

Discourse-related word order variation in Latvian

Ar diskursu saistītas vārdu secības variācijas latviešu valodā

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Latvian language is known to exhibit a fairly free word order. Although the base-generated word order of Latvian seems to be Subject-Verb-Object (SVO), due to the overt morphological marking it is possible to generate transitive sentences containing all possible word order variations (SVO, SOV, OVS, OSV, VSO and VOS). The present study aimed to confirm the hypothesis that the base-generated word order in Latvian is indeed SVO and test what discourse characteristics might drive the word order variation in this language. An experimental study was conducted, surveying native Latvian speakers on their grammaticality judgements of different word orders across a variety of discourse contexts. Upon inspecting the data I propose a set of assumptions that regulates the word order in Latvian.

Keywords: information structure, word order, Latvian, discourse

Introduction

Within the framework of generative grammar, a key principle of sentence formation is the principle of economy, postulating that a movement of a constituent can occur only if there is a reason for it (Neeleman and Van de Koot 2008). This approach means that in every language there has to be a sentence structure that has been formed without any syntactical movements, resulting in a word order named a base-generated word order. According to the definition by Neeleman and Van de Koot (to appear), the base-generated word order is merged in a minimal structure with no movements other than those licensing thematic and case properties of arguments.

The base-generated word order is not universal cross-linguistically. For example, while in English the most neutral word order is Subject-Verb-Object (SVO), in other languages, such as Dutch, German and Japanese, the base-generated word order is Subject-Object-Verb (SOV). Although subject-initial base-generated word orders

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are the most common, all six word orders (SVO, SOV, OVS, OSV, VSO, and VOS) have been attested as possible base-generated orders across languages (Dryer 2013).

While it might be easy to establish the base-generated word order in languages with a strict word order, such as English, establishing the base-generated word order in languages that exhibit a fairly free word order, such as Russian, Czech and Latvian, is more problematic. The most common method to establish the base generated order in a given language is to elicit an utterance in an all-focus context, given that the arguments share the same semantic and pragmatic features. An all-focus utterance is considered to present only information that is new in the discourse. The usual diagnostic of the base-generated word order is considered to be an utterance given as an answer to an all-focus question, such as ‘what happened?’.

Another term discussed in this paper is the notion of Information Structure (IS). IS is a linguistic level of representation that encodes the underlying information of linguistic material. Although not always obvious on the surface syntax, the IS plays a role in the word ordering of sentences by limiting the possible word order variation via Information-Structural constraints.

Instances of word order alternations that are not related to assignment of case or agreement are also known as A-scrambling. As English word order is comparatively strict, it is quite difficult to provide examples of A-scrambling in this language. However in Latvian, where the word order is relatively free one can say either (1a) or (1b):

(1) a. (SVO)

<i>Jānis</i>	<i>lasīja</i>	<i>grāmatu.</i>
John.NOM	read.PST	book.ACC

b. (OVS)

<i>Grāmatu</i>	<i>lasīja</i>	<i>Jānis.</i>
book.ACC	read.PST	John.NOM

‘John read a book.’

Both (1a) and (1b) are grammatical, however, in order to be completely felicitous, they require slightly different discourse contexts. The possibility of different word orders in Latvian seem to indicate that order alternations can be used to signal the status of linguistic material at the level of Information Structure.

Latvian is not the only language where such phenomenon can be observed. For example, similar word ordering properties have been documented in Russian (Titov 2012), where subjects and objects of a given sentence are obligatorily reordered if marked for givenness. German also scrambles subjects and objects for givenness; however, in this language scrambling seems to be optional (Lenerz 1977, as cited in Neeleman and Van de Koot, to appear).

In the following chapters, I discuss the current knowledge of Latvian word order and its variation, put forward a number of hypotheses concerning the factors that mediate word order variation and investigate these hypotheses in an empirical study of native Latvian speaker judgements of discourse-related A-scrambling.

