Alemannic verb doubling is the overt realization of a head movement chain

David Diem

1. Introduction

I argue for a new analysis of constructions in Alemannic German, a variety spoken in and around Switzerland, in which some verbs must co-occur with a truncated second instance, which henceforth I refer to as a "doublet" (`dbl`), as illustrated in example (1a) for a doubled finite verb, and in (1b) for a doubled non-finite verb.

(1) a. I gang   *(ga)   tanza
      I go.1sg go.dbl dance

      "I go dancing."

   b. I wett   *(ga)   tanza (goo)
      I want.1sg go.dbl dance (go.inf)

      "I want to go dancing."

Due to these form simliarities, many authors use the term *verb doubling* to refer to constructions involving such a doublet (Hodler 1969, Lötscher 1993, Schönenberger & Penner 1995b, Salzmann 2013).

Other similar phenomena in various languages have been termed verb doubling (Barbiers et al. (2008), for Standard German see also Fleischer (2008)), where usually the doubling is dependent on a topicalization operation. Alemannic verb doubling is different from the rest, though: Here, no topicalization is involved; rather, some verbs more generally co-occur with a truncated second instance of themselves. These verbs are "go", "come", "begin" and "let", as demonstrated in (2)-(5) below.

(2) i gang   *(ga)   tanza
    I go.1sg go.dbl dance

    "I go dancing."

(3) i chum   cho   schaffe
    I come.1sg come.dbl work

    "I come (to) work."

(4) s fot   afo   rägne
    it begins.3sg begin.dbl rain

    "It starts to rain."

(5) la   lo   si!
    let.imp let.dbl be

    "Let it be!"

As noticeable in the above examples, doublets systematically resemble other forms of the verb. Depending on the specific (sub)dialect of Alemannic, doublets are identical or similar in form to inflected forms (e.g., first person singular as in "I go"), and/or to infinitives (as in "to go"). I will come back to the morphology of doublets in section 4.

In what follows I present an analysis of such verb doubling as the spell-out of multiple copies (or in traditional terms, traces) of the main verb. Being based on syntactic identity of several positions, this approach is in contrast to the existing analyses in the literature, which explicitly reject such an account and instead treat the truncated element as a distinct element that does not stem from a shared derivational history with the V head (van Riemsdijk (2002: fn.22); Salzmann (2013: 86p)). The analysis presented here accounts also for data that has previously been seen as problematic for a doubling-style analysis. It

has a benefit over previous ones in that it correctly predicts the distribution of the phenomenon, following naturally from independently motivated verb movement.

The analysis has some consequences: It is, as argued in the main section, evidence for the head-initiality of the verbal domain in Alemannic. Furthermore, the current analysis substantiates a typological prediction of the copy theory of movement (Chomsky 1993), namely the overt realisation of more than one copy created by head-movement. This would be in contrast to copies created by *phrasal* movement (on which see Barbiers et al. (2008)).

2. Analysis

This section develops an analysis of Alemannic verb doubling that is based on the realization of more than one position in a head movement chain of the verb. Salzmann (2013: 6) and van Riemsdijk (2002: 160 fn. 22) are critical of this idea and raise the following counterarguments: The first one is based on the assumption that verbs in Verb-final configuration (that is, in all subordinate clauses) do not move away from V and without movement there can be no doubling. The second one is the empirical problem of morphological mismatches between full verbs and truncated forms, leading to the conclusion that syntactic identity would be stipulative. The remainder of this section shows that with movement to little v, the first problem can be solved. Section 3 then addresses mismatch doubling and, I argue, plausibly accounts for the problematic data.

2.1. Doubling verbs take vP complements

In a verb doubling construction like (1), the higher verb "gang" is inflected to carry finiteness and agreement morphology. The other verb, "tanza", in contrast, lacks either of these and is thus usually called an *infinitive*. This term, however, covers a rather broad range of structures, and it is desirable to narrow down this description. One typologic criterion is the size of the complement (of, in our case, a doubling verb), that is, whether it consists of a CP, TP, or merely a VP, or something in between. CP is ruled out by the ungrammaticality of a complementizer and the possibility of scrambling, and TP is ruled out by the ungrammaticality of independent tense (tested with a temporal adverb, "tomorrow") as well as the ungrammaticality of a subject remannt (the quantifier "all"), as shown in (6) below.

