A low object, however, can appear either at its low position, or at a higher (raised) one:

A known phenomenon around infinitive (and finite) embedding configurations is object raising. In object raising, an object can occur higher in the

structure (i.e., more to the left in the string) than its grammatical location. In other words, an object's (semantic/LF) interpretation may be at a lower position than the one it surfaces at, such as adjacent to its selector (<hola> below).

- (6) a. *i gang d Wösch ga hola* low object, raised  
 I go the laundry get  
 I go get the laundry
- b. *i gang ga d Wösch hola* low object  
 I go the laundry get  
 I go get the laundry

The latter duplicate, <ga>, alternates between two locations: One position *adjacent to the embedded verb* and the other position has this adjacency intermitted by the (embedded) object (if there is one). Put differently, the nominal object <d Wösch> alternates between a position *adjacent to its selector verb <hola>* and a position where this adjacency is *intermitted by the verb duplicate*. This potentially sheds light on the syntax of the verbal domain (in Alemannic and perhaps generally), since this object alternation is an overt structure indicator, permutations of which bear a meaning difference. This will be discussed thoroughly in the *Analysis* part (II) below.

In other attested doubling phenomena (described in the next section), *doubles* land in topic (i.e., left edge of the C-domain) position. Contrarily, Alemannic verb doubling seem to be simple *Verb-second*-constructions (which is the unmarked order for Alemannic in root/matrix clauses). In Verb-second (V2), the left edge of the C-domain is supposed to host the subject, the finite V is thought to sit at C<sup>0</sup>. With verb doubling, another, this time non-finite, instance of the same V is located within the verbal (i.e., V or T/I) domain. Shortly: The only apparent difference to non-verb-doubling V2 constructions in, say, Alemannic or Standard German, is the doubling itself.

Subordinate clauses (embedded clauses) show the same pattern of word order with respect to verb doubling as main clauses do: The shortened double is adjacent to the embedded infinitive, except when an object intermits, just as discussed directly above. Curly brackets indicate complementary distribution below.

- (7) a. *gfrögt obi ga schaffe chäm* subordinate clause  
 asked if I work come.conj  
 asked if I'd come to work  
 Stark et al. (2009-2014, ID 4745)

- b. *gfrögt obi {em} ga {em} hülfe chäm* subordinate clause  
 asked if I (him) (him) help come.conj  
 asked if I'd come to help him

There are cases where a shortened instance occurs without a *normal* full-length, or inflected, instance – this is when an auxiliary or a modal subordinate such a shortened instance. In (8) this is the auxiliary <ind> “be”. IPP (*Infinitivus pro Participio*) may cause the rightmost <ga> to be pronounced (instead of an expected, inflected one, in this case a participle <ggange>) – see the discussion in section with respect to (Schallert, 2014)’s thesis on IPP in Vorarlberg Alemannic.

- (8) *Mir sind go tanze* Participle mystery  
 we AUX dance  
 We went dancing

Recall that the Alemannic verb doubling construction always consists of an embedded non-clausal infinitive. This follows from the fact that the four doubling verbs cannot, qua their lexical properties, take a clausal complement (just as little as their translations in English could) – they take non-clausal complements. Non-clausal complementation can be characterized by *status* (Kiss, 1995, building on Bech (1983)). According to him, to some extent, *status* is to a non-clausal verbal constituent what *case* is to a nominal constituent. In contrast, verbals don’t bear gender, number, or case.

“It seems that nonfinite complements [of verbs] ... cannot be analyzed analogously to the connection between a verb and its nominal object. ... Nonfinite complementation is thus a mode of selection relation between two syntactic elements.”<sup>2</sup> (Kiss, 1995, p. ix).

Kiss argues for a classification in terms of three properties, one of them being *status* (*Status*), the others being subjectifiability (*Subjektfähigkeit*) and rootness (*Satzwertigkeit*). A formal explanatory theory of what could be classified as raising/control, according to him, is better off with this three-property classification – the traditional term *coherence* is mostly captured by *subjectifiability* (*Subjektfähigkeit*). *Orientation* is Kiss’s term for the choice of subject or object control in subjectifiable complementation.

- (9) KISS (1995)’S STATUS 1 AND 2

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<sup>2</sup>“Infinite Komplemente [von Verben] ... scheinen nicht in Analogie zur Verbindung eines Verbs mit seinem nominalen Objekt beschrieben werden zu können. ... Infinite Komplementation ist somit ein Modus der Selektionsbeziehung zwischen zwei syntaktischen Elementen”

- |    |                        |             |
|----|------------------------|-------------|
| a. | er versuchte zu kommen | good type 2 |
| b. | *er versuchte kommen   |             |
| c. | er möchte gehen        | good type 1 |
| d. | *er möchte zu gehen    |             |

Of which type are the doubling verbs? I consider types one and two – Kiss’s 3d type selects a participle (like the Aux, <be>, in English can) (ibid., p. 4). Below I demonstrate counter-evidence for both, respectively.

Table 1.4: Kiss’s status  
type      contra

- |    |             |                                    |
|----|-------------|------------------------------------|
| 1. | <i>bare</i> | not bare (but with duplicate)      |
| 2. | <i>zu</i>   | lack of incorporatibility (see 10) |

Counter a *zu* analysis, there is asymmetric ability of incorporation of <zu> vs <ga> in split verbs, shown in (10) below.

- |      |    |                               |                    |
|------|----|-------------------------------|--------------------|
| (10) | a. | <i>i wag s aa-z(um)-luaga</i> | <zu>, incorporated |
|      |    | I dare it look-at.incorp      |                    |
|      |    | I dare to look at it          |                    |
|      | b. | <i>i wag s zum aluaga</i>     | <zu>               |
|      |    | I dare it to look-at          |                    |
|      |    | I dare to look at it          |                    |
|      | c. | * <i>i gang s aa-ga-luaga</i> | <ga>, incorporated |
|      |    | I go it look-at.incorp        |                    |
|      |    | I go look at it               |                    |
|      | d. | <i>i gang s ga aaluaga</i>    | <ga>               |
|      |    | I go it look-at               |                    |
|      |    | I go look at it               |                    |

### 1.3 Variation

It is possible for the doubling verb and the shortened infinitive to be lexically (morphologically) different from each other. Similar phenomena have been given the names lexical mismatch (e.g., by Landau), morphological mismatch (e.g., by Thoms & Walkden) and cross doubling (e.g., by Glaser; this term

further restrains, see below). Two examples for such mismatch <ga> doubling are given in (11) below:

- (11) a. *si loufed s ga hoola*  
 they walk it get  
 they go to get it
- b. *dänn han i n ga ufrumme gscheckt*  
 then AUX I him tidy up told  
 then I told/sent him to tidy up

A special case is when the *odd* duplicate, here <loufed> and <gscheckt>, is itself one of the doubling verbs (however, crucially, distinct from the duplicate), such as “khoo” below. (12) shows an East/West distinction within Alemannic. I normalize the consonant to <kh> here to ease focus on the typologic difference.

- (12) a. *khoo cho hälfe* West variety  
 come help  
 (to) come (to) help
- b. *khoo ga healfe* East variety (cross-matching)  
 come help  
 (to) come (to) help

Since duplicates are intendedly left unglossed, note that <ga> is the duplicate of <gaa>, <cho> the duplicate of <choo>/<khoo>. These are the default variants (in the respective subdialect) of doubling <choo>/<khoo>, respectively, that is, both require exactly their duplicate as shown above to be well-formed.

This special case of “regular but irregular” doubling of <khoo>/<ga> is named “cross-doubling” by some authors. It is the only such descriptive *odd* or *cross* curiosity here. However, the above East/West distinction is also significant as for how many of the (other) doubling verbs of table (1.2) actually double. Dashes indicate *no doubling*. Table 1.5 shows the distribution:

Table 1.5: The two related Alemannic doubling systems

	goo	kchoo	loo	afoo
East Alemannic	go	go ( <i>cross</i> )	-	-
West Alemannic	go	cho	lo	afo

While varieties in western Switzerland double the verbs <goo> “go”, <choo> “come”, <loo> “let” and <afoo> “begin”, varieties in Eastern Switzerland, Liechtenstein and Vorarlberg only double <goo> “go” and <koo>

“come” (both with the duplicate <go>). Badenian and Alsatian seem to fall into the East system. From all observations discussed until now, the two systems seem identical, although the *east* seems impoverished, when compared to the *west* system. A finer-grained typologic account of this variation is given in the form of a poster by Stoeckle (linked in the References).

It is not evident from Badenian and Alsatian data whether it has the West or the East (= mismatch) property (since only <go> is attested).

- (13) a. Dann **chönnd** er **go go** spiele Badenian  
 Lötscher (1993, p. 182 = (10)b, BadWB 2,332, emph. added)
- b. Hani welle **go** schläcke. Badenian  
 Lötscher (1993, p. 182 = (10)a, BadWB 2,332, emph. added)
- (14) a. Ich bin **gange<sup>n</sup> ge<sup>hn</sup>** höre<sup>n</sup> Alsatian  
 Lötscher (1993, p. 182 = (9)a, ElWB 1,188, emph. added)
- b. Ich **ge<sup>h</sup> ge<sup>hn</sup>** bade<sup>n</sup> Alsatian  
 Lötscher (1993, p. 182 = (9)b, ElWb 1,888, emph. added)

Summarizing, this chapter 1 has demonstrated that Alemanic Verb Doubling occurs under four specific lexical verbs – the doubling verbs <goo>, <choo>, <afoo>, <loo> –, as well as under auxiliaries and modals. What they subordinate is, besides their actual complement, a duplicate of themselves – or another doubling verb in *cross* cases, as well as in the case of doubling under an auxiliary or a modal. There is variation of order as to the position of the (embedded) verb’s object(s), like seen in *raising* phenomena elsewhere in Germanic. The syntax of verb doubling has been compared to *zu-* and to *bare* infinitives, concluding that it isn’t either. Besides variabilities in constituent configuration, there have been shown semantic constraints for verb doubling: While in some cases, the verb doubling does what its name says, in other cases (*lexical mismatch* or *cross-doubling*) some two distinct forms occur together as a doubling configuration (e.g., <goo> and <cho>).



## Chapter 2

# Verb doubling elsewhere

In languages other than Alemannic and even not within the Germanic family, phenomena have been described by linguists as verb doubling, or similar. The attests include, besides the Alemannic facts discussed above, languages of the Indo-European (Germanic, Romance) (Cable, 2004), Afro-Asiatic (Semitic) (Landau, 2006), Niger-Congo (Kru) Koopman (1984) families, among others. The observation, like with Alemannic verb doubling above, is that there are two (verbal) forms, identical or at least similar to each other, that seem to share one semantic contribution to the clause. *Similar* (instead of identical) pairs may be so in the sense of genus-species, that is, one being more specific than (and thus word-semantically “contained” in) the other, like with mismatch doubling in Alemannic.

However, most other verb doubling phenomena reported here are topicalization or clefting (both: fronting) – that is, *marked* – structures, while Alemannic verb doubling is unmarked, or, the *default*. If the Swabian facts shown below are counted as Alemannic (which I will in fact argue for in the second part), Alemannic verb doubling is even the *only* such default, or *root* phenomenon among those reported here.

