

A corpus-based study of the Latvian debitive vs *vajadzēt*

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A corpus-based study of the two main verbal expressions of necessity in Latvian shows that the much more frequent debitive is commonly used in the present tense without negation while the less frequent *vajadzēt* is usually found in the subjunctive. An analysis of randomly selected examples of the present, past and future tense and the subjunctive demonstrates an almost identical distribution of deontic and dynamic uses of both modals with respect to grammatical forms without negation. With negation, there is a striking difference between *vajadzēt*, expressing prohibitions and criticism of past actions, and the debitive, conveying lack of necessity. The article also provides a discussion on how to distinguish between various types of modal meanings in authentic examples from a corpus.

Keywords: modality, modal verbs, dynamic and deontic necessity, debitive, Latvian

1. Introduction¹

The article presents a corpus-based study of the two main verbal expressions of necessity in Latvian, namely, the verb *vajadzēt* and the grammatical category called debitive. My aim is to verify the existing views on similarities and differences of the synonymous constructions by comparing their quantitative characteristics in the Balanced Corpus of Modern Latvian. The task is twofold. Firstly, I compare frequencies of each of the expressions in each of their grammatical forms. Secondly, I analyse the meaning of randomly selected examples with each of the expressions in order to assess their propensity for deontic and dynamic uses. Since there is no clear standard of how to identify the type of modal meaning in an authentic sentence from a corpus, the analysis is preceded by a discussion of possible criteria that enable us to distinguish between deontic and dynamic necessity.

The article is divided into five parts, including Introduction (Part 1) and Conclusion (Part 5). In Part 2 I provide a general description of the debitive

¹ I am indebted to Nicole Nau for useful suggestions that helped me to improve my paper. I also benefited from comments by two anonymous reviewers. Any errors or shortcomings are mine.

and the verb *vajadzēt* and also give an outline of their paradigms with and without negation. The 3d part concentrates on those characteristics that can be obtained from the distribution of frequencies in the Corpus without taking the meaning into account. Part 4 turns to the meaning of *vajadzēt* and the debitive, discussing deontic, dynamic and epistemic uses of both modals in the present, past and future tenses, as well as in the subjunctive, both with and without negation.

2. General characteristics of *vajadzēt* vs debitive

In Latvian the modal meaning of necessity is expressed by either of the two main constructions based on the verb *vajadzēt* (1) and the analytic debitive form (2).²

- (1) <...> *skol-ām tagad vajag pārrakstī-t*
 school-DAT.PL now **vajadzēt.PRS.3** rewrite-INF
vis-us dokument-us.
 all-ACC.PL.M document-ACC.PL
 ‘Schools now should/have to rewrite all documents.’
- (2) *Tagad skol-ā mums ir jā-pārraksta*
 now school-LOC.SG 1.PL.DAT **be.PRS.3** **DEB-rewrite**
vis-i dokument-i <...>
 all-NOM.PL.M document-NOM.PL
 ‘We should/have to rewrite all documents at school now.’

The two constructions have in common that they are impersonal and have a subject in the dative. The most outstanding formal feature of the debitive is that it usually takes an object in the nominative, while with *vajadzēt* an object is used in the accusative. The 1st and 2nd person pronouns, however, make an exception by having the accusative form when used as an object with the debitive.

The verb *vajadzēt* may be used without another verb in the infinitive, taking a nominal object.³ Historically, the root was borrowed from Finnic as a non-ver-

² If not stated otherwise, here and further examples are taken from the Balanced Corpus of Modern Latvian (see the description of the Corpus in 3.1).

³ It also may be used with an adverb:
 <...> *vajag skaisti, jo tas ir daļ-a romantik-as.*
vajadzēt.PRS.3 beautifully because dem.NOM.SG.M be.PRS.3 part-NOM.SG romanticism-GEN.SG
 ‘One needs (something to be done) beautifully, because this provides an element of romanticism.’

bal predicator combined with ‘be’, e.g. *bija vajaga*, and only later reinterpreted as a verb (Karulis 2001, 1106).

- (3) *Man steidzami vajag naud-u <...>*
 1.SG.DAT urgently **vajadzēt.PRS.3** money-ACC.SG
 ‘I urgently need money.’

As distinct from *vajadzēt*, the debitive is a verb form containing a special prefix *jā-* attached to the present tense stem as in *jā-dara* (DEB-do.PRS.3) with the exception of *būt* ‘be’ that attaches the debitive prefix to the infinitive yielding *jā-bū-t* (DEB-be-INF). (In the examples further I will only gloss the debitive affix, that is, *jā-dara* will be presented as DEB-do.) The debitive is used in combination with the auxiliary *būt* ‘be’ which serves to convey tense and mood. In the present tense the auxiliary is often omitted.

The origins of the debitive lie in an infinitival relative clause where the prefix *jā-* was a relative pronoun (Holvoet 2001, 9–27). Synchronically, Holvoet (2007, 184–185; 2001, 41–43) treats the debitive as an incorporated modal verb. Even though referring to the debitive as a verb may sound strange in some contexts, I will stick to this interpretation because it will be less cumbersome to refer to both *vajadzēt* and the debitive as ‘verbs’ and ‘modals’.