(6) Mer gond [a deam Projekt]$_{SCR}$ ga *dass *alli *morn   t$_{SCR}$ schaffa
     We go.infl on that project   go that all   tomorrow work
     "We'll go work on that project."

The contrasting interpretations of the "go" and "let" doubling verbs in Alemannic shows that the lower verb's logical subject is controlled. The embedded verb "play" below has its logical subject subject-controlled (7) or object-controlled (8), depending on the selecting doubling verb "go" vs. "let". Accordingly, the object in (8a) cannot have scrambled up from the domain of the lower verb as in (7b/7a), but is base-generated in the higher verb's domain, demonstrated with the ungrammaticality of (8b).

(7) a. er$_i$ got s neui Spil$_j$ ga   PRO$_{i/*j}$ spila
         he goes the new game$_j$ go.dbl PRO   play
         "He goes play the new game."

     b. er$_i$ got ga PRO$_{i/*j}$ s   neui Spil$_j$ spila
         he goes go   the new game$_j$ play
         "He goes play the new game."

(8) a. er$_i$ lat d chind$_j$ la PRO$_{*i/j}$ spila
he lets the kids let play
"He lets the kids play."

b. *er$_i$ lat la PRO$_j$ d chind$_j$ spila
he lets let the kids play
"He lets the kids play."

I therefore suggest that doubling verbs take vP complements that have a PRO subject, as shown in (9a) for a matrix clause, corresponding to (7a). The same sentence, but as an embedded clause, is shown in (9b). Only the main clause (a) exhibits *Verb-second* (for an overview see Holmberg (2015)), a process found in several Germanic languages, where the verb must move to C in main clauses, but doesn't in embedded clauses, where the complementizer blocks this movement.

(9) a. [CP er$_i$ got$_k$ [TP t$_i$ t$_k$ s neui Spil$_j$ [V' [V ga$_k$] [vP PRO$_i$ t$_j$ [v spila]]]]]]]

b. [CP dass [TP er$_i$ got$_k$ s neui Spil$_j$ [V' [V ga$_k$] [vP PRO$_i$ t$_j$ [v spila]]]]]]

2.2. Verb doubling is head doubling

Another verb that obligatorily doubles in the sense shown for "ga" above is "afo" ("begin", cf. Standard German "anfangen"), as previewed in (4). It is a particle verb, "a+fo", which I assume to be an idiomaticized V' (10a) (following Wurmbrand (2000)) consisting of a verb in V and a particle in its complement position. In anticipation of an argument about the headedness of VPs in Alemannic, I revise this in (10b) and analyze it as a VP, with the particle in the specifier.

(10) a. [$_{VP}$ [$_{V'}$ [$_{XP}$ a] [$_V$ fo]]]   head-initial view

b. [$_{VP}$ [$_{XP}$ a] [$_{V'}$ [$_V$ fo]]   head-final view

An example for this verb is given below, where in (11a) it is in its base-generated order and in (11b) it is in "reversed" order due to Verb-second, corresponding to the structure in (12) (ignoring for now intermediate landing sites).

(11) Split verb constituent order in Alemannic

a. as söt afo   b. as fot a
it should ptcl=start   it starts ptcl
"It should start."   "It starts."

(12) [$_{C'}$ as [$_C$ fot] ... [$_{VP}$ a [$_V$ ~~fo~~]]]]

When involved in verb doubling, the split verb "afo" doubles the part "fo", as shown in (13), which according to the analysis in (10b) is V (to the exclusion of its complement and specifier). This fact is strong evidence that Alemanic verb doubling is based on head-movement (not phrasal movement of any sort) and thus head-doubling of the verb, as suggested in (14).

(13) as fot a (*a)fo schneje
it starts ptcl (*ptcl)start snow
"It starts to snow."