As mentioned above, the only superficially visible difference between a doubling and a non-doubling configuration in Alemannic is the actual doubling (the two-time presence of one verb) itself. Exemplified in the previous section, Alemannic verb doubling is therefore different in that the duplicate can be adjacent (that is, a structural sibling or close cousin) to the verb it doubles, while in the other languages’ verb doubling phenomena, one duplicate undertakes long-distance left dislocation to the left edge (thus linearly the beginning) of the clause, or even beyond the clause.

The commonalities and obvious difference between verb doubling in Alemannic (default) versus verb doubling elsewhere (cleft, topicalization) will be discussed in section II.

In the subchapters that follow, I survey other verb doubling phenomena, some of them consisting of not only verb, but also object (thus nominal)

doubling (as parts of verbal predicates). In contrast, purely non-verbal multi-occurrence phenomena, such as resumptive pronouns (which are nominal) or negative concord (which occurs in the verbal domain, but is not verbal per se), will not be investigated.

## 2.1 In Indo-European

### 1. Swabian

Schallert (2014) found almost 100-year-old occurrences of verb doubling in the *Swabian Dictionary* (Fischer & Pfeiderer, 1904, 1911). Swabian is a special case in that it neighbors those Alemannic dialects investigated here: It is the northern neighbor of eastern Alemannic.

"As a curiosity it is to mention that, in the *Swabian Dictionary*, there is evidence, such as (278) [(15) below], too, that indicate a Doubling construction in the context of perception verbs (...)" <sup>1</sup> Schallert (2014)

- (15) a. Ich habe ihn **hören** schreien **hören**. Swabian  
 (Fischer & Pfeiderer (1911, col. 1815), as cited in Schallert (2014, (278a)))
- b. **Siehst** ihn net **sehe** laufen. Swabian  
 (Fischer & Pfeiderer (1920, col. 1317), as cited in Schallert (2014, (278b)))

I will briefly argue in the second part of this work that this phenomenon is closely related, or identical, to Alemannic verb doubling (contra Schallert (2014)).

### 2. Yiddish

Cable (2004) notices *predicate clefts* such as shown below in (16) in Yiddish:

- (16) *Essen est Maks fish*  
 to-eat eats Max fish

As for eating, Max eats fish.

(Cable (2004, p.2, (1a)))

---

<sup>1</sup>“Als Kuriosum sei an dieser Stelle erwähnt, dass sich im Schwäbischen Wörterbuch (...) auch Belege wie (278) finden, die auf eine Verdoppelungskonstruktion im Kontext von Perzeptionsverben hindeuten (...).”

Yiddish can double (i.e., cleft) a verbal predicate also with its objects: The clefted (copied) instance must be a regular infinitive, with one exception: Iff the non-clefted duplicate is an Aux subordinating a participle, the clefted instance may be that participle, too (ibid., p. 2), as shown below in (17):

- (17) a. \**Gegessen est Maks fish* Yiddish  
 having-eaten eats Max fish

As for having eaten, Max eats fish.  
 (Cable (2004, p.2, (2d)))

- b. *Essen hot Maks gegessen a fish* Yiddish  
 to-eat has Max eaten a fish

As for eating, Max has eaten a fish.  
 (Cable (2004, p.2, (3)))

- c. *Gegessen hot Maks gegessen fish* Yiddish  
 having-eaten has Max eaten fish

As for having eaten, Max has eaten fish.  
 (Cable (2004, p.2, (2a)))

Josef Bayer (p.c.) notes that cases like this, where a full verb instead of a dummy verb (<tun>, <do>, ...) resumes a verb in order to spell-out (*ausbuchstabieren*) finiteness morphology, also occur in German (although, for me, this is the first time to hear it in German):

- (18) Käskrainer **essen isst** nur der Alfons.

Bayer & Freitag (to appear) report and discuss a few more such cases in Prussian and in Alemannic and Standard German.

Besides *actual doubling*, there is also lexical mismatch in Yiddish predicate clefting:

- (19) ?*Forn kayn amerike bin ikh gefloygn keyn nyu-york.* Yiddish  
 to-travel to America am i flown to New

As for traveling to America, I have flown to New York.  
 Cable (2004, p. 9, = 16a, “mildly imprefect”)

As mentioned above, a clefting configuration like these shown here of Yiddish differ somewhat from the Alemannic V2 doubling configuration (where no cleft, or topicalization is apparent). This is true for all of the following cross-linguistic comparisons in the next subsections and will be given analysis in section II.

### 3. English

Thoms and Walkden investigate configurations of fronting of verbal phrases in English like in (20). Unlike Alemannic, and unlike the non-Alemannic data above (Swabian, Yiddish), the duplication occurs across a clause boundary. Thus, these facts are reported here to give a bigger picture of verb doubling generally, instead of to directly compare them to Alemannic.

- (20) a. J said he would **win the race**, and (**win the race**) he did/will (do)
- b. We hope W had **won a gold medal**, and (**won a gold medal**) he had
- c. J said he would be **running for office** this year. And (**running for office**) he should be.
- Thoms & Walkden (2019, (8), (9), (43), emphasis changed, proper names reduced)

As indicated by the brackets, these configurations contrast to Alemannic verb doubling in that only one duplicate is sufficient for grammaticality. Two are good, too. This fact seems typologically interesting here, but is even more important for Thoms and Walkden's novel analysis of the configuration, without movement (but instead base-generation).

During my work on this thesis, I heard the following data uttered, which is a syntactic mismatch variant, in that the lower instance (<walked>) is **not** morphosyntactically or semantically contained in the other (the inverse is true).

- (21) ... he would not get in a wheelchair, cause he always said he'd **walk**. Always determined **to walk**. And **walked** he did, but it took a lot of people to ... <sup>2</sup>

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<sup>2</sup>The Man Who Lost His Body. BBC. [dailymotion.com/video/x12647t](https://www.dailymotion.com/video/x12647t)

#### 4. Russian

Aboh & Dyakonova (2009) note the following cleft construction in Russian:

- (22) *Videt'*(-to) *ja ee davno ne videla*,... Russian  
see(-PTCL) I her long NEG see

“As for seeing her, it’s been a long time since I saw her, ...”

Aboh & Dyakonova (2009, p. 1039 = (8) gloss simplified)

If the clefted instance is finite, the particle <-to> is obligatory:

- (23) *Slomalas*\*(-to) *ona slomalas'*, ... Russian  
break she break

As for breaking, it did break

Aboh & Dyakonova (2009, p. 1039 = (9) gloss simplified)

#### 5. Brazilian Portuguese

Cable (2004) attests verb doubling not only in Yiddish, but also in Brazilian Portuguese. Just as Yiddish, nominal arguments of the predicate (<peixe> “fish” below) may be included in the clefting (i.e., they may be fronted, too). My interest here is on v-doubling, not on doubling of the arguments.

- (24) a. *Comer peixe, eu normalmente como salmão* Brazilian Pt.  
to-eat fish I usually eat salmon

As for eating fish, I usually eat salmon.

Cable (2004, p. 11, (21a))

- b. *Temperar o cozinheiro temperou o peixe.* Brazilian Pt.  
to-season the cook seasoned the fish

As for seasoning, the cook seasoned the fish.

(Bastos (2002) as cited in Cable (2004, p. 21, (38a)), emph. changed)

## 2.2 In Afro-Asiatic

### 1. Hebrew

Landau (2006) finds “V-doubling” (p. 32) in Hebrew. He “investigat[es] (...) the factors requiring, allowing or excluding the phonetic expression of chain copies.” (ibid.), and it is along these lines that the (transformational part of the) analysis in section II will be attempted.

- (25) *lirkod, Gil lo yirkod ba-xayim* Yiddish  
to-dance Gil not will-dance in-the-life

As for dancing, Gil will never dance.

(Landau (2006, p.32, (1))

## 2.3 In Niger-Congo

### 1. Kru

Koopman reports verb doubling in Kru languages, while not specifying whether it is Vata or Gbadi. She writes that this also “(...) occurs in many African languages, and also in many of the Caribbean creoles (cf. Haitian, Sranan, Papiamentu, to mention but a few) (...), a focused verb occurs in sentence initial position, indicating focus or contrastive focus.” (Koopman, 1984, p. 154)

- (26) *ngōnō ñ ngònò-ō?* Kru  
sleep you sleep-Q

Are you SLEEPING?

(Koopman, 1984, p. 154, emphasis changed)

### 2. Yoruba

Kobebe (2006) investigates predicate cleft configurations in Yoruba. Yoruba belongs to the Niger-Congo language family, as does Kru, which has been shown above to have verb doubling. Kobebe, like Koopman above, notes that also Caribbean Creole languages show this, which follows from their Niger-Congo syntactic substrate. Typically for clefting, the fronted instance (<kiku>) bears verbal-lexical (i.e., V-)focus (indicated by Kobebe’s parenthesized contrast in the gloss).

(27) *Kiku ni Tolu ku*  
Dying NI Tolu die

Yoruba

Tolu DIED (not something else)  
(Kobebe, 2006, p. 180 = 3.35)

Summarizing, this section 2 has reported, perhaps exhaustively, verb doubling phenomena across languages. Tangent to the investigation of *verb* doubling is the observation that some languages (English, Yiddish, Hebrew, Portuguese) can also double (complex or bare, or *pro*-) *nominals*. This indicates fronting of phrases instead of bare verbs (cf. Cable's *bare* vs. *phrasal* labelling), a distinction also possible, however harder, in the observation of verbs only. Besides their scopal indication, nominal duplication (be it inside verb phrases) is not further investigated in this thesis, since it primarily discusses *verb* doubling (which in Alemannic does **not** include object doubling). Above, multiple types of verb doubling have been reported. The two major dividing lines are, firstly, between super-clausal (English) and inner-clausal doubling (apparently all others reported here). Within the latter group, the dividing line lies between marked, *fronting* configurations (all but Alemannic) and default configuration (Alemannic). The fact that Alemannic is a Verb-second language reduces the weight of the last argument, since Verb-second is a kind of fronting. However, typological differences regarding the second dividing line remain under this conception.





Part II

Analysis



In this section I investigate the syntax of the Alemannic Verb Doubling phenomenon attested in part I. First, I try to discuss all aspects in a theory-agnostic way (chapter 3), that is, using notions independent of certain frameworks such as GB or LFG. This discussion starts with explaining the semantic nature of the doubling pairs (or triplets), concluding that, depending on the type of doubling configuration, the duplicates can resumptively stand for information already uttered, or contribute to the sentence semantics on their own (section 3.1). The discussion continues to an attempt of the formalization of realization constraints for Alemannic verb doubling, that is, why is it that, in given cases, one, or two instances of a verb must be uttered, and why three or more are grammatical, too (section 3.2). The theory-agnostic chapter ends in a discussion of the diachronic genesis of verb doubling, with focus on the special semantics the class of [motion] verbs it occurs on has, as well as on the (temporal) semantics of adverbs homophonous to the duplicates (section 3.3). After this theory-agnostic part a full account of a derivation in terms of Minimalism/Government & Binding theory is demonstrated (chapter 4), followed by the demonstration of a full account of a lexical-functional model (chapter 5). Chapters 4 and 5 are analyses that, to the best of my knowledge, have not been done before.



# Chapter 3

## General remarks

### 3.1 Resumption semantics

This chapter seeks to explain two things: First, why can duplicates replace full infinitives, or even participles, in some configurations? Second, why can duplicates stand under verbs they lexically do not match?