Apart from being impersonal, *vajadzēt* and the debitive have all the main forms of a Latvian verb, i.e. they are possible (at least theoretically) in all tenses of the indicative including perfect, as well as in the subjunctive (but not the imperative) and in the evidential. Not all of these forms are present in the Corpus, and only some are found with frequency. For an extensive list of affirmative and negative forms see Tables 1 and 2.

As with any other Latvian verb, the perfect is a compound form consisting of the auxiliary *būt* ‘be’ and the active past participle, for example, *ir vajadzējis (darīt)*. In the debitive, which is a compound form itself, the auxiliary is combined with the past participle of the other auxiliary, creating a sequence of three orthographic words as in *ir bijis jādara*. The auxiliary in the present perfect is often dropped in Latvian, leading to homonymy between the present perfect with the dropped auxiliary and the past evidential⁴ which is formed by active past participles without the auxiliary, for example, *vajadzējis (darīt)*, *bijis jādara*. The same holds for negated forms⁵ of the present perfect and past evidential with the

⁴ About simple and compound past forms of the Latvian evidential see Holvoet (2001, 115–117) and Andronov (2002, 362).

⁵ In Holvoet (2001, 120) the negation *nav* in Past Evidential forms is viewed as “an alternative, non-proclitic form of the negation *ne*”.

non-proclitic negation (*nav vajadzējis darīt, nav bijis jādara*). In my analysis of the Corpus data, all examples representing the first pair are labelled as past participles, but representatives of the second pair are by default considered present perfect forms. (Such forms as *nevajadzējis, nebijis* are labelled as negated past participles although they are most likely to represent past evidential.) The possible consequences of this inconsistency are neutralized by the small number of these forms in the Corpus. In the tables below they are set in bold.

Table 1. Affirmative forms of *vajadzēt* vs *debitive*

	<i>vajadzēt</i> ⁶	debitive
indicative		
PRS	<i>vajag darīt</i>	(<i>ir</i>) <i>jādara</i>
PST	<i>vajadzēja darīt</i>	<i>bija jādara</i>
FUT	<i>vajadzēs darīt</i>	<i>būs jādara</i>
PRS.PRF	(<i>ir</i>) <i>vajadzējis darīt</i>	(<i>ir</i>) <i>bijis jādara</i>
PST.PRF	<i>bija vajadzējis darīt</i>	<i>bija bijis jādara</i>
FUT.PRF	<i>būs vajadzējis darīt</i>	<i>būs bijis jādara</i>
subjunctive		
simple	<i>vajadzētu darīt</i>	<i>būtu jādara</i>
compound	<i>būtu vajadzējis darīt</i>	<i>būtu bijis jādara</i>
evidential		
PRS	<i>vajagot darīt</i>	<i>esot jādara (esot jādarot, jādarot)</i>
PRS.PRF	<i>esot vajadzējis darīt</i>	<i>esot bijis jādara</i>
PST	<i>vajadzējis darīt</i>	<i>bijis jādara</i>
PST.PRF	<i>bijis vajadzējis darīt</i>	— ⁷
FUT	<i>vajadzēšot darīt</i>	<i>būšot jādara (būšot jādarot)</i>
FUT.PRF	<i>būšot vajadzējis darīt</i>	<i>būšot bijis jādara</i>
INF	<i>vajadzēt darīt</i>	<i>būt jādara</i>

⁶ It is possible to make up a debitive form of the verb *vajadzēt* (*jāvajag*), as in the following sentence from the Internet *Kāpēc būtu jāgrib un jāvajag pieskrūvēt objektīvu otrādāk?* ‘Why one must want and need to fasten the objective in some other way?’ <http://klab.lv/community/pajautaa/2086728.html> (23.10.2015) However, a combination of *vajadzēt* with an infinitive form of the debitive (**vajag būt jāiet*) does not seem to be possible, even though it is possible to find a combination like *var būt jāiet*.

⁷ The formation of the past perfect evidential in the debitive seems technically impossible as it involves an analytic form of the auxiliary **bijis bijis jādara*.

Table 2. Negative forms of *vajadzēt* vs debitive

	<i>vajadzēt</i>	debitive
indicative		
PRS	<i>nevajag darīt</i>	<i>nav jādara</i>
PST	<i>nevajadzēja darīt</i>	<i>nebija jādara</i>
FUT	<i>nevajadzēs darīt</i>	<i>nebūs jādara</i>
PRS.PRF	<i>nav vajadzējis darīt</i>	<i>nav bijis jādara</i>
PST.PRF	<i>nebija vajadzējis darīt</i>	<i>nebija bijis jādara</i>
FUT.PRF	<i>nebūs vajadzējis darīt</i>	<i>nebūs bijis jādara</i>
subjunctive		
simple	<i>nevajadzētu darīt</i>	<i>nebūtu jādara</i>
compound	<i>nebūtu vajadzējis darīt</i>	<i>nebūtu bijis jādara</i>
evidential		
PRS	<i>nevajagot darīt</i>	<i>neesot jādara (neesot jādarot)</i>
PRS.PRF	<i>neesot vajadzējis darīt</i>	<i>neesot bijis jādara</i>
PST	<i>nevajadzējis darīt</i>	<i>nebijis jādara</i>
PST.PRF	<i>(nav vajadzējis darīt)</i>	<i>(nav bijis jādara)</i>
FUT	<i>nevajadzēsot darīt</i>	—
FUT.PRF	<i>nebūšot vajadzējis darīt</i>	<i>nebūšot jādara (būšot jādarot)</i>
INF	<i>nevajadzēt darīt</i>	<i>nebūt jādara</i>