(14) $[_{TP}$ as $[_T$ fot $]$ $[_{vP}$ $[_v$ ~~fo~~ $]$ $[_{VP}$ a $[_V$ fo $]$ schneje $]]]$

The particle always preceds the doublet (*fo a), which follows from the analysis in (14), but is inconceivable if the doublet is assumed to be in any higher position, such as Fin, Mod, or Asp, as suggested in previous literature.

2.3. Doublets as V traces in a head-initial VP

Across all the constructions that involve verb doubling, there is a common pattern: Doublets strictly precede their complement. As established in the previous section, I assume doublets to be heads, which allows for the conclusion that the phrase including the doublet is head-initial.

(15) The doublet can under no circumstances follow its complement.

   a. $[_{XP}$ ga [schaffa]]

   b.   *schaffa ga

In the current analysis, *XP* in (15) is of course *VP*. In contrast to Salzmann (2013), who also identifies doublet phrases as a VP, it is the *only* VP for me, blocking (in the V position) any other (e.g. full) form of the verb. In contrast, Salzmann analyzes it as an additional VP that exists next to the conventional VP that hosts the full verb, which, I argue, is not necessary.

The analysis I suggest thus involves a deviation from what is commonly assumed for German dialects: I assume that Alemannic is underlyingly head-initial, and not head-final (as it usually assumed in the literature). However, a fact that is not always acknowledged for Alemannic is its freedom of surface headedness in the verbal domain: Verbal (and clausal) complements can usually both precede and follow their head (see also van Riemsdijk (2002: fn.29)), as shown in (16a-b) for a verbal complement of a modal, and in (16c-d) for a verbal complement of another verb.

(16) Surface headedness variation in Alemannic

   a.   dass i wett losa.
        that I want listen
        "that I want to listen"

   b.   dass i losa   wett.
        that I listen want
        "that I want to listen"

   c.   dass i gang   ga losa.
        that I go.infl go listen
        "that I go listening"

   d.   dass i ga losa   gang.
        that I go listen go.infl.
        "that I go listening"

Sheehan et al. (2017) argue that universally, head-initial phrases cannot stand under head-final phrases of the same domain, calling it the Final-over-Final-condition (FOFC). This is a further motivation to assume TP in Alemannic being head-inital (like its daughter VP), since a head-final TP would constitute a FOFC violation. Thus I will opt for a head-initial TP. The obvious question then is how to derive linearly final T if we assume TP is head-initial, which I will come back to shortly.

The analysis I'd like to put forward is thus set in a head-initial structure. It is shown in (17) below, where there is verb movement of the V head to either v (in embedded clauses) or –via v and T– to C for a Verb-second configuration (in matrix clauses). The original site, V, has its content spelled out, giving rise to "doubling".

(17) a. $[_{CP}$ dass $[_{TP}$ I $[_v$ gang$_i]$ $[_V$ t$_i$=ga $]$ $[_{vP2}$ ... schaffa ... $]]]$

   b. $[_{CP}$ I gang$_i$ $[_{TP}$ ... $[_v$ t$_i]$ $[_V$ t$_i$=ga $]$ $[_{vP2}$ ... schaffa ... $]]]$

In linearly T-final forms, such as in (16b), the matrix VP is moved to a specifier of the matrix vP, as shown in (18) below.

(18) $[_{CP}$ dass $[_{TP}$ I $[_{vP}$ $[_{VP}$ $[_V$ t_i=ga] $[_{vP2}$ ... losa ...]] $[_v$ gang$_i$] $[t_{VP}]$]]]

Furthermore, it is necessary to account for variation in the relative order of objects as shown in (19) below (and (7) above).

(19) a.   i gang ga   Kröömli bacha   b.   i gang Kröömli ga   bacha
           I go   go.dbl cookies bake   I go   cookies go.dbl bake
           "I go bake cookies"   "I go bake cookies"

I argue that the doublet is in the same position in (19a) and (19b), and that the object itself has moved (scrambled) in (19b), as shown in (20).