1. Latvian word order and its variation

Latvian is regarded as a free word order language by a variety of sources (Comrie 1981; Arkadiev et al., to appear), although it is not free in the sense that the word order is of no importance at all (Mathiassen 1997; Valkovska, Lokmane, 2013). However, all six word order possibilities for a simple transitive sentence – SVO, SOV, OVS, OSV, VSO, VOS – are acceptable in colloquial Latvian (Saulīte 2009). Although the base generated word order is considered to be SVO (Comrie 1981; Mathiassen 1997; Nau 1998), there does not seem to be any clear-cut evidence for that.

Furthermore, although Latvian exhibits rich morphological marking, it cannot always clearly distinguish a subject in nominative from the object in accusative. Particularly, morphological marking fails to distinguish feminine plural nominative from feminine plural accusative. Consequently, in cases, such as (2) where both the subject and the object of a monotransitive sentence is a plural feminine, only the SVO interpretation is available. Example (2) is frequently used to show this characteristic of Latvian in previous literature (for example, in Lokmane 2010). This also serves as a strong indicator that the base-generated word order in Latvian is SVO.

(2) a. (SVO/*OVS)

Mātes	mīl	meitas.
mothers.NOM/ACC	love.PRS	daughters.NOM/ACC

‘Mothers love [their] daughters.’

b. (SVO/*OVS)

Meitas	mīl	mātes.
daughters.NOM/ACC	love.PRS	mothers.NOM/ACC

‘Daughters love [their] mothers.’

Nonetheless, there are exceptions to this rule. Firstly, if the object of a monotransitive sentence is a pronominal, the preferred word order is SOV instead of SVO (Lokmane 2010). Secondly, Latvian exhibits similar deviations from the base-generated word order as Russian, explained below. Both Latvian and Russian exhibit a relatively free word order, allow all possible Subject, Verb and Object ordering combinations given an appropriate discourse context, and seem to exhibit the same base-generated SVO word order. However, Titov (2012) reports that there are sentences in Russian that do not conform to the prediction that all-focus sentences correspond to the base-generated SVO word order. In (3) (from Titov 2012, 52) the Russian marked OVS word order proves to be felicitous in an all-focus context, while the unmarked SVO, is not felicitous in an all-focus context.

(3) Context: *Čto sluchilos*? ‘What happened?’

a. (OVS)

Mashu ukusila osa.
 Mary.ACC sting.PST wasp.NOM

b. (SVO)

Osa ukusila Mashu.
 Wasp.NOM sting.PST Mary.ACC
 ‘Mary was stung by a wasp.’

As shown in (4) the same pattern holds for Latvian.

(4) Context: *Kas notika*? ‘What happened?’

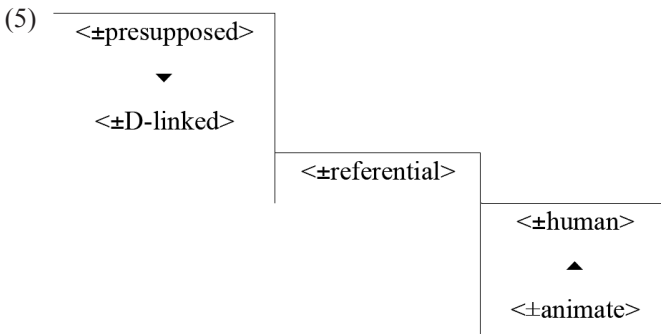
a. (OVS)

Marijai iedzēla lapsene.
 Mary.DAT sting.PST wasp.NOM

b. (SVO)

Lapsene iedzēla Marijai.
 Wasp.NOM sting.PST Mary.DAT
 ‘Mary was stung by a wasp’

Accounting for such variation of the unmarked word order, Titov (2012) develops an Argument Prominence Hierarchy (APH) for Russian. According to APH, argument features can determine their unmarked word order. The full APH is illustrated in (5) (from Titov 2012, 87). According to it, the argument features are listed on a hierarchical scale. Whenever a higher-ranked feature is operative, it blocks the application of any lower-ranked constraints, with the latter applicable only when the former is not operative. For example, if neither argument is ‘presupposed’ nor ‘referential’, the lowest-ranked ‘animacy’ encoding can take place. However, if either argument is referential, ‘referentiality encoding’ overrides the ‘animacy’ encoding even if arguments carry the animacy feature.



