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Breaking up verb clusters: Two-verb constructions in Moundridge Schweitzer German

Abstract Verb clusters are a linguistic phenomenon where two or more verbs align in adjacent order. This paper discusses the structure of a certain type of verb cluster, namely modal *infinitivo pro participio* (IPP) structures, in main clauses of a moribund heritage variety of German, Moundridge Schweitzer German (MSG), spoken in Kansas. An acceptability judgment task was conducted with twelve participants to investigate two aspects of verb clusters in MSG. The first question concerned the integration of non-verbal elements, here the direct object (DO) and the negation particle (neg), in the verbal complex. The second question investigates whether MSG modal IPPs show variability in verb order, which is an essential characteristic of this type of verb cluster in other verb-cluster languages. The results show that modal IPP constructions in MSG have a fixed 2-3 verb order but allow object scrambling to some degree. Thus, while the ordering of verbs lacks syntactic variability, flexibility and variation are attested in the placement of the non-verbal constituents within the verbal complex. This is interpreted as the retention of an archaic dialectal trait.

Key words: verb cluster, moribund language, heritage German, Moundridge Schweitzer German, heritage syntax

1. Introduction

The term 'verb cluster' refers to syntactic constructions where two or more verbs align in adjacent order and build a verbal complex. This "verb cluster formation is rare and restricted to West Germanic languages" (Wurmbrand, 2015: 41) such as Dutch, German, Swiss German, Frisian, West Flemish, Afrikaans and their dialectal variations but is also found in Hungarian (Wurmbrand, 2004; for a critical view on verb clusters in Hungarian see Haider, 2010: 333). The number of verbal constituents in a verb cluster and the type of verbs that go into the cluster (e.g. participles, infinitives, modals, auxiliaries) vary as the examples in (1) show.

(1)	a.	Dutch, two-verb cluster (Zwart, 1996: 16)			
		dat	hij	gehaald$_2$	werd$_1$
		that	he	fetched	became
		'that he was fetched'			

(1)	b.	Swiss German, three-verb cluster (Wurmbrand, 2015: 2)					
		wil	er	si	mues$_1$	gsee$_3$	ha$_2$
		since	he	her	must	seen	have
		'that he must have seen her'					

(1)	c.	Hungarian, four-verb cluster (Szendröi & Tóth, 2004: 88)				
		Kedden	fog$_1$	tudni$_2$	edzeni$_4$	járni$_3$
		Tuesday-on	will	can	train	go
		'He will be able to go training on Tuesdays.'				

(1)	d.	German, five-verb cluster (Kiss & van Riemsdijk, 2004: 11)[1]									
		dass	wir	ihn	dieses	Problem	lösen$_5$	lassen$_4$	müssen$_3$	wollen$_2$	sollten$_1$
		that	we	him	this	problem	solve	let	must	want	should
		'that we should want to have to let him solve this problem'									

Not only the number of constituents or verb types but also the order of the verbs varies. Verb order variation does not only exist across languages, (2), but also within one language, (3).

(2)		German and Dutch (Kiss & van Riemsdijk, 2004: 11)									
	a.	dass	wir	ihn	dieses	Problem	lösen$_5$	lassen$_4$	müssen$_3$	wollen$_2$	sollten$_1$
		that	we	him	this	problem	solve	let	must	want	should

(2)	b.	dat	wij	hem	dit	problem	zouden$_1$	willen$_2$	moeten$_3$	laten$_4$	oplossen$_5$
		that	we	him	this	problem	should	want	must	let	solve
		both 'that we should want to have to let him solve this problem'									

(3)		Swiss German (Wurmbrand, 2015: 2)				
	a.	das	er	wil$_1$	chöne$_2$	vorsinge$_3$
		that	he	wants	can	sing

	b.	das	er	vorsinge$_3$	chöne$_2$	wil$_1$
		that	he	sing	can	wants

	c.	das	er	wil$_1$	vorsinge$_3$	chöne$_2$
		that	he	wants	sing	can

	d.	das	er	vorsinge$_3$	wil$_1$	chöne$_2$
		that	he	sing	wants	can
		all 'that he wants to be able to sing'				

Verb clusters have also been attested in heritage German languages such as Pennsylvania Dutch and Moundridge Schweitzer German (MSG). The case of these two heritage languages spoken in Northern America is of interest because their speakers are typically not in contact with the source language. They developed and maintained their heritage language in isolation from Continental German and within the linguistic surroundings of the host community over several generations. Pennsylvania Dutch, for example, dates back to the 18th century, and its source dialect is known to be primarily Continental Palatinate German (henceforth 'Palatinate'). It is still actively spoken and passed down to younger generations. Louden (2011) investigates verbal clusters in Pennsylvania Dutch. He shows that verbal clusters in Pennsylvania Dutch differ from those in Palatinate regarding verb order. Moreover, he observes that early[2]

[1] The numbering in examples (1d) and (2) were changed from the original source to maintain consistent numbering throughout this paper.

[2] The "early" Pennsylvania Dutch data is based on the doctoral dissertation of William Frey (1941).

Pennsylvania Dutch verb clusters vary from modern ones. By comparing early and modern occurrences of verbal clusters in subordinate clauses, Louden observes changes in verb order for clusters involving causatives and auxiliaries but maintenance (over time) of verb order for clusters with modals. However, with respect to the latter construction (involving modals), variation of verb order is attested in main clauses in modern Pennsylvania Dutch, suggesting that a change is in progress, as shown in (4). These observations demonstrate that verb clusters in Pennsylvania Dutch are dynamic constructions that are subject to (diachronic and synchronic) change and variation.

(4)	a.	'Normal' Pennsylvania Dutch (adapted from Louden, 2011: 183, who quotes Vella Deitsch, 1997)					
		sie	hen$_1$	nix	meh	duh$_3$	kenne$_2$
		they	have	nothing	more	do	can
		'They could do nothing more.'					