(20)   I$_j$ gang$_i$ $[_{TP}$ t$_j$ $[_{TP}$ Kröömli$_k$ $_T$t$_i$ $[_{vP}$ t$_j$ $_v$t$_i$ $_V$t$_i$=ga $[_{vP2}$ t$_k$ $[_{v'2}$ bacha t$_k$...]...]
                                         ‹——— Scrambling ———› ‹— Case —›

3. Doubling without a realized doubling verb

Salzmann (2013: 86) mentions another problem that in his view makes a "spell-out analysis […] unattractive", referring to an analysis like the one put forward here, in which doublets are the result of spelled-out low copies (or traces). He argues that lexical mismatches between a doublet and its corresponding full verb cannot be explained without stipulation. There are, as I will show, two types of such doubling where there is no matching (i.e., morphologically related) full verb form, which the following subsections will address in turn: Section 3.1 demonstrates a potential solution for the type of mismatch doubling where there is no full verb at all, but rather a modal, an auxiliary, or even a noun. Section 3.2 then shows a possible way to account for the other type of mismatch doubling, in which a doublet (e.g., "go"), co-occurs with a full verb that is not the same as itself, but rather semantically richer (e.g., "run").

3.1. Syntactic lack of a doubler: Infinitives and ellipsis

In the cases so far we have seen doublets co-occurring with full verb forms, and the analysis put foward here crucially relies on this. There is a type of data, though, where doublets co-occur with a modal (21a), an auxiliary (21c), or even in a complement of a noun (21b).

(21)   Doublets without a full "go" form

       a.   I wett ga   tanza   c.   I bia   ga   tanza
            I want go.dbl dance   I am.aux go.dbl dance
            "I want to go dancing."   "I went dancing."

       b.   Zitt zum ga   tanza
            time to   go.dbl dance
            "time to go dancing"

These appear to be a puzzle for the analysis of above, since it is not clear what doublets could be traces/copies of. I argue, though, that these constructions can be straightforwardly accommodated in the analysis. Specifically, I assume deletion of "go", which is independently possible in Alemannic and other German varieties, an observation attributed to Hoekstra (1997) in van Riemsdijk (2002: 159)[1].

(22)   Optionality of "go" in Standard German

---

[1] Ironically, in the same article, van Riemsdijk argues against an analysis of Alemannic verb doubling as spelled-out traces.

<table>
<tr><td>a.</td><td>Sie will hin (gehen).</td><td>b.</td><td>Sie ist hin (gegangen).</td></tr>
</table>

a.   Sie will hin   (gehen).
     she wants there.dir
     "She wants to go there."

b.   Sie ist hin   (gegangen).
     she is there.dir (gone).
     "She went there."

The silenced "go" thus is the original element, of which doublets are traces/copies. Strong evidence for this view comes from the fact that the forms of "go" in (22) *can* be realized. Similarly, the Alemannic data in (21a)-(21b) *can* have their full forms of "go" realized, as demonstrated in (23)-(24).

(23) I wett ga   tanza goo
     I want go.dbl dance go
     "I want to go dancing."

(24) Zitt zum ga tanza goo
     time to   go dance go
     "time to go dancing"

While van Riemsdijk (2002) phrases this optionality of realiztion of "go" in terms of a "empty GO", I diagram this optionality below with the possibility of ellipsis, indicated by ε. The structure for (21a)/(23) and (21b)/(24) is given in (25) and (26) below.

(25) $[_{TP}$ I $[_T$ wett $]$ $[_{vP}$ $[_v$ ε_{goo} $]$ $[_{VP}$ $[_V$ ga $]$ tanza $]]]$

(26) $[_{NP}$ Ziit $[_{PP}$ zum $[_{vP}$ $[_v$ ε_{goo} $]$ $[_{VP}$ $[_V$ ga $]$ tanza $]]]$

In the third problematic type, (21c), a form of "go" is also missing. Under an auxiliary, such a form is expected to be a participle ("gone") rather than an infinitive ("go"). Like with the optional infinitives just seen, the participle here, too, is optional, as demonstrated in (27) (cf. (22b)) below:

(27) I bia   ga   tanza (gganga)
     I am.aux go.dbl dance (gone)
     "I went dancing."