As the Latvian word order seemingly exhibits word order properties similar to those of Russian, a question arises if a similar hierarchy governs the Latvian base-generated word order.

Finally, in Latvian linguistic tradition information given in discourse is referred to as theme and new information is labelled as rheme. In prosodically neutral declarative sentences, the position of the theme is sentence initial, while the rheme occupies sentence final position (Lokmane 2010). This serves as a general indication that Latvian conforms to the IS generalization of given-before-new.

2. Hypotheses

Although it is clear that Latvian has a relatively free word order, the most common one seems to be SVO. Therefore, the first prediction is that the base-generated word order in Latvian is this, the most commonly used, one. However, seeing that there is variability in the preferred base-generated word order, we assume that there may be hierarchical features that regulate the preferred argument ordering, in a similar way to that of Titov's (2012) APH. Specifically, I hypothesise that definite arguments scramble externally to indefinite arguments and animate arguments scramble externally to inanimate arguments. I also expect given arguments to scramble externally to arguments containing new information.

3. Experimental study

In order to establish the base-generated word order and its possible variations depending on such factors as animacy, definiteness and givenness I surveyed 156 native Latvian speakers regarding their judgements on how natural different word order variations of simple transitive sentences seemed to them across different contexts. All subjects participated on a voluntary basis and were not compensated for their time in any way. Givenness was encoded as discourse anaphoricity, animacy was encoded semantically, and definiteness, in most cases, was encoded morphologically on preceding adjectives. Where adjectives were not used to mark definiteness, it was made sure that there was only a single referent to the argument in the real world. For example, in a context involving a bus crash, *autobusa vadītājs* 'bus driver' can only refer to a single definite person in the real world.

A total of 22 conditions of different discourse contexts were developed. 16 of the conditions tested the effects of definiteness and animacy, by covering all possible combinations of subject and object definiteness and animacy (see Table 1). All of these scenarios ended with an all-focus answer eliciting question – *Kas notika?* 'What happened?', – meaning that givenness was excluded as a potential confound. The remaining 6 scenarios tested the effects of givenness by having the subject, the object or the verb or a combination of two of the given factors already provided in the discourse. In these conditions, all subjects and objects were definite and animate, thus eliminating these possibly confounding factors. For each condition the participants judged how natural all 6 possible word order variations of the arguments and predicate seem in a scale from 1 to 5, where 1 means 'completely unnatural' and 5 means 'completely natural'.

It was deemed that, as evaluating 132 items (22 contexts, 6 judgements per each) would take about 30 minutes to complete, participants would not be interested in doing such a long survey. Thus, upon randomizing the list of stimuli presentation, the complete list was divided into two separate surveys, with

11 contexts in each, effectively dividing the time required to complete the survey in half. The order of scenarios and the order of the word-order answers to each individual scenario were randomized with a randomization tool available online at www.random.org. In order to assure that each participant gets access to either of the surveys randomly, the link for the survey distributed on social media directed the participants to a php script, which, upon execution, randomly redirected the participants to either of the surveys. The participants were not aware that they were providing answers only to half of the developed stimuli. Participants were encouraged to share the link and repost the information about the study to their friends and followers on social media.