(4)	b.	'Changed' Pennsylvania Dutch (adapted from Louden, 2011: 183)					
		die	annri	Leit	hen$_1$	kenne$_2$	sehne$_3$
		the	other	people	have	can	see
		'the other people could see'					

In contrast to Pennsylvania Dutch, MSG is a heritage German variety that is moribund. It is not actively used among its speakers and has not been passed down to the next generation. What role does verb order variation, considered a key property of verb clusters, play in such a moribund stage of language use and how–if at all–is it realized? While the literature on verb clusters has been fruitful in investigating how to account for verb order variations or why certain variations are not permissible,[3] the present study finds a lack of variability in verb order with some flexibility of the direct object within the verbal construction. Thus, this study aims to contribute to the research on verb clusters by investigating a heritage language that displays a presumably conserved version of the verb cluster of its source dialect as a consequence of its moribund stage.

In the next section, the historical and linguistic background of MSG will be introduced. Section 3 discusses two- and three-verb modal IPP clusters with respect to the relevant languages for the study presented here: Standard German, Palatinate, and MSG. In Section 4, the research questions are stated, followed by the presentation of the study on two-verb modal IPP clusters in MSG. In Section 5 we will discuss the results with respect to verb order variability in MSG two-verb constructions. Finally, we end with the conclusion and suggestions for future research in Section 6.

2. Moundridge Schweitzer German

Moundridge Schweitzer German (MSG) is a term used to classify the variety of German spoken in and around the communities of Moundridge, Newton, and Pretty Prairie, Kansas. It is a moribund variety of heritage German, as the language has not been passed down and is now spoken by the last generation of MSG speakers. Currently,

[3] Variability in verb order has been interpreted as reanalysis (Haegeman & van Riemsdijk, 1986), or captured in theoretical frameworks such as OT (Schmid & Vogel, 2004) or HPSG (Kathol, 1997; Bouma & Noord, 1996). See Wurmbrand (2015) for an extensive overview on syntactic approaches.

there are approximately 25-30 remaining speakers of the language who possess an intermediate or high degree of proficiency in the dialect (Hopp & Putnam, 2015). It is important to note that the language has been used exclusively as an oral form of communication and that MSG speakers neither read nor write in their heritage dialect.

The term "Schweitzer" in "Moundridge Schweitzer German" is motivated by its speakers. Rein (1977: 201-204), referring to Schrag's M.A. thesis from 1956, reports that the ancestors of the Mennonite "Schweitzer" speakers in Kansas and South Dakota were Anabaptists who originated from the northwestern region of Switzerland near Bern. In 1670/71 they left Switzerland due to religious reasons and settled in the Palatinate region in Germany where they stayed for 114 years. There, they lived in isolation, forbidding intermarriage with people from other religious convictions and thus remained ethnically 'pure.' In contrast to the conservation of their ethnic and religious identity, their language almost completely lost its Swiss German characteristics and assimilated to the Palatinate dialect. From 1784 to 1872 the Swiss Anabaptists colonized Galicia and Volhynia in Russia together with Anabaptists from other areas such as Bern or northern Germany. The Palatinate dialect was preserved during this time as it served as a balancing dialect ("*Ausgleichsmundart"* Rein 1977: 204) between the different German and Swiss dialects on the one hand and what was considered 'High German' at that time on the other. At the end of the 19th century, some Swiss Anabaptists left Russia and emigrated to the USA, building one settlement in Freeman, South Dakota, and another one in Pretty Prairie, Kansas. Rein's linguistic analysis of the variety of "Swiss" spoken by the Mennonites in Kansas and South Dakota in 1977 clearly contains elements of the Palatinate, a Western-Central German variety. Moreover, according to Rein (1977), a considerable change of the German dialect ("*wesentliche Weiterveränderung des deutschen Dialekts*") could not be noted for the Mennonites over the previous two generations. According to Putnam (2012) most of the grammatical, phonological, and morphological features displayed in MSG today also resemble Palatinate German.

To what extent the constitution of verbal clusters, more specifically modal IPP constructions in MSG main clauses, resemble or differ from its source dialect (Palatinate), will be discussed in the next section.

3. Modal IPP constructions in German

Modal *infinitivo pro participio* (IPP) clusters are present perfect tense constructions with a modal verb occurring in infinitive form rather than as past participle. Thus, to express the past event 'had to sing' the German modal IPP construction is *hat singen müssen*$_{modal\ IPP}$ and not *hat singen *gemusst*$_{modal\ past\ participle}$.[4]

This construction will first be discussed with respect to the differences in verb order for the relevant languages, namely Continental Standard German (Standard German), Continental Palatinate German (Palatinate), and Moundridge Schweitzer German (MSG). Then we will turn to the integration of non-verbal elements into the verb cluster. Following the standard convention on verb cluster research, we will use the following notation for the verbal constituents, (5).

(5)	verb 1	auxiliary verb	AUX

[4] An anonymous reviewer pointed out that past tense expressions with a modal past participle instead of IPP usually apply the order 3-2-1, i.e. *singen gemusst hat.*

	verb 2	modal verb	MOD
	verb 3	predicative verb	V

3.1. Verb order

As outlined in Section 1, verb clusters vary with respect to verb order across and within languages (see e.g. Wurmbrand, 2004, 2015 for an exhaustive cross-linguistic discussion of verb clusters). Most studies on verb clusters have looked at subordinate clauses. The reason is that in main clauses of V2-languages, the finite verb is in the second position (V2) but in subordinate clauses the finite verb is clause final. Thus, in subordinate clauses the finite verb builds a cluster with other verbal elements at clause final position, whereas in main clauses the finite verb is placed in V2 position and is separated from the sentence final verb cluster. This is illustrated in (6) where the modal IPP construction in the main clause forms a two-verb cluster (a) and in the subordinate clause the same verb is part of a three-verb cluster (b). In the following, the verb in V2 position of main clauses will appear in parentheses to differentiate clearly between main clause two-verb clusters and subordinate clause three-verb clusters.