For the answer of both questions we need to establish as the baseline what the meaning of a duplicate even is. In most data samples, the duplicate in a verb doubling pair has no obvious meaning. There just seem to be two forms that share one “semantics”. The contemporary variety of Alemannic in Vorarlberg illustrates this in that identical, but non-doubling configurations are interchangeable (for some speakers, cf Schallert (2010, p. 17, fig. (3))) with the doubling configurations, as shown in (28):

- (28) a. %Mir gond bada East Alemannic  
b. Mir gond ga bada East Alemannic

In general, it can be classified as *resumption*, although that term usually describes *nominal* multi-occurrence phenomena. Kandybowicz (2015) writes on verbal resumption in Asante Twi (of West Africa) and identifies prosodic constraints as the driving force. Calling the phenomenon at hand *verbal resumption* would not explain anything per se, but, in drawing the analogy to the nominal domain, allows for an interesting new perspective on the emergence of the (morphological) forms involved: Just as in Hebrew (Kandybowicz, 2015), the resumed element is a maximally *bare*, default (or *elsewhere*) form in Alemannic verb doubling.

There is more to Alemannic verb doubling than resumption of a default duplicate, though: Consider (29), where an auxiliary embeds a +PAST complement. There seems to be a *division in labor* between all realized verbal duplicates (including the inflected instance). Note that the duplicate <ga> in (a) is the preferable alternative to the participle in (b), and utterance of both elements is equally dispreferred.

For the point to be made now we need to assume what Halle (2000) calls *Fission*. In the doubling/resumption of the verb item, features are *split off*. The hypothesis is that the duplicate, being a resumptive element, bears only *parts* of what the element it resumes bears. Then, <ga> bears only the lexical content, [MOTION] or similar, as a feature, whereas the participle <gange> bears that one plus a [+PAST] or [+PERF] (*perfective aspect*) feature. This explains the well-formedness of (a) below. [+PAST] is here assumed at the auxiliary <sind>, and the remainder of features to be matched by the resumptive element is [MOTION]. In *DM* speak, <ga> then matches the required features the position and is inserted.

- (29) “We went swimming”
- a. Mir siand ga bada preferred
  - b. Mir siand bada gange
  - c. Mir siand ga bada gange

In other words: Whenever some participle or infinitive contributes only lexical content to a phrase, and +PAST is indicated by AUX, too, that participle or infinitive may be substituted by a duplicate. Since the duplicate is the barest possible form of the verb, I assume it denotes merely lexical content. Following economy, no further [+PAST] need be realized.

Although this chapter is not dedicated to a framework such as Minimalism/G&B or LFG, I hereby have used the notions of Distributed Morphology (Halle & Marantz, 1994) to make syntactic or semantic points. Although, undesirably, this shifts the discussion terminologically under the hood of transformational theory, I need to stick to it for argumentation. Any theory that integrates morphology in syntax can generatively explain lexical mismatch triggered by syntactic configuration. The explanation here assumes Late Insertion, which says that the phonological expression of syntactic terminals is in all cases provided in the mapping to PF (and not earlier). That is, under this view, syntactic categories are purely abstract, having no phonological content [until] after syntax (...), [by] Spell-Out” (Harley & Noyer, 1999, p. 3). In contrast to theories where full words are selected and permuted by syntax, “in DM the syntax proper does not manipulate anything resembling lexical items, but rather, generates structures by combining morphosyntactic features (via Move and Merge) (...)” (Harley & Noyer, 1999, p. 3). Importantly, DM assumes no role of morphology proper in terms of the derivation: Syntactic nodes are not subject to morphological processes whatsoever. Instead, morphology and syntax are the same device, and any morphophonological effects take place here. (“Syntactic Structure All the Way Down”, p. 3) A form of it has been used by Caroline Heycock (in a talk at Konstanz in 2019), who explains “got” as the spelt-out trace of have (in V, while have is in T) to account for two diverging possessive syntagmas

using “have” in a variety of English.

The special form of duplicates – they look like *shortened infinitives* – could thus be the most unmarked, or least specified, form (*Vocabulary Item* in DM speak). They might be what Pesetsky (1995) calls “root”, Harley & Noyer (1999) call l-morpheme or Landau (2006) calls “bare V”. This will be investigated further in chapter 3.3.

Not only the number and shapes of duplicates in regular doubling under AUX (as shown in 29) can be accounted for by fission, also cases of lexical mismatch. Recall that mismatch is what Yiddish and Alemannic, as well as Brazilian Portuguese, among others, allow for, but other languages don’t, e.g., Hebrew (Landau, 2006, p. 45).

- (30) a. ?**Forn**    *kayn amerike bin ikh gefloygn keyn nyu-york.*  
to-travel to    America am i    flown    to    New

As for traveling to America, I have flown to New York.  
Cable (2004, p. 9 = 16a (“mildly imprefect”))

- b.    *ar züücht gi Amerika ga an Master maha*  
he moves    to America    a    Master’s do

He moves to America in order to do a Master’s.

Landau takes cases of lexical mismatch as “clearest evidence in favor of [a base-generation analysis]” of his Hebrew data (a “relative-clause’-type” analysis, where the duplicate is base-generated and a null operator moves in order to license it). However, in chapter 4 I will try to integrate lexical mismatch within a movement account. Above, I’ve attested several such mismatches in Alemannic verb doubling, one of them in 30b above. Note that the Yiddish example in 30a also serves to show a mismatch in the object nominal in the work cited; since the Alemannic verb doubling construction does not allow for this, we are here concerned with the verbal mismatch, only.

Let us clarify the exact semantic relation in mismatch pairs first. Consistent among all mismatch doubling phenomena reported here is that mismatching items must be in a genus-species or similar contained relation. It comes with no surprise that the most versatile of all doublers, <go> (‘go’), is also considered a “basic notion” in verbal semantic theory, although the (degree of) basicness is controversial: Wilkins & Hill (1995) “examines the assumption that ‘come’ and ‘go’ are lexical universals which manifest a universal deictic opposition.” (ibid., p. 209)

“As an argument for the special status of ‘come’ and ‘go’ as fundamental motoin verbs, it has been claimed that ‘some of the most basic human activities’ include ‘movements such as *go, come* ...’ (Heine et al., 1991, p. 35), and that ‘[t]he most common

and earliest acquired verbs of motion are *come* and *go*' (Miller & Johnson-Laird, 1976, p.531). Such statements are meant to testify both to the ontogenetic primacy and to the physical and perceptual basicness of 'come' and 'go'. (ibid., p. 210, citations formally altered).

Wilkins & Hill also report that the meanings of "go" and "come" are resolved quite late in acquisition (Clark and Garnica, among others). He reports that ...

"(...) Lucy (1994) and Levin and Rappaport Hovav (1992) have shown that motion verbs do not constitute a single formally discernible natural class (...)" (p. 247)

Important for our discussion of <khoo>/<go> cross-doubling, as well as of mismatch doubling, is the following insight about <come>:

"(...) if lexical universal is understood in the strictest sense as meaning that all natural languages possess a monomorphemic root which codes the same conceptual content, then it is possible to state with confidence that COME is *not* a lexical universal. (p. 248)

The semantic riddle of motion verbs, illustrated with help of Wilkins & Hill (1995), has set the necessary baseline for the discussion of motion semantics of mismatch doubling here: We can consider there to be a **GO** or [MOTION] atom, but possibly poorer than the <go>-like verbs found in Germanic. It is clearer for <come>, which, as Wilkins argues, can under no account be such an atom. Having clarified this, we can now discuss compositional aspects of Alemannic verb doubling. For the present work, I simply choose [MOTION], that is, the property that there is a change of location of some participant (and not anything more). A generative-semantic syntax tree for a case like 30b then looks like this (note that I use generative semantic here in a sense *not* necessarily linked to the theory of Generative Semantics of the middle 20th century):

Analogously to the case dubbed *participle mystery* above, the partial deletion/extraction of only the [MOTION], but not the [TO-SPEAKER] property, is a process of fission (Harley & Noyer, 1999, p. 4). Just as with non-mismatch doubling above, where participles can drop, <ga> here minimally satisfies the required properties of the V slot [MOTION].

We see that <ga> behaves like a resumptive pronoun: It is the tail of a chain (in a non-technical sense), rather than a proper element on-its-own. The reasons for <ga> surfacing at all may be its indication of scope, and is therefore not a redundant element, as will be discussed in this and in the following section (3.2).



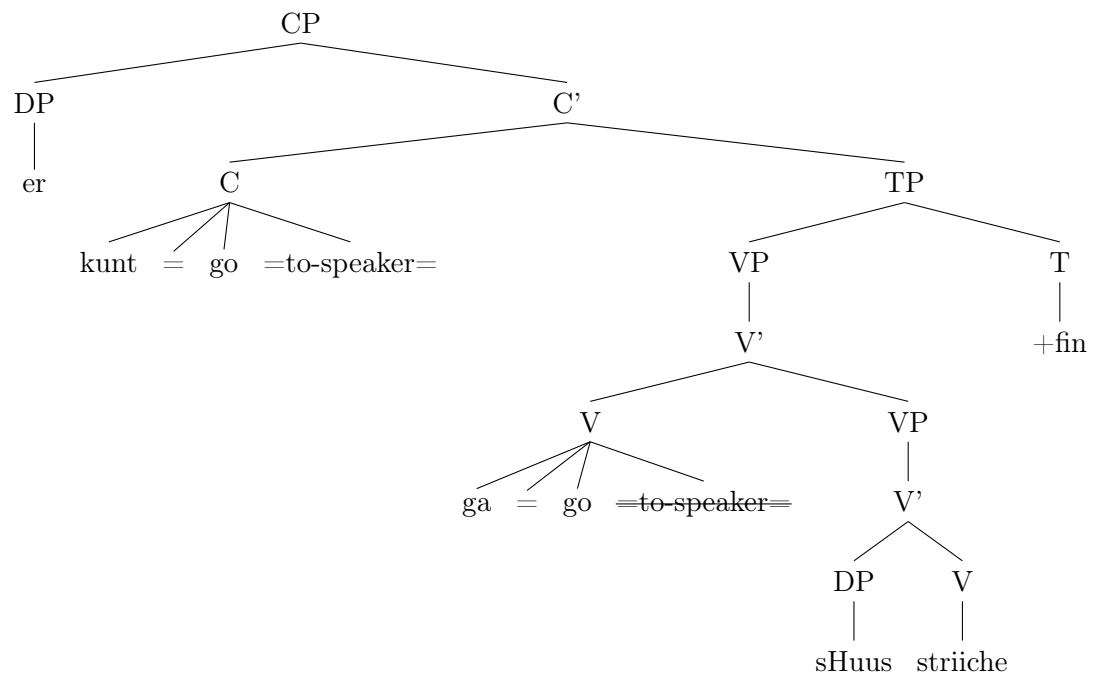


Figure 3.1: ‘Generative semantics’ of mismatch doubling

## 3.2 Multi-occurrence typology

I need to note on *doubling*, hinted by Josef Bayer, the phenomenon at hand is no *doubling*, but simply the occurrence of two similar/related (but not identical) elements. If true, this analysis applies not to the status quo of Alemannic, but rather to the point in time when grammaticalization (into this novel element) started. That is, Bayer convinces me that there is no clear evidence of actual *doubling* (as in: movement) of one element seen in terms of a derivation, however, seen typologically, it is hard to argue against *doubling*. Next, a typologic distinction of Alemannic verb doubling (or Alemannic verb multi occurrence) is given.

Landau (2006) noted on verb doubling, that ...