			Object			
			Animate		Inanimate	
			Definite	Indefinite	Definite	Indefinite
Subject	Animate	Definite	S(AD)+O(AD)	S(AD)+O(AI)	S(AD)+O(ID)	S(AD)+O(II)
		Indefinite	S(AI)+O(AD)	S(AI)+O(AI)	S(AI)+O(ID)	S(AI)+O(II)
	Inanimate	Definite	S(ID)+O(AD)	S(ID)+O(AI)	S(ID)+O(ID)	S(ID)+O(II)
		Indefinite	S(II)+O(AD)	S(II)+O(AI)	S(II)+O(ID)	S(II)+O(II)

Table 1. Subject and object animacy and definiteness combinations for all-focus stimuli

The surveys were presented using Google Forms. All instructions were given in Latvian and presented on-screen. Participants were told that there were no right or wrong answers and that they should not spend too much time contemplating their answers, but rather rely on their intuitions. Each participant evaluated all possible word orders in 11 discourse contexts. There was no time limit in this task. The experiment lasted for about 15 minutes. Participants viewed any one scenario with all the corresponding answers at the same time and, once the judgements were submitted, they could not return to alter their response. They were required to judge all word order variations in all contexts.

Data analysis was performed in IBM SPSS Statistics 21. A one-way repeated measures analysis of variance (ANOVA) was performed for each condition to determine whether the word order ‘naturalness’ judgement ratings were significantly different from each other. If the ANOVA revealed a significant difference, a Bonferroni corrected pairwise comparisons between the word order ratings within each context were carried out. If the word order with the highest mean rating was significantly different from the remaining, it was considered to be preferred in the particular context.

4. Results

The ANOVA revealed that within each condition the ratings were significantly different for different word orders. The pairwise comparisons revealed that in most conditions the sole preferred word order was SVO. This generalisation covers both the givenness and the all-focus contexts. The SVO and OVS word order appears to be equally felicitous in all-focus contexts where the subject is animate

and indefinite and the object is animate and definite ($p=1$, n.s.), where both the subject and the object are inanimate and definite ($p=1$, n.s.) and where subject is inanimate and definite and object is animate and definite ($p=.193$, n.s.). In all conditions where the subject was inanimate and indefinite the preferred word order has switched to OVS. The only condition which showed preference to neither SVO nor OVS word order was Subject (Inanimate, Definite) + Object (Animate, Indefinite). In this condition the preferred word order was SOV. Full data analysis outputs are available online at: bit.ly/1tuMwgc (IBM SPSS 16 or later required).

5. Discussion

The results are surprising in some aspects. Possibly, the most interesting result was the fact that there seemed to be no overt givenness marking in Latvian, as in all givenness contexts the SVO word order was rated to be significantly more natural than all other word orders. However, it is clear that, as the preferred word order across all other conditions was not constant, there are some effects of other features, namely, animacy and definiteness, on the base-generated word order.

Although Latvian is considered to be a free word order language, it does not appear to allow word orders other than SVO and OVS (with one exception of SOV) as the unmarked word order. Verb-initial sentences in particular were consistently rated as unnatural across all different conditions.

In order to develop a theory for Latvian all-focus context word order alternations, I introduce the notion of ‘strength’ that a feature gives to an argument. An animate argument will be ‘stronger’ than an inanimate one, and a definite argument will be ‘stronger’ than an indefinite one. The more ‘strength’ an argument has, the more likely it is to scramble to the sentence-initial position in the base-generated word order. Judging from the data there are two preferred word orders – SVO (i. e., subject is stronger) and OVS (i. e., object is stronger).

Although it is generally assumed that definiteness and animacy features are uniform across arguments, I suggest to look at them as features imparting different degrees of ‘strength’ depending on whether an argument is subject or object. The different effects animacy and definiteness exhibit across subjects and objects can potentially be explained by the ‘typical’ or ‘expected’ features arguments exhibit in a monotransitive sentence. In a typical transitive sentence the subject would more frequently be expected to be an animate agent. Replacing an animate subject with an inanimate subject in most cases reduces the ‘naturalness’ rating of the SVO word order. Replacing a definite subject with an indefinite one does not have such a detrimental effect.

From the above, one can assume that animacy is generally a ‘stronger’ feature than definiteness, at least in Latvian.

Seeing that subjects are ‘more expected’ to be animate by default, in the Subject(II)+Object(II) construction, OVS is actually preferred, while in a Subject(ID)+Object(ID) SVO and OVS word orders are on a par. It can thus be concluded that the subject animacy plays a crucial role in the word order alternations. If the subject is animate, the typical structure is SOV (with a varying degree of optionality of OVS), whereas, if the subject is inanimate, the OVS construction tends to be more prevalent.