I suggest here the same mechanism as in (25)/(26), but preceded (or accompanied) by what is called Infinitivus-pro-participio (IPP, "infinitive for a participle", also called *Ersatzinfinitiv*). IPP as a phenomenon is independently attested in Standard German (among other languages), as shown in (28). Here, "can" has infinitive morphology when it takes a verbal complement (28b), even though it is expected to have participle morphology (as in (28a)), since it stands under an auxiliary.

(28) a. ich habe   es gekonnt/*können
        I   have.aux it can.participle/*can.inf
        "I could do it."

      b. ich habe   gehen können/*gekonnt
        I   have.aux go.inf can.inf/*can.participle
        "I could go."

In (27), then, the participle "gganga" is substituted by (or born in the first place as) what is morphologically an infinitive ("goo"). From there on, the mechanism is identical to the one in (25)/(26) above and shown in (29): Deletion of the motion verb yields a string including only a doublet, but not its original full verb.

(29) $[_{TP}$ I $[_T$ bia $]$ $[_{vP}$ $[_v$ $\varepsilon_{goo.IPP}$ $]$ $[_{VP}$ $[_V$ ga $]$ tanza $]]]$

3.2. Semantic lack of a doubler: The realization of subcomponents

Turning to the second of two types of mismatch doubling, we now look at cases in which there is a semantic (and morphological) mismatch between a doublet and the doubling verb. Some semantically richer motion verbs than "go" (e.g. "run"), for example, also require the "go" doublet, shown in (30):

(30) a. Alls ischt … gsecklet gi   si   andersht aalegge   *[Weibel & Peter (2020)]*
          all is.aux   ran   go.dbl itself differently dress
          "Everyone ran to change clothes."

      b. Ich chan … nöd go   aperöle cho   *[Stark et al. (2009-2014: 447)]*
          i   can   not go.dbl aperöle come
          "I can't come to have aperitif."

The doublet is plausibly a semantically impoverished form of what it doubles, as is true for many doubling phenomena (Barbiers et al. 2008). In a study of German Verb-second, Bayer & Freitag 2020 argue (on the basis of Negative Polarity Item licencing, among other things) that while inflection is interpreted in the high position (C), the lexical part of a verb is interpreted in its original position (V). I take such observations as evidence that syntax operates not on finished words, but rather on abstract features that get replaced by actual words at a later point. One implementation of such an architecture is Distributed Morphology (DM) (Halle & Marantz 1993).

A DM acount of verb doubling can allow cases of lexical mismatch such as in (30): Assuming that a verb like "run", as in (30a), is semantically composed of at least the meaning of "motion" and the meaning of manner ("fast"), the doublet ("go", bearing only "motion" but not the manner meaning) would fit as an *underspecified* vocabulary item, and similarly for the verb "come" in (30b).

4. Determining which copies are spelled-out

Consider again the doubling constructions in (31), where in (a) a finite verb is doubled, and in (b) a non-finite verb is doubled, exemplified specifically for the Alemannic (sub)dialect of Dornbirn/Austria.

(31) a. ar gɑːt ga   schaffa   b. ar wett ga   schaffa (gɑː)
          he goes go.dbl work   he wants go.dbl work   (go.inf)
          "He goes (to) work."   "He wants to go (to) work."

I implement the current analysis using Distributed Morphology (Halle & Marantz 1993), which posits that syntactic nodes are filled with their morpho-phonological content only after the syntactic processes. The insertion goes according to language-specific rules, called Vocabulary Insertion (VI) rules.

The VI rules in (32) describe the forms of the verb (including the doublet), as given in (31). This is a first suggestion, and I leave it to future work to further specify the doublet rule in (b) to apply only in the syntactic contexts verb doubling actually occurs (that is: iff adjacent to a vP).