"Crosslinguistically, V-copying constructions seem to fall into two pragmatic categories: Topicalization and cleft. The predicate cleft construction, attested in African and Caribbean Creole languages, is consistently associated with a contrastive focus interpretation. The topicalization construction, attested in Hebrew, Yiddish and Portuguese, is pragmatically more open, allowing simple topic interpretation." Landau (2006, p. 40)

Clefting and topicalization are marked structures. Koopman (1984) interestingly sees them in analogy to wh-movement in the nominal domain:

"the equivalent of move- $\alpha$  to an x-position, which underlies wh-movement constructions (Chomsky, 1977), also underlies the predicate cleft construction." Koopman (1984, p. 153)

Alemannic verb doubling, however, is not such a structure. Landau's claim above is thus not appropriate any more: Alemannic verb doubling is neither topicalization nor cleft. This is a fundamental difference between Alemannic verb doubling and verb doubling elsewhere. However, since Verb-second assumes a high verb (in C), it is fair to say that there is already some *topicalization* to some degree in the Germanic default V2 configuration. In this light, the typologic difference diminishes, but remains.

As hinted in the description, I now readdress the Swabian data to make a typologic point. The Swabian data, repeated below, are the most similar phenomenon to Alemannic verb doubling cross-linguistically. They share with Alemannic the V2 configuration without any topicalization or cleft whatsoever. Even more such identity can be seen in Badanian and Alsatian, repeated after the Swabian data. I conclude that the Badanian and Alsatian data are generated by a grammar that must be counted into Alemannic. As for Swabian, for the purpose of analysis, I argue to treat the data like Alemannic.

- (31) a. *Siehst ihn net sehe laufen.*  
 see.2sg him not see walk.  
 Don't you see him walk(ing)?  
 (Fischer & Pfeiderer (1920, col. 1317), as cited in Schallert (2014, (278b)))
- (32) (= 13)
- a. Dann **chönnd** er **go go** spiele Badenian  
 Lötscher (1993, p. 182 = (10)b, BadWB 2,332, emph. added)
- b. Hani welle **go** schläcke. Badenian  
 Lötscher (1993, p. 182 = (10)a, BadWB 2,332, emph. added)
- (33) (= 14)
- a. I<sup>ch</sup> bin **gange<sup>n</sup>** **ge<sup>hn</sup>** höre<sup>n</sup> Alsatian  
 Lötscher (1993, p. 182 = (9)a, ElWB 1,188, emph. added)
- b. I<sup>ch</sup> **ge<sup>h</sup>** **ge<sup>hn</sup>** bade<sup>n</sup> Alsatian  
 Lötscher (1993, p. 182 = (9)b, ElWb 1,888, emph. added)

Although data here is sparse, the fact that the speaker in 13 above shortens the “duplicate” <sehe> to a greater extent than the embedded “laufen”, suggests an analysis as (Alemannic) verb doubling. Although none of these (sehe, laufen) are shortened to the extent seen in Alemannic verb doubling shortening, there is a dichotomy of the absence/presence of the final -n. I acknowledge that this might have nothing to do with shortening, but rather display the syntactically “frozen” nature of the duplicate here. If, as in Alemannic elsewhere, verb doubling diachronically perishes, it would follow that the duplicate is an archaic form and thus “frozen”, or idiomatized. I argue that both options (shortened, or idiomatized) explain the different shape of <sehe> (StdG sehen) and <laufe> (StdG laufen) below. Schallert (2014) does not judge this as enough of a contrast, but instead argues that there is no shortening whatsoever <sup>1</sup>

Acknowledging the sparse data basis, I do argue, contra Schallert (2014), that Swabian verb doubling is in essence Alemannic verb doubling. For illustration, two parallel examples from each are given in (34). In discussing this issue, Schallert (p.c.) noted that the orthography in the source is not reliably reflecting the actual utterances. My point of diverging -n endings remains.

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<sup>1</sup>“Darin eine direkte Entsprechung zum Schweizer Alemannischen zu sehen, wo die Ververdoppelung (...) auftritt (Lötscher 1993), ist angesichts der nicht-reduzierten Doppelungsform allerdings nicht sehr plausibel.”

- (34) a. *Siehst ihn net sehe laufen.*  
 see.2sg him not see walk  
 Don't you see him walk(ing)?  
 (Fischer & Pfeiderer (1920, col. 1317), as cited in Schallert (2014, (278b)))
- b. *Gohsch e nid ga hoola*  
 go.2sg him not get  
 Don't you go pick him up?

We have now clarified that Swabian and Alemannic (including West, East, Alsatian and Badanian) verb doubling is one (kind of) syntactic phenomenon: Namely spelt-out V in a Verb-second configuration (where V is assumed C). So the doubling investigated here is not like doubling reported in other languages above – it is not the schema for topicalizing a constituent. A resumptive phenomenon, it does not even bear on information structure (since it only resumes information introduced by other elements). So what is the purpose of Alemannic verb doubling? If it is true that grammar follows the principle of Economy, no verb doubling, useless as seems to be, should ever happen. Before *Economy*, this was called *stuttering prohibition* in Kornfilt (1986). However, it does, and must, according to speakers' judgement. The reason, I claim, is its serving as an (indirect) scope marker: <ga> (or the duplicate of any other doubling verb) is an uttered V<sup>0</sup>, a position otherwise empty in a V2 configuration.

Recall the object *raising* constructions from the description above, repeated in (35)

- (35) a. *i gang d Wösch ga hola*  
 I go the laundry get  
 I go get the laundry
- b. *i gang ga d Wösch hola*  
 I go the laundry get  
 I go get the laundry

Scope of nominal or adverbial arguments of the verb then become unambiguously interpretable, which would not be possible without a duplicate, as shown in Standard German below:

- (36) a. *ich gehe die Wäsche [t holen]*  
 I go the laundry get  
 I go get the laundry

- b. *ich gehe [die Wäsche holen]*  
 I go the laundry get  
 I go get the laundry

Alemannic verb doubling is thus a cue for the structure of a verbal phrase with respect to (raised) objects. In contrast to other elements that embed non-finitely, like modals, the doubling verbs of Alemannic –as the name says– bear a duplicate, which serves as a scope marker.

The question what it scopes over is one not to be answered in a discussion about Alemannic verb doubling, but about object raising. This is because no isolated effects can be observed, that is, object raising in verb doubling configurations bears meaning differences like object raising from zu- or bare infinitives, as well as from clausal complements. If the structural account of verb doubling being a V is true, object non-extraction leaves intact a base-generated VP, since after insertion/copying of the finite verb, a root/duplicate at V stays. Naturally, this intact constituent then (a VP as opposed to a remnant VP where finite V has been extracted from and moved to V2/C) is more easy for speakers to grasp or reanalyze, as some informants’ judgements have hinted (“I gang ga s Fahrrad wäscha – des tuat ma”). Lötscher (1993, p. 1) noticed that “[w]hat follows the doubling verb should semantically and rhematically be a uniform predicate and an intentionally controllable act (...)”<sup>2</sup> With Lötscher I argue that a dissociated embedded predicate like in (a) (<get> and <the laundry>) is not an event, but an act, whereas the contiguous embedded one in (b) <get the laundry> is an event. *Event* here does not mean finiteness, but does mean a higher degree of anchoring (to the outside world) than the mere specification like in (a).

For clarification of the importance of this alternation, the following example lists gradually more *specific* (Diesing, 1997) (pro)nouns, in order to show that this factor does *not* (solely) account for the object variation shown above. Below, the weak/strong pronoun forms <o>/<iönn> “him” can be equally inserted in any example. This is true also for indefinite, definite and proper nouns as shown below. The point here is that neither specificity nor phonological ‘weight’ restricts an object’s ability to be raised. Curly brackets indicate complementary distribution.

- (37) I get/pick-up one/him/a friend/the friend/Resi.  
 a. i **gang** {ga} uönn {ga} hola                    indefinite pronoun  
 b. i **gang** {ga} (n-)o/iönn {ga} hola                    definite pronoun  
 c. i **gang** {ga} an/dö Kolleeg {ga} hola                    indefinite/definite noun

<sup>2</sup>“Was dem Verdopplungsverb folgt, sollte semantisch und rhematisch als Prädikat eine Einheit sein und einen intentional kontrollierbare Handlung bezeichnen (...)”

- d. *i gang {ga} (d) Theres {ga} hola* proper name

Moving back to the actual scope marking question, a clearer test than pronouns are quantifiers. There are no effects other than general quantifier raising scope effects, which act at C-domain level and let the verb doubling's semantics in the T/V-domain unchanged.

- (38) I go show one to each one.

- a. *i gang {ga} uönn {ga} jedim {ga} zoagga*

We see that in raising-and-verb-doubling configurations, alternation is free, although it bears a meaning difference: *Not* raising the object is the rare case, and occurs when the verbal phrase as a whole (i.e., including its N-object) is contrasted (for question answering, or focus). What is relevant to the discussion here is that verb doubling behaves just like raising verbs and the infinitive markers they subordinate (examples for the latter are given in (39)).

	object raised to matrix	object not raised
“zu” (raising/control)	default	contrastive
“ga” doubling	default	contrastive

These constructions are similar to raising-from-nonfinite-complement constructions such as with the raising verb <vrsueche> “try” in (39).

- (39) a. *i vrsuoch o/iönn zum seahö*  
 I go the laundry  
 I go get the laundry
- b. *i vrsuoch zum o/iönn seahö*  
 I go the laundry  
 I go get the laundry

A case where verb duplicates occur, but no second (or, first) duplicate is found, still needs to be accounted for. Recall example 8, repeated in (40) below:

- (40) *Mir sind go tanze* Participle mystery  
 we AUX dance
- We went dancing

Three explanations have been published: Hodler analyses it as *Infinitivus pro participio* (IPP), assuming the duplicate to be the *infinitivus*. Lötscher, however, rejects Hodler's analysis and analyses the configuration as *participle*

*ellipsis* instead (p. 13). In an ellipsis approach, van Riemsdijk (2002, p. 151) proposes a silent V to license the empty element. I will not commit to either explanation, nor present another solution. For extensive discussion of *IPP* in Alemannic see Schallert (2010).

In part I I have shown that verb duplicates behave a lot like *zu* of *zu*-infinitives, although duplicates cannot be incorporated like *zu* can (an-*zu*-fangen). With Lötscher I assume that the verb duplicates share a lot of their properties with the infinitive marker <z(u)>, which exists in Alemannic just as in Standard German. What differs is that there is more to the verb duplicates than just the syntactic complementizing, as with <zu>. This will be discussed next.

### 3.3 Motion in grammar, grammar in motion

Elements of the sort of <ga> above usually fall into the (non-)category called *particle*. However, while this term is descriptively fine, it explains nothing. When it comes to explanation of its grammatical properties, and discussion of its assumed diachronic formation, the *particle* label is there only in an intermediate stage.

The doubling verbs in Alemannic are four verbs that share some semantic properties. Furthermore, two adverbs exist, that are identical to a doubling verb, respectively. These have been described in Lötscher (1993), among others. Below I attempt to decompose (Ramchand, 2017) the semantics of these adverbs and the duplicates they are identical with. I will then show that, although belonging to different categories, they share the semantic properties of *motion* and/or *inchoation*.