(6)	a.	Standard German, main clause, two-verb cluster ((1)…3-2)							
		Er	hat$_1$	letztes	Jahr	nach	Deutschland	gehen$_3$	wollen$_2$.
		he	has	last	year	to	Germany	go	want
		‘He wanted to go to Germany last year.’							

(6)	b.	Standard German, subordinate clause, three-verb cluster (1-3-2) (Louden 2011: 166)						
		Susanne	weiß,	dass	er	nicht	hat$_1$	gehen$_3$	wollen$_2$.
		Susanne	knows	that	he	not	has	go	want
		‘Susanne knows that he did not want to go.’							

With respect to verb order variation of Standard German modal IPPs, Wurmbrand (2004: 53) found in her survey of 56 native German speakers from Germany, that 96.4% prefer the 1-3-2 order in subordinate clauses.[5] Thus, 1-3-2 can be considered the canonical verb order for Standard German modal IPP constructions. The sequences 3-1-2 and 3-2-1 were only marginally accepted with 5.4% and 8-9% respectively, and the sequence 1-2-3 was categorically rejected with 0% of participants preferring this sequence.

It is therefore interesting that, for Palatinate modal IPP constructions, the most common sequence appears to be 1-2-3, (7).

(7)	a.	Palatinate, main clause, two-verb cluster ((1)-2-3) (Green 2013: 241)			
		sie	hat$_1$	dürfe$_2$	bleibe$_3$
		she	has	allowed	stay
		‘She was allowed to stay.’			

[5] This is in line with Duden – Die Grammatik (2006: 473), a normative description of contemporary Standard German grammar.

(7)	b.	Palatinate, main clause, two-verb cluster ((1)-2-3) (Post 1990: 136)				
		Er	hodd$_1$	niggs	kenne$_2$	mache$_3$
		he	has	nothing	can	do
		'He couldn't do anything.'				

Dubenion-Smith (2008, 2010, 2013) has contributed valuable data to the research on verb clusters not only by providing data on West Central German (which includes Palatinate German) but also by addressing the lack of data for main clauses. In his words, "data from verbal complexes in main clauses are rich, meriting proper documentation, and can give valuable insight into verbal complex formation […]" (Dubenion-Smith, 2010: 103). His data come from the Zwirner Corpus (collected between 1955 and 1959 and compiled until 1970) that is available online through the *Institut für Deutsche Sprache* in Mannheim. To build a West Central German corpus he analyzed transcripts of speakers from the Central and Rhine Franconian areas of Germany, which match the dialectal origin of MSG. For more recent data on West Central German verb clusters, Dubenion-Smith (2013) used the same survey as Wurmbrand (2004). The results of the survey show that the various dialectal areas within West Central German largely maintained their word orders over roughly 50 years even though the use of particular word orders may have decreased over time.

The corpus analysis in Dubenion-Smith (2010) shows a preference for (1-)2-3 verb order in main clauses with occurrences of 57.9% over (1-)3-2 sequences that occurred only 42.1% in the corpus. The most frequent verb order in subordinate clause three-verb clusters is 3-1-2 order with 42.1%, followed by (the canonical sequence) 1-3-2 and 1-2-3 with 21.1% each and 3-2-1 with 15.8%. An interesting side-observation is that modal IPP structures showed the highest variation in verb order compared to other types of verbal constructions such as perfect tense of passive voice, confirming syntactic variability as an essential property of modal IPPs. Taken together, the data on West Central German (including Palatinate) modal IPP clusters reveal that the preferred verb order differs from canonical order in Standard German.

As for MSG, initial data on modal IPP complexes come from free speech narrations recorded in 2011 and 2013. Overall, 21 occurrences of modal IPP were identified, all of them in (1-)2-3 order, as in example (8). Of these, only one occurs in a subordinate clause introduced with *weil* 'because.' This is problematic, because causal clauses strongly tend toward V2 structures in German varieties, as an anonymous reviewer commented. For MSG, Hopp & Putnam (2015) show evidence of V2 ordering in subordinate *weil* clauses. The sequence observed in (8) mirrors the preferred 2-3 verb order found for West Central German (including Palatinate) main clauses. The various verb orders for modal IPP constructions in Standard German, West Central German, and MSG are summarized in Table 1.

(8)	MSG, main clause, two-verb cluster (2-3) (recording from 2011)				
	mir	hen$_1$	immer	misse$_2$	mache$_3$
	we	have	always	must	do
	'we always had to work'				

Table 1: Summary of modal IPP verb order variation for main clauses with two-verb clusters and subordinate clauses wit three-verb clusters. 1=AUX, 2=MOD, 3=V.

Standard German (Wurmbrand, 2004)		West Central German (Dubenion-Smith, 2010)		MSG (2011, 2013 recordings)
main	subordinate	main	subordinate	main
3-2	1-3-2 (96.4%)	3-2 (42.1%)	1-3-2 (21.1%)	--
--	3-1-2 (5.4%)	2-3 (57.9%)	3-1-2 (42.1%)	2-3 (100%)
	3-2-1 (8.9%)		3-2-1 (15.8%)	
	1-2-3 (0.0%)		1-2-3 (21.1%)	

Focusing on main clause two-verb clusters, Table 1 shows that, in Standard German, the only permissible verb order is 3-2, whereas it is the opposite in MSG, 2-3. For West Central German, the preferred order is 2-3, but the Standard German order 3-2 is also accepted. This is an interesting distribution of verb ordering that invites thoughts on language contact and change. In West Central German, the Standard German 3-2 order is accepted only 42% of the time. In the Palatinate region alone, the acceptance of 3-2 is even lower, 36% (Dubenion-Smith, p.c.). The preferred verb order with almost 60% in West Central German is 3-2 which is the only permissible order in MSG, see Section 5 for a detailed discussion on this topic.