3. Frequencies of debitive vs *vajadzēt* in Corpus

3.1. Obtaining data from Corpus

The study was carried out using the Balanced Corpus of Modern Latvian (further simply referred to as ‘the Corpus’) which is one of the Latvian corpuses found at www.korpuss.lv and consists of roughly 4.5 million words. The Corpus exists in several versions of which I used the one known as *miljons-2.0*, comprising about 3.5 million words, and the annotated *miljons-2.0m*. All instances of the debitive were extracted from *miljons-2.0m* by making use of a special query “[tag=”.*:v..d.+_*.”].

The search for *vajadzēt* was more complicated. Due to technical imperfections in the search mechanism of *miljons-2.0m*, the queries [lemma=”.*:vajadzēt_*.”] and [lemma=”.*:nevajadzēt_*.”], supposed to retrieve all instances of the verb *va-*

jadzēt, ignored the present tense which has a different stem *vajag-*. It turned out that the number of instances retrieved by the queries [lemma="*.vajadzēt_*"] and [lemma="*.nevajadzēt_*"], are the same as the number produced by the queries "vajadzē.+", "nevajadzē.+". Such queries are normally used in order to retrieve all instances containing a certain sequences of letters. The symbol "+." stands for an unlimited number of any letters at the end of the word.

This fact enabled me to search for *vajadzēt* with the help of three sets of different queries. Firstly, "vajadzē.+ and "nevajadzē.+ for those forms of *vajadzēt* that contain the infinitive and past tense stem *vajadzē-*. Secondly, "vajag.+ and "nevajag.+ for forms containing the present tense stem *vajag-* in combination with any morphemes on the right, and thirdly, "vajag" and "nevajag" for the 3 person present tense form.⁸

3.2. General estimation of results

The number of the debitive forms in the Corpus (10 597⁹) by far exceeds the general number of the uses of *vajadzēt* (2 609); see Table 3. The number of instances where *vajadzēt* combines with an infinitive¹⁰ is even smaller (1 830). But it is more than twice as big as the number of examples where *vajadzēt* is found without an infinitive (779). These figures agree with the higher degree of grammaticalization of the debitive as a more regular expression of necessity in comparison to the verb *vajadzēt*. At the same time, the high frequency of *vajadzēt* with infinitive allows us to treat it as the main function of *vajadzēt*, even though *vajadzēt* is also found with nouns and adverbs.

Table 3. Overall frequency of *vajadzēt* vs debitive

debitive	<i>vajadzēt</i>	
	infinitive	other
10 597	1 830	779
	2 609	

⁸ The queries "vajag.+ and "nevajag.+ also yielded the longer variants of the 3 person present tense form *vajaga*.

⁹ Identical results were counted only once.

¹⁰ In the case of ellipsis the usage was attributed to the infinitive if the verb could be retrieved from the context.

3.3. Two uses of *vajadzēt*

Whether *vajadzēt* is used with infinitive or in other contexts has a noticeable influence on the grammatical profile of the verb; see Table 4. The most common form of *vajadzēt* in combination with infinitive is subjunctive; it is found in almost half of all instances with infinitive. With nominal object the percentage of the subjunctive is rather small, smaller than those of the past and future tenses, while the share of the present tense exceeds two thirds of all examples. An explanation for the high frequency of *vajadzēt* in the subjunctive is offered in Part 4 where I speak about the meaning of the verb.

Table 4. Two uses of *vajadzēt*

	INF	INF%	other	other%
sum	1830	100.00%	779	100.00%
SBJ	792	43.28%	59	7.57%
PRS	505	27.60%	528	67.78%
PST	389	21.26%	105	13.48%
FUT	87	4.75%	70	8.99%
PRS.EVD	21	1.15%	14	1.80%
PST.PA	21	1.15%	2	0.26%
SBJ.PRF ¹¹	10	0.55%	0	0.00%
FUT.EVD	3	0.16%	0	0.00%
PST.PRF	2	0.11%	0	0.00%
INF	0	0.00%	1	0.13%

The percentage of negated forms of *vajadzēt* that are used with infinitive is the same as the percentage of negated forms of *vajadzēt* that are used with a nominal object or in other contexts, see Table 5.