Table 3.1: Decomposition of the doubling verbs' semantics

	INIT	PROC	RES
goo		Agent	
choo		Agent	Location
afoo	Agent	Theme	
loo	Agent	Experiencer	Theme

Ramchand's  $V_{\text{init}}$  node indicates the initialization of an act, while  $V_{\text{proc}}$  is the procedural aspect of that same act, and  $V_{\text{res}}$  the result. In her framework, each of these might have a (grammatical) subject. For my classification here, a verb that subcategorizes a proc argument (like <go> and <choo>) are deictic/directional (or procedural), and verbs with an argument in the  $V_{\text{init}}$  subject slot (like <afoo>, <loo> above) are inchoative, in that the agent starts or causes some other event.

A coarser classification was given in my Bachelor's thesis (Diem, 2015, p. 18 = fig. 8, reduced):

Table 3.2: Semantic commonalities of doubling verbs

	mvmt.	incho.
goo	+	
khoo	+	
loo		+
afoo		+

Table 3.3: Semantic commonalities of odd-doubling verbs

	mvmt.	incho.
renne	+	
ilade	+	+
schicke	+	+
...		

The point is that all doubling verbs, and also necessarily any non-doubling-verb that is eligible to mismatch-double (e.g. <schicke> *order* with <ga>) denotes either a deictic/directional, or an inchoative act, or one that is both.

This observation becomes interesting when we turn to another category, adverbs, which on first sight have nothing to do with verb doubling. On a closer look, however, there are striking similarities, not only in form, but also in meaning, to the doubling verbs.

Such adverbs exist for two of the four doubling verbs. They have identical form as the respective duplicates: <ga> *just* and <afange> *already*.

The temporal adverb <ga> “in a moment” is identical in form (the phonetic form, and its always unstressed prosody) with the Alemannic verb duplicate <ga>. Similarly, the temporal adverb <aföhe> is strikingly similar to the doubling verb <afo(he)>. In this section I argue that this cannot be a coincidence, for form and for meaning reasons.

<ga> “straight” (as in, “just”, “quickly”) <sup>3</sup> is identical with <ga> “go” [shortened verb doubling form] in its phonetics (a-schwa) and in the fact that

<sup>3</sup>This also occurs as <grad> in Switzerland Alemannic and is not to be confused with <gad> “now”. I give a minimal pair in (41). (a) corresponds to Switzerland Alemannic “grad” (Std. Ger. “gleich”).

- (41) a. *I bien ga do*  
 I am {} here  
 I'll be there in a moment.
- b. *I bien gad do*  
 I am {} here  
 I'm here right now.



it never receives prosodic stress.

In sum, there are

(42) MEANINGS OF <GA>

- a. (ADV) *in a moment; just*
- b. (V) *go*

I argue that the temporal adjective shares the *inchoative* meaning of the verb “go”. The inchoation is visible as the difference of a and b of (43) below, where b denotes is the inchoation of a (telic) event ending in the state that a denotes.

(43)

a	i bien		doo	<i>I'm here</i>
b	i bien	ga <sub>ADV</sub>	doo	<i>I'll be there in a moment</i>
c	ar muoch		gau	<i>He has to leave</i>
d	ar muoch	ga <sub>ADV</sub>	gau	<i>He'll have to leave in a moment</i>
e	ar muoch		schaffa	<i>He has to work</i>
f	ar muoch	ga <sub>ADV</sub>	schaffa	<i>He'll have to work in a moment</i>
g	ar muoch		ga <sub>V</sub> schaffa	<i>He has to go to work</i>
h	ar muoch	ga <sub>ADV</sub> ga <sub>V</sub>	schaffa	<i>He'll have to go to work in a moment</i>

There is, just like with “ga” above, a phonetically shortened infinitive (<afoohe>, “begin”) serving as a temporal adverb. Note that, both for verbs and for shortened instances, <afo> is the standard in West Alemannic, and <afohe> and <afange> the standards in East Alemannic.

As for <afo(he)><sub>ADV</sub>, the inchoation is intuitively clear from its meaning, “already”. In Alemannic and in English, “already X”/“afohe X” could be paraphrased as “the period of ‘not X’ having elapsed”, or, “the period of X having begun”.

(44)

a	er mue		leere	<i>He has to study</i>
b	er mue		afo <sub>V</sub> leere	<i>He has to start studying</i>
c	er mue	afo <sub>ADV</sub>	leere	<i>Meanwhile, he has to study</i>
d	er mue	afo <sub>ADV</sub> afo <sub>V</sub>	leere	<i>Meanwhile, he has to start studying</i>

(45) MEANINGS OF <AFOHE> (EAST)

- a. a'fɔ:hə (“already”)
- b. 'a:fɔ:hə (“begin”)

(46) MEANINGS OF <AFANGE> (EAST, ALTERNATIVE)

- a. a'faŋə (“already”)
- b. 'a:faŋə (“begin”)

(47) MEANINGS OF <AFO> (WEST)

- a. afə (“already”)
- b. afə (“begin”)

Three examples of the adverbial <afo(he)> follow.

- (48) a. *Mr händ afohe drüü*  
we have already three  
  
we've already three [pieces, ...]
- b. *du künntscht jetzt afocha go*  
you could now already leave  
  
you should leave now, already  
=(Dobler, 2002, p. 78, (5b), gloss translated)
- c. *Alt gnue wäret der afe derzue*  
old enough be.conj you for-it  
  
You're supposed to be old enough by now  
(Hodler, 1969, p. 706)

We have seen that what the adverbs and the duplicates, respectively, have in common, is the [MOTION]/[DEICTIC], resp. [INCHOATIVE] properties. It is still correct to categorize them as distinct word types (Adv, V), as syntactic tests show:

(49) Category of <ga> = V

- a. Ga bada (kamma tua, künntemer morn)
- b. Bada go (kamma tua, künntemer morn)

- (50) Category of <ga> is not P
- a. \*Ga bada (gohts do)
  - b. Gi Luschnou (gohts do)

Deictic/directional prepositional phrases themselves behave a lot like verbals when it comes to Telegramese, Headlinese and other shortened registers. In (51), the PP is a predicate (of a copula).

- (51) Predicative interpretation of prepositional phrases
- a. Mit der Bahn [ **in** den Urlaub ] ist wieder Trend.<sup>4</sup>
  - b. Mim bus [ **ga** bada ] ischt am freyschtö.
  - c. Mitm zuug [ **ga** skifahre ] kascht ou.

Accusative versus dative pairs show difference in well-formedness. This is because Case here (like in Standard German) marks different discourse participants in (a, c) than in (b, d) (cf. Butt (2006)). Like in Standard German, dative here marks location-status (an argument of  $V_{proc}$  in Ramchand's terms), whereas accusative marks location-target (the argument of  $V_{res}$ ). Remarkably, the distribution of duplicates differs from that of full infinitives. However, this difference remains with *complete* verb drop, as Standard German "Man muss ins/\*im Trockene(\*n)".

- (52)
- |    |                                     |            |
|----|-------------------------------------|------------|
| a. | *ma mouch [ <b>ga</b> im Truckene ] | dative     |
| b. | ma muoch [ <b>ga</b> is Truckini ]  | accusative |
| c. | ma mouch [ im Truckene <b>gaa</b> ] | dative     |
| d. | ma muoch [ is Truckini <b>gaa</b> ] | accusative |

Such *status between categories* has also been found in Pennsylvania German by Börjars & Burridge (2011). They report Pennsylvanian German "fer ... zu" infinitive complementation, arguing it once was a benefactive preposition, still contained in English in phrases like "for Mary to say, ...".

Salzmann & Brandner (2011) account for syntactic variation in verb doubling (within Alemannic) by means of its *status between categories*.

If one thing is clear now, it is that the categorial status of duplicates is unclear. This is why below I argue, in line with Lötscher (1993), for a grammaticalization process of duplicates across categories. My assumption differs from Lötscher's and others in that I don't assume an infinitive <gaa> etc. to have been subject to grammaticalization, but instead a root <ga>, yielding diachronically a duplicate <ga> and an infinitive <gaa> and, of course, all finite paradigms.

<sup>4</sup><https://steiermark.orf.at/stories/3006243>

In a Proto-Germanic etymological dictionary (Kroonen, 2013) we found no entry like <ga> or <go>. By exclusion principle, it is therefore likely to be related to what is <gaa> (Alemannic) or <ge(he)n> (StdGer) today. The next question then is, what was first? Is <ga> a shortened variant of <gaa>, and if so why, or if the opposite is the case: that <gaa> is a lengthened variant of <ga>. In the latter perspective, <ga> would be a (pre-categorical) root, and <gaa> the verb (bearing *verbalness*, but no other features whatsoever). For sake of completeness, another word class need be mentioned: Schallert (p.c.), in discussing the Swabian data reported above, mentioned further that, besides *infinitive*, the duplicates could be *gerunds* (in the sense of Höhle (2006)) – however he does not believe so here. Now, seeing the forms of infinitives (<goo>), inflected forms (<gang>, ...) and the absence of gerunds in Alemannic, we are left only with inventing a new category or desisting from choosing one. Since *particle*, as some studies and analyses tag the duplicates, serve enough as an answer for the first question, we are left with not giving the duplicates a category. They are *pre-categorical roots* then. Phonologically at least, this is a plausible explanation: The assumed root <ga> is in fact contained in many of the forms of its paradigms (<gang> etc.), or the latter can be derived from it (with slight change in vowel or consonant quality). As the elsewhere (i.e., most unspecific) morpheme, not licensed by any T or D head, <ga> is also morphologically bare (no affixation or allomorphy). Apart from economic reasons, shortening of a vowel, as seen in the duplicates when compared to other forms, is plausible in terms of the vowel system. Vowel quantity bears meaning difference in Alemannic (as in Standard German (Reis, 1974)).

## Chapter 4

# As a transformational derivation

For lack of morphologic effects such as incorporation or allomorphy, I exclude the possibility of the phenomenon being a *morphological* one (*reduplication* (Inkelas & Zoll, 2005), parted from syntax, but instead analyze it as a syntactic phenomenon. In a framework with “Syntax all the way down” as in DM (Harley & Noyer, 1999, p. 4), however, this distinction doesn’t matter anyway.

This chapter presents an analysis of Alemannic verb doubling in terms of Minimalist/Government-and-Binding theory. It builds up along the questions Landau (2006) poses on Hebrew predicate doubling, which also apply here.

- (53) Landau’s questions (Landau, 2006, p. 45, enumeration here):
- a. Why are two phonological copies of the verb spelled out? Normal cases of movement are known to leave unpronounced copies (“traces”).
  - b. Furthermore, why does the fronted duplicate show up as an infinitive, and not as an identical, inflected verb?

I split the first question into two:

- (54) a. generation of as many verb copies (duplicates) as (realized) arguments on the verb
- b. limitation on the number of verb copies (duplicates) spelt-out

The second question above, why duplicates show up as infinitives, seems, *technically*, easy to answer: If we see Verb-second as movement from V to C (perhaps via T), it is only at the merger of TP that a verb bears a (non-)finiteness feature. It follows that, derivationally, a spell-out of a trace<sub>v</sub> at V<sup>0</sup> is never finite.

We turn, for the moment, to the other question, split into two subtasks: Generating enough copies; and spelling out only as many copies as necessary. Mostly, two copies – including the finite one – occur. However, in cases like in (55) below, more than two copies occur. There is more than one shortened duplicate, plus a finite (or infinite) matrix copy.