3.2. Non-verbal constituents in modal IPP constructions

Verbal clusters not only differ in verb order, but also as to whether or not and where they incorporate non-verbal constituents. The examples in (9) show that non-verbal elements such as direct objects or adverbs can occur within the verbal complex. However, (9c,d) show that the placement of non-verbal material is constrained to some extent and not arbitrary.

(9)	a.	Standard German (1-3-2) (Haider 2003: 106)										
		daß	er	für	ihn	nicht	hatte$_1$	die	Firma	am Leben	halten$_3$	wollen$_2$
		that	he	for	him	not	had	the	company	alive	keep	want
		'that he had not wanted to keep the company alive for him'										

(9)	b.	Standard German (1-4-3-2) (Kiss 2004: 351)									
		dass	er	nur	ein	Problem	wird$_1$	schnell	lösen$_4$	können$_3$	wollen$_2$
		that	he	only	one	problem	will	quickly	solve	can	want
		'that he will want to be able to solve only one problem quickly'									

(9)	c.	Standard German (1-4-3-2) (Kiss 2004: 351)									
		*dass	er	nur	ein	Problem	wird$_1$	lösen$_4$	schnell	können$_3$	wollen$_2$
		that	he	only	one	problem	will	solve	quickly	can	want
		'that he will want to be able to solve only one problem quickly'									

Interestingly, the position of *schnell* 'quickly' in (9c) becomes permissible only when the verb order changes, suggesting a relationship between the integration of non-verbal elements and verb order. Compare (9c) and (9d).

(9)	d.	Standard German (1-2-4-3) (Kiss 2004: 351)									
		dass	er	nur	ein	Problem	wird$_1$	wollen$_2$	*schnell*	lösen$_4$	können$_3$
		that	he	only	one	problem	will	want	quickly	solve	can
		'that he will want to be able to solve only one problem quickly'									

Bobaljik (2004) describes a similar phenomenon for Dutch. In verb clusters containing a past participle, verb order determines whether verbal prefixes can either occur in any place within the verb cluster or only in one particular place, see (10).

(10)	a.	Dutch (1-2-3) (Bobaljik 2004: 138)								
		dat	hij	haar	(op)	kan$_1$	(op)	hebben$_2$	(op)	gebeld$_3$
		that	he	her	(up)	can	(up)	have	(up)	called
		'that he may have called her'								

(10)	b.	Dutch (3-1-2) (Bobaljik 2004: 139)								
		dat	hij	haar	(op)	gebeld$_3$	(*op)	kan$_1$	(*op)	hebben$_2$
		that	he	her	(up)	called	(*up)	can	(*up)	have
		'that he may have called her'								

Bobaljik (2004: 140) generalizes from these data "that a non-verbal element in Germanic must precede (though not necessarily immediately) its associated (e.g., selecting) verb" and that the (im)penetrability of verb clusters is related to their verb order. According to Bobaljik, who applies theoretical assumptions of headedness and directionality parameters, the (right-branching) sequence of 1-2-3 may be interrupted by non-verbal elements but (left-branching) 3-2-1 sequences cannot. Furthermore, in a mixed sequence like 1-3-2 the (left-branching) portion 3-2 is inviolable, (11a), whereas the (right-branching) part 1-[3-2] allows non-verbal elements, (11b).

(11)	a.	Standard German (1-3-2) (Bobaljik 2004: 139)							
		*dass	er	das	Buch	hätte$_1$	durchsehen$_3$	*genau*	sollen$_2$
		that	he	the	book	had	look-though	carefully	shall
		'that he should have looked through the book carefully'							

(11)	b.	Standard German (1-3-2) (Bobaljik 2004: 139)							
		dass	er	das	Buch	hätte$_1$	*genau*	durchsehen$_3$	sollen$_2$
		that	he	the	book	had	carefully	look-though	shall
		'that he should have looked through the book carefully'							

Bobaljik's generalization for 1-2-3 sequences is supported by data from Swiss German (Züritüütsch), see (12), which shows non-verbal elements between 2-3.

(12)		Züritüütsch (1-2-3) (Haegeman & van Riemsdijk 1986: 443)						
	a.	das	de	Hans	*nöd*	hät$_1$	wele$_2$	weggaa$_3$
		that	the	Hans	not	has	wanted	go-away

(12)	b.	das	de	Hans	hät$_1$	wele$_2$	*nöd*	weggaa$_3$
		that	the	Hans	has	wanted	not	go-away
		both 'that Hans did not want to go away'						

While Bobaljik (2004) explains the placement of non-verbal material within a verb cluster in terms of headedness and directionality, Haegeman and van Riemsdijk (1986) argue with the notion of scope. According to them, the different positions of the non-verbal element *nöd* 'not' result in slightly different meanings due to the narrow versus wide scope the negation particle takes. The narrow scope reading, (12b), negates only the lexical verb *weggaa* 'go away,' but the wide scope reading, (12a), allows two interpretations, namely the negation of the lexical verb and also the negation of the verb cluster as a whole. In other words, the negation element takes scope over those verbal parts it precedes.

The range of scope is a logical consequence of Bobaljik's observation that the non-verbal element must precede its associated verb. When the associated verb is placed last (Bobaljik's right-branching 1-2-3 order), the non-verbal element can take narrow scope over its selecting verb or wide scope including other verbs to the left. However, when the associated verb is fronted (left-branching 3-1-2 or 1-3-2 order), non-verbal elements can only take wide scope because they have to precede its selecting verb.[6]

Having discussed verb order variation in modal IPP constructions for the relevant German varieties, and the integration of non-verbal elements within the verbal complex, we will now turn to the current study, which investigates the internal structure of modal IPP constructions in MSG.

4. Present Study

The present study systematically investigates the internal structure of two-verb modal IPP constructions in main clauses in MSG for the first time based on observations from previous recordings from 2011 and 2013. We are interested in uncovering how and to what extent the two-verb complexes in MSG are 'flexible' or 'fixed' with regard to verb order, asking (1) whether MSG modal IPP constructions show variability in verb order as shown for other verb-cluster languages. What patterns of variability are observed? Secondly, we aim to investigate the position of non-verbal elements within the verbal complex by asking (2) how non-verbal elements, specifically the direct object (DO) and the negation particle (neg), are integrated in the verbal complex in MSG.