Table 5. Affirmative and negative forms of *vajadzēt*

	INF	INF %	other	other %	sum	sum %
sum	1 830	100.00%	778	100.00%	2 609	100.00%
AFF	1 335	72.97%	556	71.34%	1891	72.48%
NEG	495	27.03%	223	28.66%	718	27.52%

¹¹ Here and further SBJ.PRF stands for compound forms of the subjunctive.

Further I will only speak about *vajadzēt* with infinitive.

3.4. Verbs used with debitive vs *vajadzēt*

In 24 examples, *vajadzēt* combines with more than one verb at the same time. Since some of the verbs connected to the same form of *vajadzēt* seem to be frequent collocations (such as *sēdēt un gaidīt* ‘sit and wait’, which appears twice in my data), I decided not to count the verbs in these 24 examples. The remaining 1 806 examples are found with 790 distinct verbs. Each of these verbs is found with an average of 2.3 forms of *vajadzēt*, the middle value being 1 form. In comparison, 10 597 examples of the debitive contain only 1 220 verbs, which means 8.7 instances of the debitive per each verb on the average, the median value being equal to 2. The conclusion that may follow from these numbers is that *vajadzēt* combines more freely with various verbs while the use of the debitive is slightly more restricted. See also Table 6.

Table 6. Number of verbs with *vajadzēt* vs debitive

	debitive	<i>vajadzēt</i>
results	10 597	1 830-24=1 806
verbs	1220	790
average	8.7	2.3
median	2	1

455 verbs were found to be used both with the debitive and *vajadzēt*, which amounts to 58% of all verbs used with *vajadzēt* and 37% of the debitive. Unfortunately, I was not able to compare the percentage of debitive forms vs uses with *vajadzēt* in relation to the frequency of each of these verbs in the Corpus because the latter is impossible to extract (see the problem with *vajadzēt* above). The percentages of debitive forms vs uses of *vajadzēt* shown by distinct verbs in relation to the sums of all instances of the debitive vs all uses of *vajadzēt* in the Corpus, for the most part reflect the relative frequency of respective verbs as *būt* ‘be’, *darīt* ‘do, make’, *iet* ‘go’, and *domāt* ‘think’ are among the seven most frequent verbs in both lists; see Table 7. Since *maksāt* ‘pay’, *ņemt* ‘take’ and *veikt* ‘carry out’ do not even appear at the top of the *vajadzēt* list, it is clear that they have a larger share of examples with the debitive than with *vajadzēt*, but the low percentages make further comparison unreliable.

Table 7. Most frequent verbs with *vajadzēt* vs debitive

debitive			<i>vajadzēt</i>		
all instances	10 597	100%	all instances	1 806	100%
<i>būt</i> ‘be’	944	8.91%	<i>būt</i> ‘be’	125	6.92%
<i>maksāt</i> ‘pay’	223	2.10%	<i>darīt</i> ‘do, make’	52	2.88%
<i>darīt</i> ‘do, make’	218	2.06%	<i>iet</i> ‘go’	27	1.50%
<i>ņemt</i> ‘take’	214	2.02%	<i>domāt</i> ‘think’	22	1.22%
<i>veikt</i> ‘carry out’	209	1.97%	<i>aizmirst</i> ‘forget’	17	0.94%
<i>iet</i> ‘go’	179	1.69%	<i>pateikt</i> ‘say’	16	0.89%
<i>domāt</i> ‘think’	172	1.62%	<i>izmantot</i> ‘use’	12	0.66%

3.5. Grammatical profiles of debitive vs *vajadzēt*

Of the two necessity verbs, the debitive is more uniform as it concentrates more than 80% of all forms in the present tense (e.g., *jādara*, *ir jādara* and *nav jādara*); see Table 8.¹² The most typical present form is the one without the auxiliary, i. e. *jādara* (60%) instead of *ir jādara* (less than 20%). Past, future and conjunctive forms are also represented by 4–5% each, but the percentage of any other forms is too small to be taken into account. The present is also the only tense which has a noticeable percentage of forms with negation (4%). The overwhelming majority of debitive forms, i.e. 95%, are those without negation. One may assume that the use of negation with the debitive is so rare that it is only visible in the most frequent form.

Table 8. Grammatical profile of the debitive

sum			10597	100.00%
AFF	PRS(o)	<i>jādara</i>	6387	60.27%
AFF	PRS	<i>ir jādara</i>	1999	18.86%
AFF	SBJ	<i>būtu jādara</i>	553	5.22%
AFF	PST	<i>bija jādara</i>	516	4.87%
AFF	FUT	<i>būs jādara</i>	487	4.60%
NEG	PRS	<i>nav jādara</i>	399	3.77%

(*ir*) *jādara*
8386 (79.14%)

¹² The verb *iet* ‘go’ in Tables 8 and 9 is only meant as an example and stands for any verb that is used with the debitive and *vajadzēt* in the Corpus.