(32) VI rules for verbs and doublets in Alemannic:

      a. [+Verb, −fin] ↔ -V

      b. [+Verb] ↔ ø

      c. [+Verb, +fin, 3sg] ↔ -Vt

In a copy-and-delete approach to movement (Chomsky 1993), syntactic elements that are to be moved are actually merged again at a higher position ("copy"). This concept of movement thus leaves full copies in lower positions, rather than traces. Under this view, it is not surprising that lower copies can be spelled-out, thus giving rise to *doubling*. It is the language-specific variation, implemented above in terms of VI rules, that makes a language double its verbs or not.

4.1. Tripling as deviant doubling

Some, if few, data show verb *tripling*. In constructions such as (33) there is more than one doublet:

(33) Be   ga   deal or no deal ga   luege   *[Stark et al. (2009-2014: 4030)]*
      am.aux go.dbl   deal or no deal go.dbl   watch
      "I went to watch 'Deal or no deal'."

In all three examples above, an object seperates the two doublets. Adjacent doublets (34b/34c), although conceivable structurally, are ruled out. A possible explanation for this is that doublets are clitics, and, following a cross-linguistic tendency, can therefore not stand in direct adjacency.

(34) a. ?i gang   ga   [de vattr]$_i$ ga   t$_i$ bsuacha
          I go.1sg go.dbl the dad   go.dbl see

          "I go see dad."

      b. *i gang ga ga [de vattr] bsuacha

      c. *i gang [de vattr] ga ga bsuacha

One group of Alemannic (sub)dialects in Switzerland is the exception, as (35) shows. Here, it seems that two doublets can grammatically stand next to each other. In fact, two clitics seem to form one word, usually with a schwa in the second syllable, which can be understood as the result of further weakening a doublet's phonology upon incorporation with another doublet.

(35) mer gönd ebe vilicht goge   tschüütele   *[Stark et al. (2009-2014: 3043)]*
      we go   so maybe go=go.dbl   play.soccer
      "We will maybe go to play soccer"

Tripling of the type shown in (34a) is predicted to be possible in all dialects. Its acceptability is degraded, as by the author's judgement and as reflected by the very low number of such constructions in the available datasets (Weibel & Peter 2020, Stark et al. 2009-2014).

Two sorts of explanation for data such as (34a) are conceivable: One view is that is in in principle possible for intermediate copies to be spelled-out. Given this is possible for the lowest copy *and* the highest copy in the present account, arguably also intermediate copies can be realized under the right circumstances. Therefore, if V goes all the way to C, there are enough positions for *three* realized doublets (verb quadrupling), namely in V, v, and T, as demonstrated in (36).

(36) ?i $_C$gang$_i$ $_T$ga   [s Gealt]$_j$ $_v$ga$_i$ [dem vattr]$_k$ $_V$ga   t$_j$ t$_k$ gia
      I go.1sg go.dbl the money go.dbl the   dad   go.dbl   give
      "I go give dad the money."

5. Conclusion

I have argued that head movement of V in Alemannic can result in "doublets", since these elements are realizations of copies formed by the verb's head movement. Existing research has unanimously rejected a productive doubling analysis, while some assumes doubling to have been productive at earlier stages (Hodler 1969, Lötscher 1993, Schönenberger & Penner 1995, van Riemsdijk 2002, Brandner 2006, Salzmann & Brandner 2011, Salzmann 2013). The suggested analysis, although breaking with the orthodox view of all German dialects being head-final, I argue, is a good pricipled explanation of the phenomenon. Theoretically, verb doubling as analyzed here is one of the predictions the copy theory of movement makes: That head-movement, under some circumstances, can lead to the occurrence of several heads in a sentence.

References

Barbiers, Sjef, Olaf Koeneman, Marika Lekakou & Margreet van der Ham (eds.). 2008. *Microvariation in Syntactic Doubling* (Syntax and Semantics 36). Leiden: Brill. https://doi.org/10.1163/9781848550216.

Bayer, Josef & Constantin Freitag. 2020. How much verb moves to second position? In Horst Lohnstein & Antonios Tsiknakis (eds.), *Verb Second* (Interface Explorations [IE] 34). Berlin (a.o.): De Gruyter Mouton. https://doi.org/10.1515/9781501508141-003.