To this end, a total of 27 main clauses with varying word orders were created (twelve including DO, 15 including DO and neg) and judged for acceptability on a three-point scale by the MSG speakers. No distractor sentences were included. We also

[6] For a detailed theoretical discussion on the differences in placement of non-verbal constituents (Verb Projection Raising), see Wurmbrand (2015).

report on ratings of twelve main clauses that have a prepositional phrase instead of DO and eight subordinate clauses with DO and neg that were not part of the main experiment but are mentioned in the result section as means of comparison.

4.1. Participants

Twelve MSG speakers (eight females, four males) participated in the study. The mean age was 78 years. All of the participants reported that they acquired MSG as their first language and learned English as their second language around the age of six when they started school. Today, they are all dominant in their second language, English, and speak MSG less than one hour per week on average. None of the participants write or read MSG. Their heritage dialect is acquired and maintained as an oral code. On average the participants self-rated their ability to comprehend spoken MSG with 8 out of 10, their ability to read Standard German[7] with 3 out of 10, and their ability to speak MSG with 6 out of 10.

4.2. Material and procedure

To test the internal structure of the modal IPP constructions in MSG, IPP constructions were manipulated in order to integrate direct objects (DO-condition) and the negation particle *net* 'not' (DO+neg-condition), and to change the verb order. The following examples in (13), taken from 2011 recordings of MSG speakers, were used as a model to create the stimuli.

(13)	MSG, main clauses, two-verb cluster (2-3) (2011 recordings)						
	a.	ich	han$_1$	misse$_2$	die	Männer	fittere$_3$
		I	have	must	the	men	feed
		'I had to feed the men.'					

(13)	b.	die	Kuh	hat$_1$	mich	net	kenne$_2$	tot	mache$_3$
		the	cow	has	me	not	can	dead	do
		''The cow couldn't kill me.'							

There were three base sentences with (1-)2-3 verb order that were modified in nine different ways. The DO-condition had four variations. The DO was placed either (a) between AUX and MOD ((1-)DO-2-3), (b) between MOD and V ((1-)2-DO-3), or (c) clause final ((1-)2-3-DO). The fourth manipulation was the change of position of V and MOD, (d), to the canonical Standard German verb order (1-)3-2. In the DO+neg-condition there were five variations. Three of these variations had the negation particle between AUX and MOD (1-2), with the DO being between MOD and V ((1-)neg-2-DO-3)

[7] The participants reported that church sermons used to be held in Standard German using the Lutheran bible translation. However, around the time when the participants started school, the Mennonite church changed the language of their sermons from "Swiss" to English to appeal to a broader audience. Therefore the exposure to written Standard German is very limited. Kaufmann (2011) explains for certain conservative Mennonite Low-German speaking groups that Standard German has been used in "a hagiolectal form" (p. 194) and has not exerted influence on their spoken German variety. The same can be assumed for the MSG speakers.

as in (e), the DO following *net* directly ((1-)neg-DO-2-3) as in (f), and the DO directly preceding *net* ((1-)DO-neg-2-3) as in (g). The second set of variations had *net* between MOD and V (2-3), with DO between AUX and MOD ((1-)DO-2-neg-3) as in (h), and the DO clause final ((1-)2-neg-3-DO) as in (i). Thus, there were a total of 27 sentences to rate. All experimental stimuli for this study are exemplified in Table 2 in the order they were presented.[8]

The informants participated in the experiment in groups of two to four. They were presented orally with one sentence at a time and each one of them was asked to rate the given sentence. However, if the participant expressed difficulty rating the sentence, we provided a second sentence as point of comparison. Upon hearing the sentence(s) the participant performed acceptability ratings as to whether or not (s)he would say or hear that sentence. We applied a non-numerical 3-point scale for ease of performance. The participant rated the sentences on a "thumb"-scale where a thumbs up meant "I would say/hear this sentence", a thumbs down meant "I would not say/hear this sentence," and holding the thumb to the side meant "not sure."

Table 2: Example set of experimental stimuli for one carrier sentence. S=subject, DO=direct object, neg=negation particle, 1=AUX, 2=MOD, 3=V.

	DO-condition						Example sentences
a	S	1	DO	2	3		Mir-hen-die Kieh-misse-melke.
b	S	1	2	DO	3		Mir-hen-misse-die Kieh-melke.
c	S	1	2	3	DO		Mir-hen-misse-melke-die Kieh.
d	S	1	DO	3	2		Mir-hen-die Kieh-melke-misse.
							we-have-the cows-milk-must
							all: 'We had to milk the cows.'
	DO + neg-condition						
e	S	1	neg	2	DO	3	Mir-hen-net-misse-die Kieh-melke.
f	S	1	neg	DO	2	3	Mir-hen-net-die Kieh-misse-melke.
g	S	1	DO	neg	2	3	Mir-hen-die Kieh-net-misse-melke.
h	S	1	DO	2	neg	3	Mir-hen-die Kieh-misse-net-melke.
i	S	1	2	neg	3	DO	Mir-hen-misse-net-melke-die Kieh.
							we-have-must-not-milk-the cows
							all: 'We did not have to milk the cows.'

4.3. Results

The purpose of this study was to investigate the internal structure of two-verb modal IPP constructions in MSG main clauses. As mentioned above, not every participant was able to finish the experiment and rate all 27 sentences. For this reason, we calculated ratios by dividing the number of all "thumbs up," "thumbs down," and "not sure" ratings by the total number of elicited ratings in order to account for the different numbers of rated

[8] The reader may wonder why DOs were not placed in direct juxtaposition with neg between 2-3. This decision was made after the first participants categorically rejected neg between 2-3. Therefore, it was considered unnecessary to add more variations to this relatively long list of stimuli.

sentences. Results are given in percentages with absolute numbers in parentheses due to the varying number of ratings for each experimental stimulus.