The subject inanimacy is not a word order defining factor, though. Where subject is inanimate and definite much depends on how ‘strong’ the object is. If the object is the ‘strongest’ (animate and definite), OVS is the prevailing structure; if the inanimate and definite subject is paired with the second ‘strongest’ object (animate and indefinite), one obtains the unorthodox SOV as the preferred word order. I term this the ‘collision point’, where object and subject features are of approximately equal ‘strength’ and, thus, one ends up with neither SVO nor OVS. I cannot account for the reason why, instead of the unexpected SOV preference, an equal SVO/OVS preference is not available, given that the arguments are of an approximately equal strength. Inanimate subjects are ‘stronger’ than inanimate objects and thus the remaining two combinations result in a preferred SVO order.

Consequently, if the subject is both inanimate and indefinite, it has completely lost its ability to take the sentence-initial position since any object will be ‘stronger’ than it.

Keeping the above observations in mind, I suggest that Latvian word order variation can be more or less explained on the basis of four assumptions:

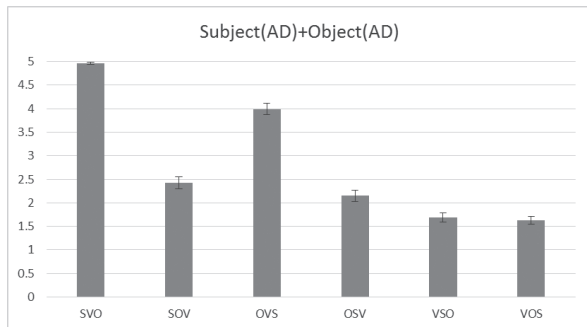
- (A) Subject is animate
- (B) Object is animate
- (C) Subject is definite
- (D) Subject is inanimate and indefinite

If (A) → SVO preferred (there is one exception to this rule – when the subject is animate and indefinite and the object is animate and definite, the object’s ‘strength’ seemingly becomes equal to that of the subject. In this case, both SVO and OVS are equally acceptable). See example (6) with accompanying statistics as an example of this case. Whether the subject is definite or not in this instance does not matter.

(6) (SVO)

Autobusa vadītājs notrieca slaveno aktieri.
 bus.GEN driver.NOM knock-down.PST famous.DEF.ACC actor.ACC
 ‘The bus driver knocked down the famous actor.’

	Mean rating	Std. Deviation	N
SVO	4.96	.190	81
SOV	2.43	1.150	81
OVS	3.99	1.078	81
OSV	2.15	1.074	81
VSO	1.69	.889	81
VOS	1.63	.732	81



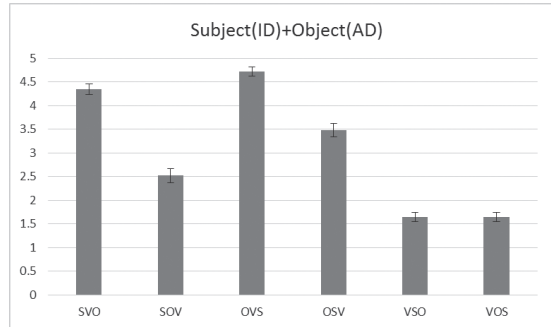
As seen from the data above, participants were unanimous in judging SVO as the most felicitous word order in this context, SVO being significantly different from the closest contender OVS ($p < 0.05$).

If $(B) \wedge \neg(A) \rightarrow$ OVS preferred (except from ‘collision point’, where object animacy and subject definiteness carry a similar ‘strength’ that results in an unorthodox SOV word order preference); also SVO is available at $S(ID) + O(AD)$. See example (7) with accompanying statistics as an example of this case.