(55) *Alemannic verb tripling?*

- a. ?das er **ga** s Huus **ga** aastriicha **goot** Vorarlbergian
- b. Dann **chönnd** er **go go** spiele Badenian  
 = 13a, Lötscher (1993, p. 182 = (10)b, BadWB 2,332, emph. added)

There are two explanations for sentences like the ones above: Either they are ungrammatical and an error of linguistic Performance: That is, an interrupted/abnormal derivation during sentence production yields it. On the other hand, it could be grammatical, but suboptimal Economy-wise and thus dispreferred, although, crucially, well-formed.

Due to lack of more *verb tripling* (*quadrupling*, ...) data, there is lack of (counter-)evidence to any one of these proposals, I no further consider such cases in the analysis below. This doesn't mean that they are excluded; simply, no demonstration of their generation is given.

Throughout the research on the doubling phenomena in other languages reported in chapter 2, authors have used two broad types of analysis to account for their respective showcased phenomenon. One of them involves movement, where traces are not deleted but spelt out. The other type of analysis involves no movement whatsoever, but base-generation of (both) constituents (however including movement of other elements for licensing of these). The latter approach applies to cross-clausal doubling phenomena such as English vP fronting, according to Thoms & Walkden (2019); It also applies to topicalization configurations like Yiddish (phrasal) verb fronting. On the other hand, a movement account, each, is given to account for the remainder of phenomena and will be the analysis here, too. Alemannic verb doubling is necessarily movement as much as Verb-second involves movement, which it is assumed to. Duplicates stand base-generated in  $V^0$  and do *not*, in fact, move, themselves.

Table 4.1 below is an exhaustive overview of syntactic subtypes of Alemannic verb doubling. Each row read from left to right is (part of) a grammatical sentence.

We see four main types: Regular, mismatch, modal and auxiliary doubling. All but one type involve only closed-class items – the four doubling verbs, auxiliaries and modals. The exception is mismatch-doubling (more precisely, the type that is not cross-doubling with another doubling verb),

Table 4.1: Types of Alemannic verb doubling

Name	fin	Obj	dupl	Obj	<mow>	inf/prt
<i>regular</i>	<b>gond</b>		<b>go</b>		maie	
	<b>chond</b>		<b>cho</b>		maie	
	<b>lond</b>		<b>lo</b>		maie	
	<b>fond</b>		<b>afo</b>		maie	
<i>go-drop</i>			<b>go</b>		maie	<b>goo</b>
			<b>go</b>		maie	
<i>&lt;choo&gt;-drop</i>			<b>cho</b>		maie	<b>choo</b>
			<b>cho</b>		maie	
<i>&lt;afoo&gt;-drop</i>			<b>afo</b>		maie	
			<b>afo</b>		maie	<b>afoo</b>
<i>&lt;loo&gt;-drop</i>			<b>lo</b>		maie	
			<b>lo</b>		maie	<b>loo</b>
<i>mismatch</i>	schick		<b>go</b>		maie	
	renn		<b>go</b>		maie	
	louf		<b>go</b>		maie	
	...					
<i>cross:</i>	chond		<b>go</b>		maie	
<i>modal</i>	münd		<b>go</b>		maie	<b>goo</b>
<i>with &lt;go&gt;-drop</i>	münd		<b>go</b>		maie	
<i>auxiliary</i>	siand		<b>go</b>		maie	<b>ggange</b>
<i>with IPP</i>	siand		<b>go</b>		maie	

which involves an open class (of verbs), since here it is not the doubling verbs, but complex motion verbs that apparently double. <go>-drop is the dropping of the verb <go> in various languages van Riemsdijk (2002). The proper analysis of what is descriptively tagged IPP here has been discussed in the section (3) above: While Hodler (1969) had argued for an *IPP* analysis, Lötscher (1993) argues for *participle ellipsis*, and van Riemsdijk (2002) for *IPP with <go>-drop* (cf. section 3)). As mentioned, I will not commit to either.

The table makes obvious that, across types, verbs can occur once, twice, or three times, only one of them having the shape of a short duplicate. If Riemsdijk is right with <go>-drop, a clear statement about the generation of verb instances is possible:

(56) Chains of doubling verbs must contain only overt elements.

That is, in older terminology, traces of moved-away doubling verbs must always be spelt-out.

What is opaque in the classification table above is the precise syntax. For the investigation of exact loci of duplicates, or raising objects, I give a slightly finer classification into a C-T-V schema in table 4.2 below.

Table 4.2: Object raising configurations with verb doubling

CP			TP				
C'			T'	VP			
C			T	V'			
				V		VP	
						V'	
das	er		<b>goot</b>		<b>go</b>	sHuus	rot striiche
das	er		<b>goot</b>	sHuus	<b>go</b>	rot	striiche
das	er		<b>goot</b>	sHuus rot	<b>go</b>		striiche
das	er	sHuus	<b>goot</b>		<b>go</b>	rot	striiche
das	er	sHuus	<b>goot</b>	rot	<b>go</b>		striiche
das	er	sHuus rot	<b>goot</b>		<b>go</b>		striiche

Word order facts demonstrated in tables 4.1 and 4.2 indicate that the duplicates of Verb doubling stand in  $V^0$ .

The Copy theory of movement Bošković & Nunes (2007)) assumes that movement is a copy-and-delete process, usually deleting (giving rise to traces) and only spelling out the chain's head. Assuming the V-chain here did not delete anything predicts the configuration described in part 1.

“Under this [copy theory of movement] view, movement leaves a complete copy of the moved item with full internal structure.



Normally, in a chain  $(\alpha_1, \dots, \alpha_n)$  all members of the chain except for  $\alpha_1$  are deleted on the way to PF. But suppose now that under certain circumstances, some  $\alpha_i$  ( $i \neq 1$ ) can be retained at PF, and the other chain members, including  $\alpha_1$ , are deleted.” Chomsky (1981, p. 89p), as cited in Müller & Sternefeld (1996).

Uncontroversially in transformational generative theory, verb-second is thought to occur by a movement of  $V^0$  (via  $T^0$ ) to  $C^0$ . Alemannic verb doubling configurations can be analyzed such that the short nonfinite verb duplicate stands in V (Diem, 2015). Regardless of its category, then, such a verb duplicate can be thought of as a spelt-out trace of V in a Verb-second configuration. This analysis successfully predicts the distribution. Augmenting the analysis by the theoretic devices of *late insertion*, the full phenomenon can be accounted for – including all possible pairs/chains consisting of maximally one finite and one or more nonfinite instances of a verb, not necessarily lexically identical.

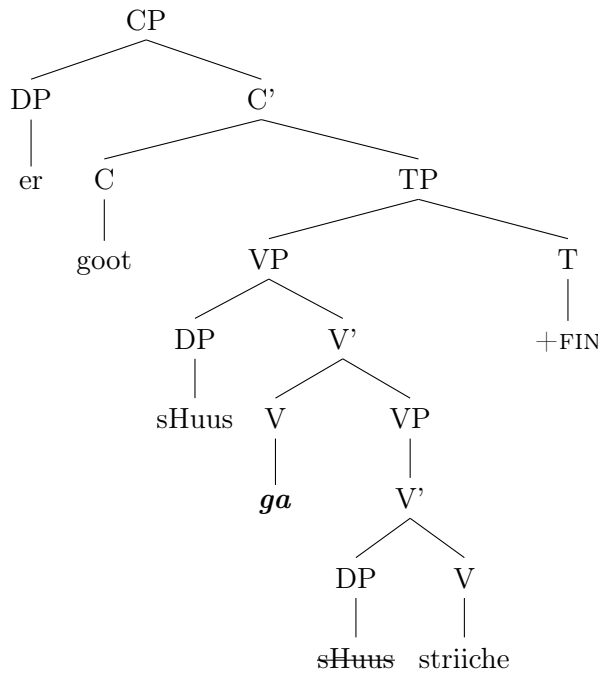


Figure 4.1: Verb doubling with object raising

For an account of lexical mismatch, the first requirement of (54) need be further adjusted:

- (57) generation of as many abstract verb copies (duplicates) as (realized) arguments on the verb

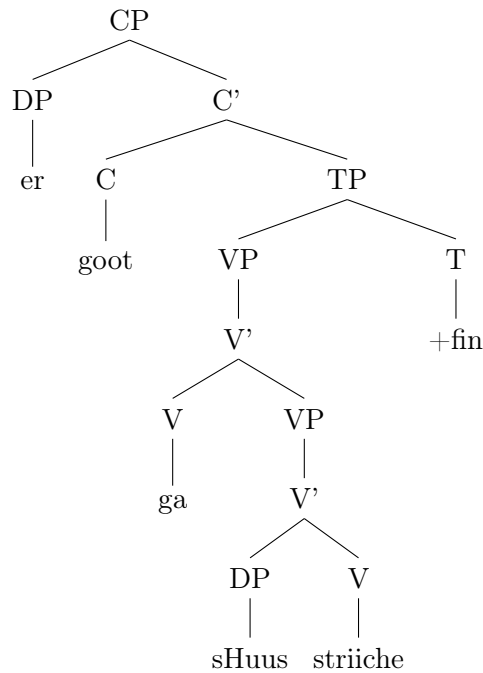


Figure 4.2: Verb doubling without object raising

*Abstract* is a vague term that will receive formalization in the subsection about *fission* below.

Aboh & Dyakonova (2009) argue for parallel chains, referring to (Chomsky, 2008), that is, two chains are there and both's head is realized (while their tails are deleted). Here I try to explain the present phenomenon with distributed (in a chain) insertion, rather than suggesting one twin being base-generated elsewhere, not using double-chain Aboh's account. Lexical mismatch can be explained along the lines of Distributed Morphology (see below).

Given the account so far and the three trees for default, raising and mismatch, we have established the generation of enough duplicates, accomplishing task (54a). What needs to be done next is tackling task (54b), which is: limit the spell-out of some of them, so as to attain the verb doubling configuration found (e.g. in table above). Recall that there was variation in table within a given type: Duplicates seem to license absence of participles or of infinitives, but at the same time to not require their absence. While pronouncing all copies is acceptable, speakers most often spell out exactly one such duplicate, not counting in here the finite instance.

These data suggest a PF algorithm.