The acceptability ratings for the DO-condition are presented in Figure 1. The results show that the most preferred position of the direct object is between MOD and V (2-3) with 72.2% (26/36). Having the object preceding the 2-3 complex is also acceptable for the MSG speakers, but to a lesser extent than the first condition/variant with only 41.7% (15/36). The variant with a clause final direct object, as well as the canonical Standard German 3-2 verb order were categorically rejected.

This finding confirms the observations from the 2011 and 2013 recordings with respect to the placement of direct objects within the modal IPP structure. From a total of ten instances of two-verb modal IPP constructions that include a direct object, only one (10% or 1/10) precede the 2-3 cluster whereas 90% (9/10) are positioned in between MOD and V, resulting in 2-DO-3 as the most frequent structure in MSG.

Fig 1 here

Support for this finding comes from ratings on twelve main clauses with prepositional phrases (PP), Figure 2. An example stimulus for this condition is given in (14). As explained below in more detail (see section 4.4), this result has to be taken with caution since only a few participants were able to provide ratings on only some of these stimuli. The available ratings on the PP-condition however mirror the main finding in that the preferred position of a non-verbal element, here PP, is between 2-3 with 78.6% (22/28). The variant of the PP preceding the 2-3 complex is also partially accepted (38.5% or 10/26). The extraposed PP received an acceptability rating of only 7.7% (2/26) but was not categorically rejected like the clause final direct objects. The canonical 3-2 verb order reached a floor effect also in the PP-condition.

(14)	PP-condition, main clause (2-3)						
	Ich	hen$_1$	misse$_2$	in	die	Schul	gehe$_3$
	I	have	must	in	the	school	go
	'I had to go to school.'						

Fig. 2 here

The results for the DO+neg-condition reveal a slightly different picture. Here there are two structures that are equally preferred. The structure with the highest acceptability rating (84.4% or 27/32) has the direct object positioned in between 2-3, in line with the result in the DO-condition, while the negation particle precedes the 2-3 complex. In the second preferred structure (82.6% or 19/23), the direct object and negation particle cluster together (DO-neg), preceding 2-3. However, the reverse order, when the negation particle precedes the direct object (neg-DO), sees the acceptability rating drop down to 54.6% (12/22). The position of neg between 2-3 reached a floor effect, as well as the variation with clause final DO.

Fig. 3 here

Support for the main finding in the DO+neg condition comes from ratings on DO+neg-condition in eight subordinate clauses, in Figure 4. It is important to note that, in MSG, non-verbal elements in subordinate clauses behave the same way as in main clauses with regard to the verbs participating in the verbal complex. An example stimulus is given in (15).[9] The same reservations as for the PP-condition apply here. The available results for the subordinate clauses show a similar pattern as the ones in main clauses: The same two positions for DO and neg are preferred with 75%. But a slight difference to the main finding in Fig. 3 is the lesser degree of (3/4) acceptability of neg-DO-2-3 with only 25% (1/4) acceptability.

(15)	DO+neg-condition, subordinate clause (1-2-3)											
	Ich	war	froh,	immer	wenn	ich	hen$_1$	net	misse$_2$	die	Milch	hole$_3$
	I	was	happy	always	when	I	have	not	must	the	milk	get
	'I was happy whenever I didn't have to get the milk.'											

Fig. 4 here

The main results are summarized in Table 3. Three main points can be extracted from the results. First, with regard to the positioning of the non-verbal elements, the direct object and negation particle, the most preferred variant is with the (direct) object in between 2-3 and the negation particle preceding the 2-3 complex (neg-2-DO-3). Second, the position of the direct object shows variability. Besides the preferred position between 2-3, the DO position preceding the 2-3 complex was also rated as acceptable, though to a lesser degree. Moreover, when the DO was combined with the negation particle and preceded the 2-3 complex it reached a high acceptability of over 80%. However, the sequence of DO and neg matters. High acceptability is not reached when neg precedes the DO, but only when DO precedes neg. Finally, the canonical Standard German verb order 3-2 is categorically rejected. Also the variant with clause final direct object as well as neg positioned in between 2-3 is rated as unacceptable.

Table 3: Summary of ratings. S=subject, DO=direct object, neg=negation particle, 1=AUX, 2=MOD, 3=V.

	DO-condition						Rating in percent (%) and absolute numbers
a	S	1	DO	2	3		41. 7 (15/36)
b	S	1	2	DO	3		77.2 (26/36)
c	S	1	2	3	DO		0 (0/36)
d	S	1	DO	3	2		0 (0/36)
	DO + neg-condition						
e	S	1	neg	2	DO	3	84.4 (27/32)
f	S	1	neg	DO	2	3	54.6 (12/22)
g	S	1	DO	neg	2	3	82.6 (19/23)

[9] An anonymous reviewer who was raised in the Palatinate region stated that this example does not sound natural. Instead the reviewer suggests "Ich war froh, wenn ich hen net misse die Milch hole." or "Immer wenn ich hen misse die Milch hole, war ich froh."

h	S	1	DO	2	neg	3	0 (0/32)
i	S	1	2	neg	3	DO	0 (0/32)

4.4. Limitations

Some limitations of the study must be mentioned. The first limitation concerns our decision to apply a simplified, non-standard "thumbs up"/"thumbs down" rating rather than a 5-point Likert scale. . As mentioned above, the participants do not read or write MSG but use it exclusively as an oral code. According to the information they provided in the language history questionnaire, MSG is spoken less than one hour per week on average. This means that MSG is not a substantial part of the community but rather the use of MSG is an exception and occurs mostly at special events such as Fall Fest.[10] Furthermore, the speakers perceive their ability to speak "Schweitzer" as 'rusty' and are aware of the fact that their dialect is moribund. Against this background it is understandable that the request to perform grammaticality or acceptability judgments was difficult for the participants. Not only were they reluctant to make judgments on the 'correctness' of a sentence, they also parsed sentences for meaning and not for grammar/structure. To give an anecdotal example, one participant rated the sentence *Ich hen misse die Kuh melke* 'I had to milk the cow' as unacceptable because in his understanding no one would milk only one cow, but would have to milk several cows. In an attempt to accommodate the participants' situation we asked them to decide whether or not they would say or hear the sentence provided with a simple thumb-rating.