(7) (OVS)

Darbu vadītājam uzkrita liels skapis.
 work.GEN manager.DAT fall-on.PST large.DEF.NOM wardrobe.NOM
 ‘The large wardrobe fell on the managing foreman’

	Mean rating	Std. Deviation	N
SVO	4.40	.931	81
SOV	2.49	1.305	81
OVS	4.70	.798	81
OSV	3.35	1.334	81
VSO	1.65	.854	81
VOS	1.62	.830	81



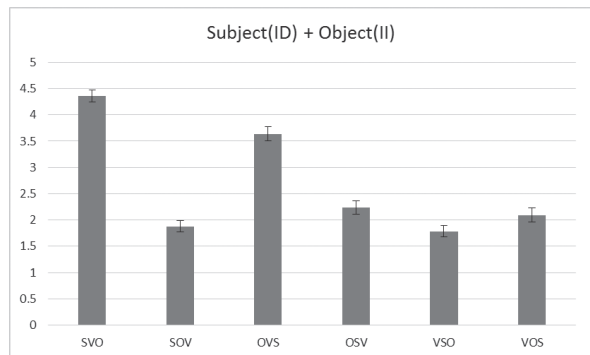
As the data show, in this case OVS is seemingly more preferred than SVO. However, data analysis revealed no significant difference between the mean ratings of how good either word order is ($p=.193$). This means that both word orders can be used in this particular context.

If $(C) \wedge \neg(A) \wedge \neg(B) \rightarrow$ SVO preferred (except when both S and O are ID; in this case SOV and OVS are equally acceptable), see example (8) with accompanying statistics as an example for this case.

(8) (SVO)

Lielais skapis uzkrita garam galdam.
 large.DEF.NOM wardrobe.NOM fall-on.PST long.INDF.DAT table.DAT
 ‘The large wardrobe fell on a long table.’

	Mean rating	Std. Deviation	N
SVO	4.41	.972	81
SOV	1.90	.957	81
OVS	3.70	1.145	81
OSV	2.20	1.123	81
VSO	1.78	.949	81
VOS	2.02	1.129	81



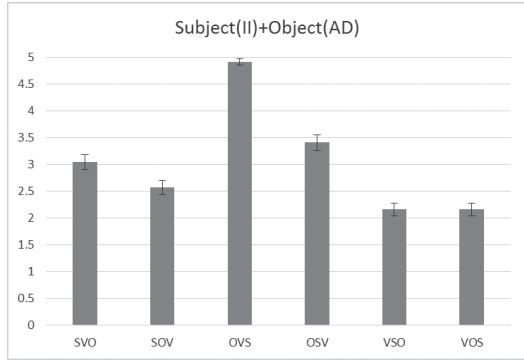
Here, once again, the preference has clearly reverted back to SVO, it being rated as the most felicitous word order in the given context ($p < 0.05$).

If (D) → OVS preferred, see (9) with accompanying statistics as an example for this case.

(9) (OVS)

Kalējam uzkrita milzīgs veseris.
 Blacksmith.DAT fall-on.PST enormous.INDF.NOM sledgehammer.NOM
 ‘An enormous sledgehammer fell on the blacksmith.’

	Mean rating	Std. Deviation	N
SVO	3.05	1.224	81
SOV	2.57	1.214	81
OVS	4.91	.505	81
OSV	3.41	1.330	81
VSO	2.16	1.066	81
VOS	2.16	1.078	81



It is obvious that when the subject is both inanimate and indefinite, it is so ‘weak’, that the SVO, or indeed, any subject-initial word order becomes unaccessible to native speakers. In such contexts it is always the case that object scrambles across to take the sentence initial position. In the particular context, OVS was rated as a significantly more natural word order than all other possible ones ($p < 0.05$).

Note that the rules above can also account for the fact that no givenness effects were found in the data. As in all givenness condition stimuli animate and definite arguments were used, assumption (A) applies and potentially mutes any givenness effects.

To conclude, word order in Latvian seemingly does not follow a hierarchy, but rather an interaction between the ‘strength’ semantic features assign to the arguments. This means that animacy and definiteness should not be treated as individual features; instead they ought to be treated in the context of what type of argument they are assigned to.