Landau's Post-syntactic chain resolution (Landau, 2006, p.32), for the analysis of Hebrew V-doubling, "assume[s] Chomsky (1995)'s proposal that

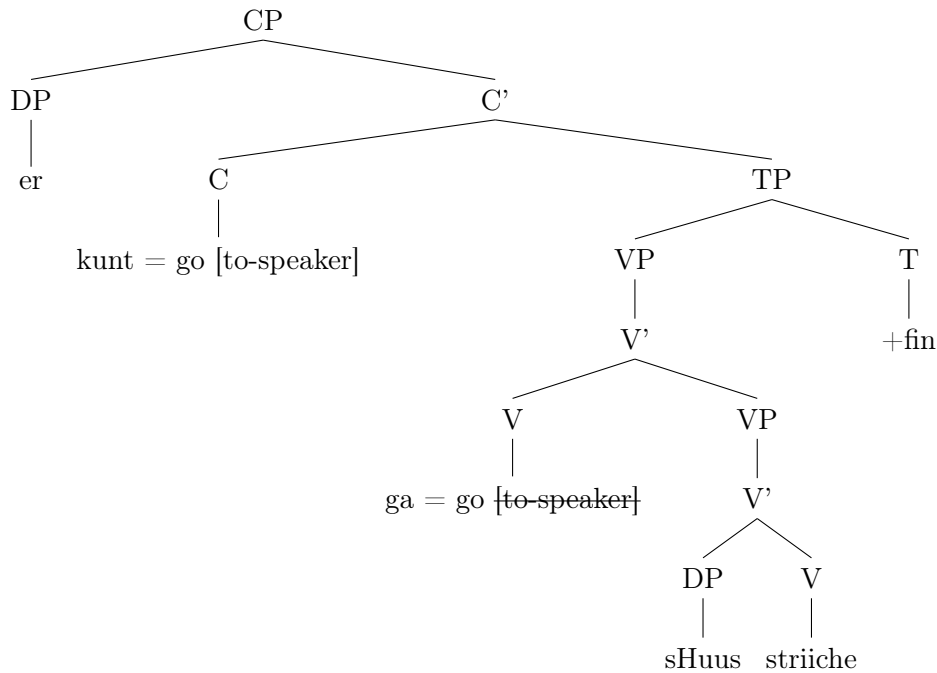


Figure 4.3: ‘Generative semantics’ of mismatch doubling (figure repeated)

chains are formed by copying an element, merging the new copy (duplicate) in a higher position and deleting the redundant copy." Landau takes the "minimalist" desideratum of "[shifting] maximal explanatory burden . . . to the interfaces." He goes on that "syntax should be purged of any internal devices that merely replicate the effects of other devices independently needed at PF or LF (...)" (p.33). Arguing that phonetic deletion (whatsoever) happens also with elipsis, which is in turn explained **not** by chain formation (*movement*), it seems that phonetic deletion need be available independently of chain formation. His null hypothesis is thus (58).

- (58) Post-Syntactic Chain Resolution (PSCR) The decision which chain copy to pronounce or interpret is solely determined at the interfaces.  
Landau (2006, p. 33, (4))

It follows that (“narrow”) syntax need not account for which copy/copies (duplicate/s) are phonetically realised or not, since the job is being done by PF. Landau continues that the same is true for LF; however, this is less relevant here ("Modular Chain Resolution" theorem). In any case these two cannot interact (just as neither can influence narrow syntax) – the derivation is monotonous.

For Müller & Sternefeld (1996)’s problem of wh-scrambling/free wh-movement, this takes the burden of explaining lower or higher spelt out

wh-items to “the way to PF” (such as all copy theory of movement accounts of deletion). The problem is at least pulled away from syntax proper, i.e., word order of these wh-phrases can then be seen as not obligatorily reflecting syntactic(o-semantic) properties, but rather, can be assumed to be the pronounced member of a chain headed somewhere else (e.g., higher up).

Why is it that only one element of a chain gets spelt-out? Economy is the reason (Chomsky 1991 et seq, mueller96)) usually assumed.

(59) Economy of Derivation

If two derivations  $D_1$  and  $D_2$  are in the same reference set and  $D_1$  involves fewer operations than  $D_2$ , then  $D_1$  is to be preferred over  $D_2$ .”

Further: “Referenc set: Two derivations  $D_1$  and  $D_2$  are in the same reference set iff they yield the same LF output.” (p. 481).

More simply, as one informant put it, without being asked about it: “[ $D_1$ ] is just the simplest.”. Their choices were

- $D_1$  was “gang ga ikoufe”, and
- $D_2$  was “gang ga ikoufe goo”

Importantly, the informant came up with  $D_2$  herself, and did **not** rule it out. It is a clear, full-fledged example of the Economy principle’s outcome, and at the same time serves as evidence that the Economy principle may be violated.

The riddle of which copies in a chain to preserve has also been investigated under the term of *recoverability* (Landau, 2006). For language being “usable” (p. 33) there need to be some constraint on what can and can’t be deleted. Since the interfaces are assumed to be modular and the derivation monotonous (e.g. no “feed-back” into the syntax by virtue semantic or phonetic constraints), a “recoverability condition” is placed into syntax itself. It requires that “[t]he content of unpronounced elements must be recoverable from a local antecedent.” (Fanselow & Cavar, 2001), as cited in Landau (2006, p. 35 = (5c))

“Pronounce the highest copy whenever possible’. Notice that ‘highest’ is determined by c-command relations, available at PF by assumption. The problem with such principles is their stipulative nature; if it is not for scope transparency, what is it that makes higher copies better candidates for pronunciation? Franks (1999) suggests that the highest copy ‘preserves the most information and is thus the one most *faithful* to Spell Out’ (p. 112).” (ibid.)

If we assume fission (see previous chapter), the inflected, high copy of a verb doubling configuration is the one that preserves the most information.

Landau proposes to "explicitat[e] (case by case) the actual PF requirements that favor high pronunciation, or even double pronunciation."

Landau states a *PF algorithm* that obeys 1. recoverability and 2. Economy. It goes that every member of a chain must be pronounced that either 1) is phonetically non-null or 2) is a a position which is specified with some phonological requirement. Then, Economy desires as few as possible copies (duplicates) to be pronounced (to prevent redundancy). He assumes it to delete all copies as long as the chain stay recoverable after PF. Landau (2006, p. 56f)

(60) Economy of Pronunciation Delete all chain copies at PF up to P-recoverability Landau (2006, p. 57, (51))

Given the serialization of left-projecting (i.e. head on the right) structure when externalizing (speaking), the highest duplicate is pronounced first in time. If the constraint is that any element must be pronounced once for its (following) copies (duplicates) to be deleted, pronunciation of only highest duplicate is natural (cf. Landau (2006, p. 57), and also Thoms & Walkden (2019)'s *excluded middle constraint*). Consider the difference in (61) in Alemannic.

- (61) a. ar goht ga schaffa  
b. ?ar goht schaffa  
c. \*ar ga schaffa

Attentive readers may have noticed that, obviously, (c) is ungrammatical already for its lack of a finite verb. Therefore the test tells us nothing about what we asked. Instead, Modal/Auxiliary embeddors serve as a demonstration of the same effect independently of this (finiteness), as shown in (62). The inverse of above is possible when word order is inversed. That is: Unlike above, the non-shortened duplicate is deleted below (because there is modal-triggered IPP). Since word order is inverted compared to above (one is East, one is West Alemannic), it follows naturally. This supports Landau (2006)'s Economy principles of PF chain realization.

- (62) a. er mues go schaffe  
b. ?er mues go schaffe goo  
c. \*er mues schaffe go



## Chapter 5

# As a lexical-functional model

Lexical-functional grammar (Kaplan & Bresnan, 1982; Bresnan, 2001) is non-compositional and nontransformational. This goes together with a manyfold (but mostly dual) representation of syntactic structure in distinct types of structure: C-structure accounts for a configuration (but no more than that), while F-structure maps nodes from C-structure to interrelating functions, such as subject, complement, etc. While being both constituency- and dependency based, the constituency-based part is fully compatible with the X-bar-scheme (cite). A third central component in a minimal LFG model is the lexicon, which is the set of rich (structure-bearing) lexical items. Other than in a theory where the importance of the lexicon is close-to-zero (e.g. the rejection of the Lexicalist Hypothesis in DM Harley & Noyer (1999, p. 3), LFG can very well account for lexically-constrained selection such as the doubling on the four doubling verbs in Alemannic.

As discussed above, the semantics of verb doubling are opaque in that the duplicate does not bear proper meaning. While under a thematic full (doubling) verb, duplicates resume without thematic content, under non-thematic governors like auxiliaries (cf. Butt et al. (1999)) or modals, they do. This is motivated after the tables.

	gang FULL	go DUPL
identity	=	=
MOTION	1	0
TENSE	1	0

	isch/mues AUX/MODAL	go DUPL
identity		
MOTION	0	1
TENSE	1	0

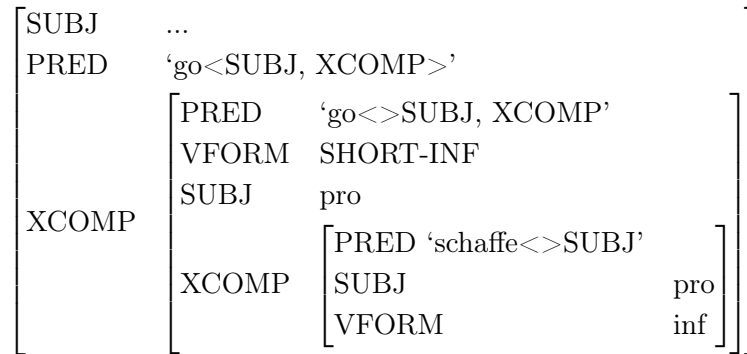
- (63) a. %Mir gond bada motion  
 b. Mir gond ga bada motion

- (64) a. Mir münd bada no motion  
 b. Mir münd ga bada motion

The commonly assumed LFG representation of Germanic Verb-second is demonstrated next (Börjars & Vincent, 2017, p. 643 = (1)c, reduced):

- (65) IP [ DP I' [ I VP ] ]

- (66) F-STRUCTURE OF A DOUBLING CONFIGURATION



XCOMP (and not COMP) is the function of choice here, since clearly we deal with non-subjectifiable (*subjektfähig*) subclauses.

For the finiteness categorization of verbs in terms of their finiteness morphology, not TENSE but VFORM is used. There are three types involved here: finite (*fin*), non-finite (*inf*) and non-finite shortened (*base*).

## 5.1 Implementation

The aim is to unambiguously parse the following types of configurations:

- non-verb doubling (these are %-marked variants in the discussion above)
- regular verb doubling
  - with and without object raising
- free doubling under auxiliaries
  - with and without object raising
  - with and without participle drop (IPP)



- free doubling under modals
  - with and without object raising
  - with and without infinitive drop (go-drop)

Potential further development could include open-class mismatch under complex motion verbs such as <schicke> *order*, or the integration into a larger grammar of Alemannic capable of parsing not only V2 but also Verb-final. The implementation at hand is limited to those types above, although handles them robustly.

Mirroring the types just listed, the testsuite lists these sentences:

```
# " bad, mismatch "
Affa gond afo jassa (0 0.023 13)

# " good, millennial speak "
Affa gond jassa (1 0.005 9)

# " good, regular"
Affa gond ga jassa (1 0.004 14)
Affa fond afo jassa (1 0.004 14)
Affa gond ga eassa (1 0.004 14)
Affa kond cho eassa (1 0.002 14)

# " ... adding an object "
Affa gond ga Katza jaga (1 0.002 15)

# " ... raising it "
Affa gond Katza ga jaga (1 0.002 20)

# " doubling under Auxiliary "
Affa siand ga Katza jaga (1 0.001 15)
Affa siand Katza ga jaga (1 0.001 15)
```

Affa siand ga Katza jaga ganga (1 0.002 19)

Affa siand Katza ga jaga ganga (1 0.009 22)

# " doubling under Modal "

Affa muend ga Katza jaga (1 0.001 15)

Affa muend Katza ga jaga (1 0.001 21)

The implementation relies on the declaration of a unique *doubler* verb-phrase, dubbed ‘dinf’ (for *doubling infinitive*) here.

```
VPdinf --> e: (^ SUBJ PRED)='pro';
          V: ^=!
          (! VFORM) =c base;
          (VPinf: (^ XCOMP) = !).
```

When calling it on the right handside of a phrase structure rule, lexical identity is stated as a constraint:

```
VP --> { V
...
(VPdinf: (^ XCOMP) = ! "doubling inf (the intermediate doubler vp)"
(^ PRED) =c (! PRED)) "'gond' requires 'ga', 'kond'-'cho' etc'"
...