The second limitation concerns the procedure. Not all participants were able to provide ratings on all 27 stimuli due to fatigue. Therefore, we decided to terminate some experiments prematurely depending on the participant's condition. However, since all participants at least partially rated sentences for these 27 stimuli, the ratings on those will be presented as main results. The original set of stimuli further included subordinate sentences in the DO-condition and DO+neg-condition and also main and subordinate sentences with prepositional phrases (PP) instead of DOs. However, it was even less feasible to receive ratings on all these additional conditions from all participants. The results on the additional stimuli are therefore only shown as a point of comparison and to underline the main findings. Hence, the results presented here must be understood as tendencies and should be viewed with caution.

A third critical limitation concerns the stimuli of the experiment listed in Table 2. It is problematic that not all possible word orders could have been included. The selection of the stimuli was primarily based on constructions that have occurred in previously collected narration data. For example, the sequence (3-)1-2 that is used most commonly in the Palatinate area, as mentioned by an anonymous reviewer who was raised in the Palatinate region, did not occur and was therefore not added to the already long list of stimuli. Furthermore, the Standard German sequence 3-2 was overwhelmingly rejected by the MSG speakers (see Section 4.3.). Based on this fact, it was assumed that any variation of the 3-2 order such as (1-)3-DO-2 would show the same effect and were

[10] This is an annual event where people of German heritage gather and celebrate their heritage culture, e.g. with skits performed in their dialect. The languages spoken at Fall Fest alternate every year between heritage Low German and heritage "Schweitzer." Our participants reported that the interest in this event declined consistently over the past years – at least for the Schweitzer speaking population.

therefore not included. Lastly, no filler items were included to keep the duration and cognitive demand of the experiment somewhat feasible for the participants.

All limitations mentioned here are the result of methodological decisions we made based on our previous work with this community in order to limit fatigue effects and ensure feasibility of this experiment. In light of these limitations, it is though important to emphasize that all reported results can be taken as tendencies only.

5. Discussion

5.1. Fixed but flexible modal IPPs: No verb cluster but object scrambling

The main findings of this study revealed that MSG modal IPP constructions do not allow variation with respect to their internal verb order. Instead, MSG modal IPPs have a fixed 2-3 verb order. On the other hand, the findings show flexibility and movement of the direct object.

The lack of variability in verb order in MSG modal IPP constructions contrasts with other verb-cluster languages such as Standard German, Palatinate German, or Pennsylvania Dutch that do show verb order variation. The lack of verb order variability has potential consequences on the classification of MSG as verb-cluster language since a "language is a verb cluster language if it does not display a rigid verb order pattern in multiple verb constructions – i.e. if the unmarked order of verbal elements is different from the underlying order in at least one construction" (Wurmbrand 2004: 60-61). According to this definition, the results seem to suggest that MSG is not a verb cluster language in a strict sense. However, considering the mentioned limitations of the study, a final claim about MSG being a verb cluster language, or not, cannot be made.

Despite the fact that verb order in modal IPP constructions is not flexible, MSG has maintained obligatory verb raising of AUX to V2 position and optional raising of verb projections in main clause IPPs. Furthermore, variability in MSG still exists with respect to the position of the direct object (for a discussion on object scrambling in Mennonite Low German speakers in North and South America, see Kaufmann 2007). The default position of the object is within the 2-3 complex. This is also reflected in Bobaljik's (2004) claim for subordinate clauses is that a right-branching verb sequence of 1-2-3 may be interrupted by non-verbal elements. Another way to interpret this finding is to say that the most preferred position of the direct object is right before the lexical verb. Following Haegeman and Riemsdijk's (1986), this can be explained with the direct object taking scope over the lexical verb. According to Bobaljik (2004: 140): "a non-verbal element in Germanic must precede (though not necessarily immediately) its associated (e.g., selecting) verb." Bobaljik's generalization then also explains the partial acceptability of the DO preceding the verbal complex and the categorical rejection of clause-final DO.

The situation becomes a little more complicated when a negation particle is added. The only acceptable position of the negation particle is preceding the 2-(DO-)3 complex, since neg positioned within these verbal elements reached 0% acceptance. Following Haegeman and Riemsdijk's (1986) argumentation, negation in MSG then takes only wide scope over the verbal complex as a whole. When the direct object is in its default position, within the 2-3 complex, neg also takes scope over DO. However, when the direct object is moved out of the verb complex, neg is less preferred taking scope over DO since the order neg-DO-2-3 received only 54.5% (12/22) acceptability as

compared to 82.6% (19/23) for the DO-neg-2-3 order. In other words, it appears that the span of the scope of a direct object is wider and more flexible than the scope of negation, suggesting that the direct object can take scope over "its associated verb" (Bobaljik 2004: 140) even from a distance.[11]

5.2. Language change and conservation of verb order

The results show that MSG modal IPP constructions allow no variability in verb order. Whether or not this is the result of syntactic reduction and thus, loss of verb order variation, cannot be said with certainty, since we do not have MSG verbal complex data from earlier periods. However, according to previous research, continuous input is not only necessary to acquire an L1 but also to maintain it (Sharwood Smith & van Buren, 1991). In the language contact situation of MSG, its speakers are deprived of continuous input from their L1 source and are dominated by their L2 English. In contact situations like this, language change in the form of structural simplification, restructuring, or loss has been argued to "increase paradigmatic uniformity and rule transparency" (Vago 1991: 249; see also Maher, 1991). The effect of such change is a reduction of cognitively complex structures and pragmatically more efficient communication (see Silva-Corválan 1991). According to Abraham (2011), this holds especially true for languages that are spoken only. He states that, among other phenomena, non-standard inversion of verbal elements in verb clusters is characteristic for all languages that are exclusively oral assuming that "processing facilitation eases the parsing of oral encoding" (Abraham 2011: 258). According to Abraham (2011: 266) Cimbrian German "which has been without such standard support and normative coercion over centuries of complete linguistic isolation, has always been open for processing facilitation as a natural limitation levied on online speech." The same characteristic holds true for MSG. Considering that MSG is a moribund oral-only language and is spoken only about an hour per week, it can be assumed that the lack of verb order variation in MSG is a sign of structural simplification as a consequence of processing facilitation (see also Kaufmann, 2007).