Continuation of table 8

NEG	SBJ	<i>nebūtu jādara</i>	69	0.65%
AFF	PRS.EVD	<i>esot jādara</i>	45	0.42%
NEG	PST	<i>nebija jādara</i>	46	0.43%
NEG	FUT	<i>nebūs jādara</i>	46	0.43%
AFF	PST.PA	<i>bijis jādara</i>	20	0.19%
AFF	FUT.EVD	<i>būšot jādara</i>	11	0.10%
NEG	PRS.PRF	<i>nav bijis jādara</i>	5	0.05%
AFF	PRS.PRF	<i>ir bijis jādara</i>	4	0.04%
NEG	PRS.EVD	<i>neesot jādara</i>	4	0.04%
AFF	INF	<i>būt jādara</i>	3	0.03%
AFF	SBJ.PRF	<i>būtu bijis jādara</i>	2	0.02%
NEG	FUT.EVD	<i>nebūšot jādara</i>	1	0.01%

The uses of *vajadzēt* with the infinitive are more diverse; see Table 9. As I state in Section 3.3 above, more than 40% of all instances belong to the subjunctive (affirmative and negative uses together), and only about 30% to the present. A considerable part of the data (20%) is also represented by simple past tense forms. The share of negative uses (30%) is noticeably higher than in case of the debitive.

Table 9. Grammatical profile of *vajadzēt*

sum			1830	100.00%	
AFF	SBJ	<i>vajadzētu darīt</i>	562	30.71%	(ne)vajadzētu 792 (43.28%)
AFF	PST	<i>vajadzēja darīt</i>	326	17.81%	
AFF	PRS	<i>vajag darīt</i>	317	17.32%	(ne)vajadzēja 389 (21.26%)
NEG	SBJ	<i>nevajadzētu darīt</i>	230	12.57%	
NEG	PRS	<i>nevajag darīt</i>	188	10.27%	(ne)vajag 505 (27.6%)
AFF	FUT	<i>vajadzēs darīt</i>	76	4.15%	
NEG	PST	<i>nevajadzēja darīt</i>	63	3.44%	
AFF	PST.PA	<i>vajadzējis darīt</i>	21	1.15%	
AFF	PRS.EVD	<i>vajagot darīt</i>	19	1.04%	
NEG	FUT	<i>nevajadzēs darīt</i>	11	0.60%	
AFF	SBJ.PRF	<i>būtu vajadzējis darīt</i>	10	0.55%	

Continuation of table 9

AFF	FUT.EVD	<i>vajadzēšot darīt</i>	2	0.11%
AFF	PST.PRF	<i>bija vajadzējis darīt</i>	2	0.11%
NEG	PRS.EVD	<i>nevajagot darīt</i>	2	0.11%
NEG	FUT.EVD	<i>nevajadzēšot darīt</i>	1	0.05%

The difference in the grammatical profiles between the verb *vajadzēt* (in combination with infinitive) and the debitive is created by the anomalously high absolute number of present tense forms measured in thousands. The absolute numbers of any other forms are comparable to the number of corresponding forms of the verb *vajadzēt*, being measured in either tens or hundreds. As Table 10 shows, without the distorting influence of the present tense the number of examples in the debitive comes very close to the number of instances of the verb *vajadzēt*. The relative frequencies of other debitive forms, first of all non-negated subjective and past tense forms, become more similar to the percentage of the corresponding forms of *vajadzēt*. Eliminating the present tense also serves to better evaluate the difference in the absolute value as well as the percentage of the future forms without negation.

Table 10. Debitive vs *vajadzēt* without present tense

		<i>vajadzēt</i>		debitive	
SUM		1325	100.00%	1812	100.00%
AFF	SBJ	562	42.42%	553	30.52%
AFF	PST	326	24.60%	516	28.48%
AFF	FUT	76	5.74%	487	26.88%
AFF	PST.PA	21	1.58%	20	1.10%
AFF	PRS.EVD	19	1.43%	45	2.48%
AFF	SBJ.PRF	10	0.75%	2	0.11%
AFF	PST.PRF	2	0.15%	20	1.10%
AFF	PRS.PRF	0	0.00%	4	0.22%
AFF	FUT.EVD	2	0.15%	11	0.61%
AFF	INF	0	0.00%	3	0.17%
NEG	SBJ	230	17.36%	69	3.81%

Continuation of table 10

		<i>vajadzēt</i>		debitive	
NEG	PST	63	4.75%	46	2.54%
NEG	FUT	11	0.83%	46	2.54%
NEG	PST.PA	0	0.00%	0	0.00%
NEG	PRS.EVD	2	0.15%	4	0.22%
NEG	PRS.PRF	0	0.00%	5	0.28%
NEG	FUT.EVD	1	0.08%	1	0.06%
NEG	INF	0	0.00%	0	0.00%

While I believe the explanation for the high percentage of *vajadzēt* in the subjunctive to lie in the meaning of the latter, the extraordinary high share of the debitive in the present tense may be due to structural reasons. Two thirds of the debitive present tense forms are those without the auxiliary, and the non-negated present tense is also the only debitive form that does not need an auxiliary. It is possible that auxiliary-free forms of the debitive are preferred by speakers. Since the debitive can only attach negation to the auxiliary, this should also explain the low frequency of negated forms in comparison to *vajadzēt*.