```

However, this is not true for modal or auxiliary governed VPdinfos:

```
VP --> { MODAL
...
VPdinf: (^ XCOMP) = !; "doubling: any doubler is legal"
...

```

```
VP --> { AUX
...
VPdinf: (^ XCOMP) = !; "doubling: any doubler is legal"
...

```

The complete grammar is given below:

```
DEMO  AVD  CONFIG (1.0)
      ROOTCAT  S.
      FILES   .
```

LEXENTRIES (DEMO AVD).  
 TEMPLATES (DEMO AVD).  
 RULES (DEMO AVD).  
 GOVERNABLERELATIONS SUBJ OBJ OBJ2 COMP XCOMP OBL OBL-?+.  
 SEMANTICFUNCTIONS ADJUNCT TOPIC FOCUS POSS STANDARD.  
 NONDISTRIBUTIVES NUM PERS CONJ-FORM.  
 EPSILON e.  
 OPTIMALITYORDER NOGOOD.

----

DEMO AVD RULES (1.0)

S --> NP: (^ SUBJ)=!  
 (! CASE) = nom;  
 VP: ^=!.  
 VP --> { "high verb (verb-second); complement right of finite verb"  
 V: ^=!  
 (! VFORM) =c fin;  
 (NP: (^ TOPIC)=!  
 (! CASE)=acc)  
 (VPinf: (^ XCOMP) = !) "non-doubling inf"  
 (VPdinf: (^ XCOMP) = ! "doubling inf (the intermediate doubler vp)"  
 (^ PRED) =c (! PRED)) "'gond' requires 'ga', 'kond'-'cho', 'fond'-'afo, 'lond-lo'"  
 | "base-generated vp complement left of participle"  
 AUX  
 (NP: (^ TOPIC)=! "the locus of raised objects, between C and matrix-V"  
 (! CASE)=acc)  
 { " no pred==pred restriction under Aux; unlike under a full doubling verb "  
 VPdinf: (^ XCOMP) = !; "doubling: any doubler is legal"  
 (V: "participle can be dropped"  
 (! VFORM) =c part)  
 |  
 VPinf: (^ XCOMP) = !; "Non-doubling, non-IPP"  
 V:  
 (! VFORM) =c part;  
 }  
 | "modals"  
 MODAL  
 (NP: (^ TOPIC)=!  
 (! CASE)=acc)  
 {  
 VPdinf: (^ XCOMP) = !; "inf drop, only duplicate"  
 (V: ^=!

```

(! VFORM) =c inf)
  |
  VPinf: (^ XCOMP) = !; "inf and duplicate"
  V: ^=!
(! VFORM) =c inf
  }
}
(PP).

```

```

VPinf --> e: (^ SUBJ PRED)='pro';
(NP: (^ OBJ)=!
  (! CASE)=acc)
V: ^=!
  (! VFORM) =c inf; "schaffa (normal inf)"
(VPdinf: (^ XCOMP) = !).

```

```

VPdinf --> e: (^ SUBJ PRED)='pro';
V: ^=!
  (! VFORM) =c base;
(VPinf: (^ XCOMP) = !).

```

```

NP --> "(D)"
N.

```

----

DEMO AVD TEMPLATES (1.0)

```

TRANS(P) = { (^ PRED)='P<(^ SUBJ) (^ OBJ)>' "not used option, but for demonstr
| (^ PRED)='P<(^ SUBJ) (^ XCOMP)>' "used option"
| (^ PRED)='P<(^ SUBJ) (^ XCOMP)>(^ OBJ)' "option allowing object raising "
  (^ XCOMP* OBJ)-->(^ OBJ)
}.

```

```

INTRANS(P) = (^ PRED) = 'P<(^SUBJ)>'.

```

```

OPT-TRANS(P) = {
  @(INTRANS P)
  |
  @(TRANS P)
}.

```

```

TENSE(T) = (^ TENSE) = T. "the more general case"
MOOD(M) = (^ MOOD) = M.
PRED(P) = (^ PRED) = 'P'.

```

ROOTINF(P) = (^ PRED) = 'P<>(^ SUBJ)(^ XCOMP)'  
(^ VFORM) = base. "doubled inf, i.e. phonologically shortened infinitive"

INF = (^ VFORM) = inf.

VPRES = @(TENSE pres)  
@(MOOD indicative).

VPAST = @(TENSE past)  
@(MOOD indicative).

PASTP(P) = @(PRED P)  
(^ VFORM) = part.

THIRDPL = (^ SUBJ PERS) = 3  
(^ SUBJ NUM) = pl  
(^ VFORM) = fin.

AUX(P) = (^ PRED) = 'P<>(^ XCOMP)(^ SUBJ)'.

MODAL(P) = (^ PRED) = 'P<>(^ XCOMP)(^ SUBJ)'.

----

DEMO AVD LEXICON (1.0)

"auxiliaries"

siand AUX \* @(AUX si).

hond AUX \* @(AUX ha).

"modals"

waend MODAL \* @(MODAL well).

muend MODAL \* @(MODAL mueass).

ganga V \* @(PASTP go).

"finites"

gond V \* @(OPT-TRANS go)  
@THIRDPL.

kond V \* @(OPT-TRANS ko)  
@THIRDPL.

lond V \* @(OPT-TRANS lo)  
@THIRDPL.

fond V \* @(OPT-TRANS afo)  
@THIRDPL.

jagand V \* @(OPT-TRANS jag)  
@THIRDPL.

"shortened infinitives"

ga V \* @(ROOTINF go). "the doublers take no overt arguments"

cho V \* @(ROOTINF ko). "... but are nonetheless 'V'"

la V \* @(ROOTINF lo).

afo V \* @(ROOTINF afo).

"(full) infinitives"

jassa V \* @(INTRANS jassa)  
@INF.

schaffa V \* @INF  
@(INTRANS schaffa).

eassa V \* @INF  
@(OPT-TRANS eassa).

jaga V \* @(OPT-TRANS jaga)  
@INF.

goo V \* @(INTRANS go)  
@INF.

"nouns"

Katza N \* (^ PRED) = 'Katz'  
(^ NUM) = pl  
(^ PERS) = 3  
{ (^ CASE) = nom  
| (^ CASE) = acc }.

Affa N \* (^ PRED) = 'Aff'  
(^ NUM) = pl  
(^ PERS) = 3  
{ (^ CASE) = nom  
| (^ CASE) = acc }.

-----

As a sample, the parse (f- and c-structures) of (67) are given below. In terms of the typology given in the beginning of this subchapter, this is

- free doubling under auxiliaries
  - with object raising
  - with participle drop (IPP)

(67) *Katza siand Katza ga jaga*  
cats AUX cats chase

“Cats went to chase cats”

"Katza siand Katza ga jaga"

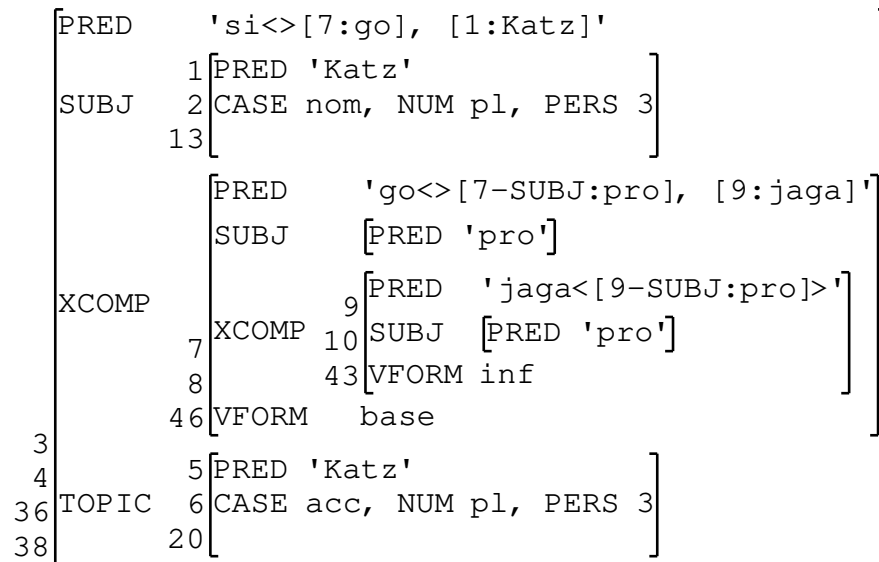


Figure 5.1: F-structure of a sample IPP sentence with object raising

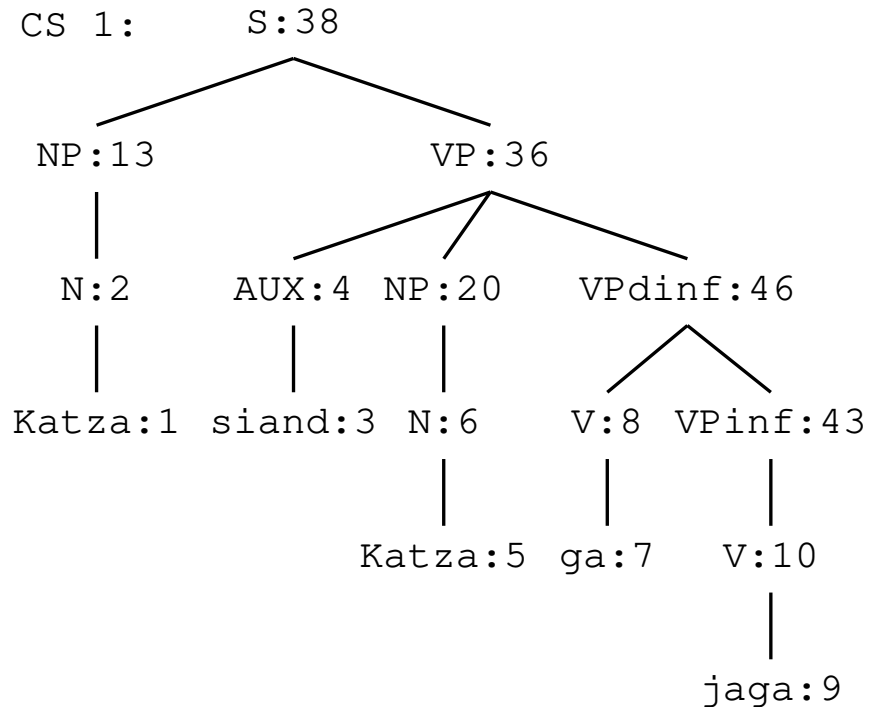


Figure 5.2: C-structure of a sample IPP sentence with object raising



Part III

Conclusion



This thesis has demonstrated the syntax of Alemannic verb doubling. It has been put into context of other verb doubling phenomena, highlighting contrasts, notably, the default-versus-marked distinction. Syntactic alternation has been explained with object raising. Lexical variation has been given a typologic account. Mismatch doubling has been integrated into the verb doubling account. Typologically, the Minimalist and LFG analyses presented apply – so I have argued – to Alemannic of Vorarlberg, Switzerland, Alsace, Baden and, controversially to some authors, to Swabian. Basing on the analysis as verb doubling, the diachronic hypothesis of grammaticalization of bare verbal roots to 1) verbs and 2) adverbials has been stated. This V analysis stands in some contrast to those that give it the category *particle* (e.g., as an infinitive marker) instead. While the latter approach seems more adequate, the one presented here is computationally much more powerful. It thus serves as the base for further theoretic investigations into, and computational implementations of, Alemannic verb doubling. This thesis has demonstrated its benefits.



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