Brandner, Ellen. 2006. Bare Infinitives in Alemannic and the Categorial Status of Infinitival Complements. In *Linguistic Variation Yearbook*, vol. 6. John Benjamins Publishing Company. https://doi.org/10.1075/livy.6.09bra.

Chomsky, Noam. 1993. A Minimalist Program for Linguistic Theory. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, 1–52. MIT Press.

Fleischer, Jürg. 2008. Zur topikalisierenden Infinitivverdoppelung in deutschen Dialekten: Trinken trinkt er nich, aber rauchen raucht er (mit einem Exkurs zum Jiddischen). *Dialektgeographie der Zukunft: Akten des* 2. 243–268.

Halle, Morris & Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In Ken Hale & Samuel J. Keyser (eds.), *The View from Building 20. Essays in Linguistics in Honor of Sylvain Bromberger*, 111–176. MIT Press.

Hodler, Werner. 1969. *Berndeutsche Syntax*. Bern: Francke.

Hoekstra, Jarich F. 1997. *The Syntax of Infinitives in Frisian*. University of Groningen dissertation.

Holmberg, Anders. 2015. Verb Second. In Tibor Kiss & Artemis Alexiadou (eds.), *Syntax – Theory and Analysis. An International Handbook*, vol. 42/1 (Handbücher zur Sprach- und Kommunikationswissenschaft / Handbooks of Linguistics and Communication Science [HSK]), chap. 12, 342–383. Berlin, München, Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110377408.342.

Lötscher, Andreas. 1993. Zur Genese der Verbverdopplung bei gaa, choo, laa, aafaa („gehen", „kommen", „lassen", „anfangen") im Schweizerdeutschen. In Werner Abraham & Josef Bayer (eds.), *Dialektsyntax* (Linguistische Berichte Sonderheft 5). Opladen: Westdeutscher Verlag. https://doi.org/10.1007/978-3-322-97032-9_9.

van Riemsdijk, Henk. 2002. The unbearable lightness of GOing: The projection parameter as a pure parameter governing the distribution of elliptic motion verbs in Germanic. *The Journal of Comparative Germanic Linguistics* 5(1). 143–196. https://doi.org/10.1023/A:1021251312697.

Salzmann, Martin. 2013. New arguments for verb cluster formation at PF and a right-branching VP. Evidence from verb doubling and cluster penetrability. *Linguistic Variation*.

Salzmann, Martin & Ellen Brandner. 2011. Die Bewegungsverbkonstruktion im Alemannischen. In Elvira Glaser, Jürgen Erich Schmidt & Natascha Frey (eds.), vol. 144 (Zeitschrift für Dialektologie und Linguistik), 47–76. Stuttgart: Steiner.

Schönenberger, Manuela & Zvi Penner. 1995. Cross-dialectal variation in Swiss German: Doubling verbs, verb-projection raising, barrierhood, and LF movement. In 285–305. Springer.

Schönenberger, Manuela & Zvi Penner. 1995b. Probing Swiss-German Clause Structure by means of the Placement of Verbal Expletives: *Tun* "do" Insertion and Verb Doubling. In Zvi Penner (ed.), *Topics in Swiss German Syntax*, 291–330. Bern: Lang.

Sheehan, Michelle, Theresa Biberauer, Ian Roberts & Anders Holmberg. 2017. *The Final-Over-Final Condition: A Syntactic Universal* (Linguistic Inquiry Monographs). MIT Press. https://doi.org/10.7551/mitpress/8687.001.0001.

Stark, Elisabeth, Simone Ueberwasser & Beni Ruef. 2009-2014. *Swiss SMS Corpus*. Universität Zürich. https://sms.linguistik.unizh.ch.

Weibel, Manuela & Muriel Peter. 2020. Compiling a large Swiss German dialect corpus. In *Proceedings of the 5th Swiss Text Analytics Conference (Swiss-Text) 16th Conference on Natural Language Processing (KONVENS)*.

Wurmbrand, Susi. 2000. The structure (s) of particle verbs. *Ms., McGill University*.