Since the auxiliary-free form of the debitive is, logically, a structure consisting of only one item, this may also be the foundation behind the much higher frequency of the debitive itself in comparison to *vajadzēt* that has to be used with the infinitive of the main verb either in the present tense or in any other form; cf. *jāiet* vs *vajag iet* both meaning either ‘one has to go’ or ‘one should go’.

4. Meanings of *vajadzēt* vs debitive

4.1. Types of necessity

As a modal meaning, necessity may be epistemic and non-epistemic. Non-epistemic (event or root) modality is further divided into deontic and dynamic, see Holvoet (2007, 17) based on Palmer (1986, 2001). The following classification, together with illustrations in (4)–(8), is a summary of the discussion in Holvoet (2007, 16–22).

Epistemic necessity conveys the speaker’s certainty about the truth of a proposition (4).

(4) *It must be raining outside.*

Deontic necessity involves obligation (5) but also may reflect what is regarded as sensible behaviour in given circumstances (6).

(5) *You should help your parents.*

(6) *You should sell your car. (if you want to pay your debts)*

Dynamic necessity is concerned with external or internal circumstances that restrict the subject's free will.

(7) *You have to sell your car. (there is no other choice)*

(8) *You must have seven hours of sleep. (or there will be damage to your health)*

The most important division lies between epistemic and non-epistemic modality. The latter may be further divided in an alternative way, proposed by van der Auwera & Plungian (1998), into participant-external and participant-internal modality; see the examples from their paper in (9)–(10). As may be clear from the terms, participant-internal necessity arises from the subject's internal need, and participant-external necessity conflates deontic modality with compelling force of circumstances. Thus, the dynamic modality of Palmer's classification is split up between participant-external and participant-internal types.

(9) *To get to the station, you have to get bus 66. (participant-external necessity)*

(10) *Boris needs to sleep ten hours every night for him to function properly. (participant-internal necessity)*

I make use of both classifications in the current article, although root modality in Latvian has been previously analyzed in terms of deontic and dynamic modality. Holvoet (2007, 163) identifies two uses of necessity verbs described by Endzelīns (1951, 972) and here reproduced in (11) and (12) as deontic and dynamic. According to Endzelīns himself (11) is used in a situation when sugar is not good for the addressee's health, and (12) when the addressee has no sugar left. Holvoet (2007, 144) states that "*vajadzēt* tends to express deontic modality whereas the debitive tends to be dynamic". Kalnača (2013) assigns deontic meaning to *vajadzēt*, and Kalnača & Lokmane (2014) claim that it is not possible to distinguish between deontic and dynamic uses of the debitive—the point that my data in many cases prove true for both modals, even though one should not overgeneralize.

- (11) deontic
Tev vajag dzer-t tēj-u bez
 2SG.DAT **vajadzēt.PRS.3** **drink-INF** tea-ACC.SG without
cukur-a.
 sugar-GEN.SG
 ‘You should drink tea without sugar.’
- (12) dynamic
Tev jā-dzer tēj-a bez cukur-a.
 2SG.DAT **DEB-drink** tea-NOM.SG without sugar-GEN.SG
 ‘You have to drink tea without sugar.’

There is known to be a stylistic difference between the two modals. The verb *vajadzēt* is held to be more informal while the debitive is stylistically neutral. Skujina (1999, 64) recommends using the debitive rather than *vajadzēt* in official documents.

4.2. Differentiating between dynamic and deontic

4.2.1. Procedure

My task is to find out how frequently each of the two Latvian necessity verbs is used in deontic and dynamic meanings. Since it would be impossible to look through the whole data described in Part 3, I restrict myself to the analysis of several hundred randomly selected examples of both verbs so that four most frequent forms of each verb, i.e. subjunctive, present, past and future tenses, as well as their negated counterparts, are represented with a hundred sentences each. For the analysis I take the first hundred examples of each tense/mood ordered alphabetically by their initial symbols. If there are less than a hundred examples of a particular tense, I include all corresponding examples. In this part I do not provide exact numbers because the borders between dynamic and deontic uses are not always distinct, but instead characterize each tense/mood as predominantly deontic or dynamic, both with and without negation.

Although it is not difficult to find examples that would illustrate the difference between dynamic and deontic modality, there are no well-known criteria that would allow for a quick identification of a sentence as belonging to one of the two modality types. In the following sections I discuss the problems that I encountered when trying to differentiate between dynamic and deontic meaning.