6. Limitations

As the stimuli were presented in Google Forms, there was no true randomization of stimuli – each participant saw all the stimuli in the same order. This could give rise to ordering effects. Furthermore, as the stimuli were presented in written text, they lacked prosody, which is an important discourse marker. A clear limitation was also the repeated use of the same arguments or predicates across some contexts and the occasional omission of adjective, marking the definiteness

pragmatically. In future research an improved or revised set of stimuli has to be used, in a different, truly random presentation.

The participant pool might not be entirely representative of the entire Latvian population. The vast majority of the participants indicated that they have a higher education and a staggering 99.36% of the participants indicated that they spoke English at a conversational level or higher. This indicates that the population is skewed as the official data show that only 46% of Latvian population report speaking English well enough to be able to maintain a conversation (European Commission 2012).

Finally, one has to acknowledge the simplicity of the statistical analysis employed in this study. The complexity of the study design meant that in the ideal world the statistical analysis of these data would have to be done according to a 5-way design. Results arising from this analysis would be very problematic to interpret due to many interactions. To make matters worse, the design used in the present study was essentially comparing 22 conditions with only a single item in each condition. This means that in case of a single problematic stimulus, the validity of the whole experiment is undermined. In future research, implementation of a modified or simpler design is highly recommended.

Conclusions

In order to understand whether a category in a marked A-position is discourse-anaphoric, further research or a more in-depth statistical analysis is needed, as across all givenness marking conditions the preferred word order remains the base-generated SVO. Data indicate that discourse anaphoricity does not get marked by A-movement in Latvian. Yet, this result can possibly serve as an indication that animacy is a ‘stronger’ feature than givenness, provided that all stimuli in the givenness condition are subject to assumption (A).

It is safe to conclude that SVO is indeed the base-generated word order of Latvian. Across all conditions exactly SVO was the most frequently preferred word order. Definiteness and animacy have an effect on the word order in a minimal configuration, however, their relative ‘strengths’ are different with animacy globally being a ‘stronger’ feature than definiteness. Their strength also differs depending on which argument they are associated with. Further research is needed in order to develop a full model of the discourse-related Latvian word order alternations according to the argument properties.

It has to be acknowledged that Latvian is a much understudied language and that the syntactic phenomena in Latvian and Baltic languages in general are largely undiscovered territory. This work has presented a preliminary insight in what features regulate the word order variation in Latvian. As the experimental design could be improved in many ways, global conclusions are better to be avoided at this stage. However, if these predictions of the word order variation in Latvian hold true, future research could culminate in an extraordinary model for Latvian word order variation.

Abbreviations

ACC	accusative
AD	animate and definite
AI	animate and indefinite
DAT	dative
DEF	definite
GEN	genitive
ID	inanimate and definite
II	inanimate and indefinite
INDF	indefinite
NOM	nominative
O	object
PRS	present
PST	past
S	subject

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Kopsavilkums

Latviešu valoda ir labi zināma kā valoda, kurā vārdu secība ir samērā brīva. Lai arī pamata vārdu secība latviešu valodā parasti ir *Subjekts-Verbs-Objekts* (SVO), ir iespējams veidot gramatiski pareizus transitīvus teikumus, kuros teikuma locekļu secība var būt kāda no sešām iespējamām (SVO, SOV, OVS, OSV, VSO, VOS). Šis pētījums ir mēģinājums gūt apstiprinājumu hipotēzei, ka latviešu valodā vārdu pamatsecība patiesi ir SVO, kā arī noteikt, vai ir kādas diskursa īpatnības, kuru dēļ varētu rasties vārdu secības variācija un tiktu izmantota cita vārdu secība. Šajā pētījumā veikta latviešu dzimtās valodas lietotāju aptauja, kuras dalībnieki vērtējuši visu iespējamo vārdu secības variāciju dabiskumu dažādos diskursa kontekstos. Noslēgumā sniegts arī latviešu valodas vārdu secību regulējošo faktoru modelis.