It can be further hypothesized that the only permissible verb order in MSG modal IPP constructions (2-3) may be a conservation of the modal IPP cluster that was dominant in the source dialect of MSG, Palatinate German. As alluded to earlier at the end of Section 3, Dubenion-Smith (2010) found that the preferred order in West Central German main clauses is also 2-3.[12] However, as in other verb-cluster languages, West

[11] This word order has also been attested for Dutch which Bouma (2003: 6) calls "striking". Compare (1) and (2)

(1)	dat	Kim	Anne	het	huis-DO	niet-NEG	horde	verlaten
	that	Kim	Anne	the	house	not	hear	leave
	'that Kim did not hear Anne leave the house'							

(2)	Ich	hen$_1$	die Kieh-DO	net-NEG	misse$_2$	melke$_3$
	I	have	the cow	not	must	milk
	'I did not have to milk the cow'					

[12] However, Dubenion-Smith (2008) found that in Rhine Franconian the 3-2 order was more prevalent than the 2-3 order. It can therefore not be said with certainty, that the dominant order for modal IPP structures was indeed 2-3.

Central German allows variation in verb order. Among other verb orders (see Table 1), the canonical 1-3-2 verb order in subordinate clauses is accepted around 20% of the time. In contrast to MSG, which has been without continuous contact with Standard German via media or school instruction, varieties of German in Europe do have exposure to Standard German. The variability of acceptable verb orders in West Central German and the relatively weak preference of Standard German 3-2 verb order in main clauses (about 40%) may be a reflection of contact with the Standard variety and other varieties of German spoken in the surrounding areas.

Interestingly, according to Henn-Memmesheimer (p.c.) the canonical verb order for modal IPP constructions in the Palatinate Mannheim area today is the canonical Standard German 3-2 sequence. Taken along with the data in Dubenion-Smith (2010), verb order preferences appear to vary depending on environment, e.g. urban versus rural, and probably other socio-economic factors such as occupation. Referring to Haas and Wagener (1992), Dubenion-Smith (2010, footnote 9) notes that dialectal differences do exist between *Vollmundart* (well-maintained, old local dialect, archaic phonological and morphological inventory), *Halbmundart* (semi-dialect) and *Regionalmundart* (regional dialect). Considering these nuances in dialectal differences and dialectal change due to contact with Standard German and other German varieties, it can be hypothesized that the preference of the 2-3 sequence in Palatinate modal IPP clusters might have been even stronger in earlier times when the ancestors of MSG speakers were living in the Palatinate area. This hypothesis also finds support from preliminary data on modern Palatinate modal IPP that show only 36% acceptance of Standard German 3-2 order for main clauses (Dubenion-Smith, p.c.). If this line of thought is true, the 2-3 order in MSG modal IPP constructions can be understood as a conservation of its source, Palatinate German.

6. Conclusion and future directions

The goal of the study presented in this paper was to investigate the internal structure of two-verb modal IPP constructions in Moundridge Schweitzer German (MSG). Two research questions were raised.

1) Do MSG modal IPP constructions show variability in verb order as shown for other verb-cluster languages? What patterns of variability are observed?

2) How are the non-verbal elements, the direct object (DO) and the negation particle (neg), integrated in the verbal complex in MSG?

To begin with the first research question, MSG modal IPP constructions do not show any variability of verb order, but rather a fixed 2-3 order. This lack of variability is interpreted as syntactic reduction and a sign of language attrition, possibly due to processing facilitation (Abraham, 2011; Kaufmann, 2007). As a result of the “rigid verb order pattern” (Wurmbrand 2004: 60) in MSG modal IPP constructions, MSG may not be considered a verb-cluster language. The fixed 2-3 order in MSG modal IPP constructions is further hypothesized to display a conservation of its source dialect, Palatinate German, where the preferred verb order in main clause modal IPP clusters is also a 2-3 sequence.

In contrast to the inflexibility of verb order in MSG modal IPPs, the placement of the direct object does show variability. The position of the direct object is preferred (about 80%) when it precedes the lexical verb (2-DO-3) but is also accepted around 50% of the time when it precedes the verbal complex (DO-2-3). This suggests object scrambling in MSG modal IPP structures, a flexibility that contrasts with the fixed verb order stated above. When incorporating a negation particle in addition to the direct object, the most preferred order is neg-2-DO-3. This illustrates Haegeman and van Riemsdijk's (1986) argumentation of scope, since the non-verbal elements occur immediately preceding the verbal constituent they take scope over: DO over the lexical verb (3) and neg over the verb complex as a whole (2-DO-3). Another interesting finding is that DO and neg differ in how close they have to be to the constituents they take scope over. The direct object can take scope over "its associated verb" (Bobaljik 2004: 140) from near (2-DO-3) and from far (DO-neg-2-3). Both positions of the object prove to be preferred positions. The placement of the negation particle, however, is more constrained. Neg is clearly preferred only immediately preceding the verbal elements it takes scope over (neg-2-DO-3).

The study revealed some flexibility in the placement of the direct object with respect to the modal IPP construction in MSG. Object scrambling in MSG has not been investigated systematically, as for example for Mennonite Low German in North and South America by Kaufmann (2007). Therefore, more research is necessary to better understand the degree of flexibility in form of constituent movement within syntactic constructions of moribund grammars.

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Figures