4.2.2. Communicative purpose

While identifying dynamic and deontic uses in the Corpus data I came to rely

on the communicative purpose of a sentence that can usually be grasped from the broader context. Deontic modality comes in the form of suggestions, demands, advice, instructions, rules, and formulations of social norms. In tenses other than the present it can also appear as criticism, intentions and decisions. In other words, deontic expressions convey the speaker's opinion and can be thought of as a reply to the question 'What to do in a particular situation?' even if the question is never uttered. Deontic necessity implies that the subject of a modal expression has a choice or, if the subject is inanimate, its reaction is not entirely predictable. Thus, the aim of deontic expressions is either to help the subject to make the right choice or to describe the right reaction. Dynamic necessity, on the contrary, is a statement depicting the only possible way to act in a particular situation or the only possible reaction. Here, my understanding of deontic necessity arrives at the same point from which Holvoet (2007) explains the difference between dynamic and deontic meaning: "Representing the necessity as dynamic involves the pretence that the subject's free will was cancelled <...>" (Holvoet 2007, 24). Holvoet also mentions the connection between deontic modality and communicative types of sentences, but not as a criterion that helps to differentiate between deontic and dynamic uses. The application of this criterion is not unproblematic because almost every sentence can be imagined as a directive, with a varying degree of insistence and on varying grounds. A practical solution is to interpret an example as dynamic only if a deontic reading is impossible, and such an approach may have led to an increase in the number of deontic examples in my results.

The communicative purpose of a sentence may be sensitive to whether the subject of the modal verb coincides with the speaker. This is what happens to the present tense forms of the verb *vajadzēt*, which express either deontic or dynamic modality depending on the person of the subject. In 1st-person present *vajadzēt*, for all the ambiguity shown by the verb in other uses, provides the regular means for expressing participant-internal necessity in the Corpus; see (13)–(14). Although stating their physical or psychological needs may be the only purpose of the speaker, such sentences often simultaneously convey intention, as in (13). In (14), which contains the past form of *vajadzēt*, the intention has been carried out.¹³

¹³ There are few examples that mostly convey intention rather than necessity with both *vajadzēt* and the debitive.

Es izlasīju avīzē par jūsu biznesu un nodomāju –
cik interesanti, cik aizraujoši, jā-aizbrauc apskati-t <...>
 how interesting how exciting **DEB-go.PRS.3** **view-INF**
 'I have read about your business in a newspaper and thought 'How
 interesting, how exciting, I need to go and see for myself <...>'

- (13) [*Piedod, man ir depresija!*]
Man vajag pa-bū-t vien-am!
 1SG.DAT **vajadzēt.PRS.3** **DLM-be-INF** alone-DAT.SG
 ‘Sorry, I have depression. I need to be alone for some time.’
- (14) [*Piedod, ka bez iepriekšējas brīdināšanas,*]
man vajadzēja tevi redzē-t.
 1SG.DAT **vajadzēt.PST.3** 2SG.ACC **see-INF**
 ‘Sorry <for coming> without warning, I needed to see you.’

If the speaker does not coincide with the subject of the modal verb, if the person of the subject is changed, intention is also changed into suggestion and the present forms of *vajadzēt* become ambiguous between dynamic and deontic. See (15)–(16) where the subject of the modal verb is the addressee. The dynamic reading is associated with the statement of necessity that is experienced by the addressee, as it is perceived/imagined by the speaker, and the deontic reading is linked to the suggestion made by the speaker.

- (15) *Tev vajag kaut ko uzēs-t.*
 2SG.DAT **vajadzēt.PRS.3** something-ACC.SG **eat-INF**
Izcep-š-u tev oliņ-u.
 fry-FUT-1SG 2SG.DAT egg-ACC.SG
 ‘You should/need to eat something. I will fry an egg for you.’
- (16) *Tad varbūt tev vajag iz-staigā-tie-s.*
 then maybe 2SG.DAT **vajadzēt.PRS.3** **PVB-walk-INF-RFL**
Izej ārā.
 go.IMP.2SG outside
 ‘Then you probably need to go for a long walk. Go outside.’

In the 3d person it is possible for *vajadzēt* to express participant-internal modality if a sentence with *vajadzēt* is interpreted as reported speech, as in (17).

- (17) [*Vai viņa grib ieiet istabās un tās apskatīt? Jā. Florence drosmīgi pamāja.*]
Viņ-ai pavisam noteikti vajadzēja redzē-t
 3-DAT.SG.F quite certainly **vajadzēt.PST.3** **see-INF**
maz-o istab-u.
 small-ACC.SG.DEF room-ACC.SG
 ‘Did she want to enter and see the rooms? Yes. Florence nodded bravely. She certainly needed to see the small room.’

It seems that connection with reported speech is a peculiar feature of *vajadzēt* which the debitive lacks. There is a curious example in the Corpus (18) in which *vajadzēt* and the debitive are juxtaposed in one sentence rather than presented in two independent sentences that make up a minimal pair.

- (18) *Ķa brīv-ajā laik-ā izsauc uz darb-u,*
 if free-LOC.SG.DEF time-LOC.SG summon.PRS.3 to work-ACC.SG
vajag strādā-t, tad ir jā-strādā.
vajadzēt.PRS.3 work-INF then be.PRS.3 DEB-work
Vajag samaks-u saņem-t? Ne-pienāka-s.
vajadzēt.PRS.3 payment-ACC.SG receive-INF NEG-be.due.PRS.3-RFL
 ‘If one is summoned to work in their free time, it is required that they work, then they have to work. Is it required that they receive a payment? It is not due for them.’

In (18) debitive form means necessity brought about by real-life circumstances that cannot be avoided (an employee is forced to work) while the first form of *vajadzēt* expresses the same necessity as claimed by humans (an employer needs employees to work and informs them about it). The second instance of *vajadzēt* reflects the employee’s need to be paid, voiced by the employee. The meaning of *vajadzēt* in this example is thus may be defined as ‘a participant of the situation feels that something is required and says so’ as opposed to the debitive that normally does not refer to participants’ reaction to the situation that they are involved in.

The connection between *vajadzēt* and reported speech often causes ambiguity between dynamic and deontic modality. The example in (19) should be considered dynamic if the present form *vajag* is the speaker’s own interpretation of the situation: ‘We need to coordinate quickly because the designers are present’. But the example receives a deontic meaning if *vajag* reflects a suggestion uttered by the designers. (A dynamic reading is also possible if *vajag* has the designers as its subject—then it is the designers who are compelled to act quickly.)

- (19) *Ar mums tas ne-tika*
 with 1PL.DAT DEM.NOM.SG.M NEG-become.PST.3
apspries-t-s, ieskrēja projektētāj-i,
 discuss-PST.PP.-NOM.SG.M run.in.PST.3 designer-NOM.PL

vajag ātri saskaņo-t!
vajadzēt.PRS.3 quickly **coordinate-INF**

‘It wasn’t discussed with us. The designers just dropped in, (saying)
 we have to coordinate the project quickly.’

The association between *vajadzēt* and participant-internal necessity might influence deontic uses of *vajadzēt* so that suggestions to other persons expressed by means of *vajadzēt* may be perceived as reflecting the speaker’s need that their advice is followed. In other words, the use of *vajadzēt* in suggestions may create an impression that the speaker does not simply give their opinion but is interested in the possible outcome of the situation. This additional meaning may also explain why *vajadzēt* is stylistically marked as more informal. The prevalence of the subjunctive with *vajadzēt*, discussed in Part 3, is probably caused by the speakers’ wish to soften the suggestion as it may sound too categorical and subjective.

4.2.3. Information structure

Another clue differentiating between dynamic and deontic meaning may be the information structure of a sentence. It is the reference in the rheme to the situation in (20)–(21) as imminent that ensures their dynamic interpretation, rather than the fact that eating and having a home does not need to be suggested or imposed by rules. Although one may suggest that the necessity to pay children a certain sum in (22) originates from either agreement or regulations, the necessity is presented by the speaker as unavoidable. The unavoidability of eating, having a home and paying in these three sentences is created by presenting the modal constructions as a given information while the focus is placed on such detail as where and when one has to live and eat and what amount of money is going to be paid.

- (20) *Viņ-am ēs-t vajag šodien,*
 3-DAT.SG.M **eat-INF vajadzēt.PRS.3** today
viņ-a ģimen-ei ēs-t vajag šodien.
 3-GEN.SG.M family-DAT.SG **eat-INF vajadzēt.PRS.3** today
 ‘It is today that he needs to eat. It is today that his family needs to eat.’
- (21) *Kaut kur un kaut kā taču jums jā-dzīvo!*
 somewhere and somehow but 2PL.DAT **DEB-live**
 ‘But you need to live somewhere somehow!’

- (22) [*Iepirka par astoņiem santīmiem kilogramā,*]
bet man taču bērniem par lasīšan-u
 but 1SG.DAT but child-DAT.PL for collecting-ACC.SG
jā-maksā vismaz desmit santīm-i.
DEB-pay at.least 10 santims-NOM.PL
 ‘They bought for eight santims per kilo but I have to pay children at least ten santims for collecting (berries).’

4.2.4. Semantics and real-life knowledge

Another problem with communicative purpose as a criterion is that in 20–30% of the selected examples necessity verbs are found inside embedded clauses that cannot have a communicative purpose themselves. The exception is reported speech, as in (23).

- (23) <...> *tad man zvana no darb-a un saka,*
 then 1SG.DAT ring.up.PRS.3 from work-GEN.SG and tell.PRS.3
ka vajag dari-t to un to.
 COMPL **vajadzēt.PRS.3 do-INF** DEM.ACC.SG and DEM.ACC.SG
 ‘Then they call me from my job and tell me that I should do this and that.’

Sometimes a sentence can be transformed in such a way that the embedded clause becomes independent without much loss to the meaning. Compare the initial sentences in (24)a and (25)a with their changed versions in (24)b and (25)b. One can imagine that the modality of the changed sentences is similar to that of the original clauses. At the same time it is true that communicative purpose and modality type of the changed sentences may still be ambiguous between suggestion and statement, or between deontic and dynamic modality. As I said earlier, I treat ambiguous examples as deontic.

- (24) a. *Vis-s, kas tev jā-zina, —*
 all-NOM.SG.M REL.NOM.SG.M 2SG.DAT **DEB-know**
sav-a horoskop-a zīm-e.
 RPO-NOM.SG.F horoscope-GEN.SG sign-NOM.SG
 ‘Everything you should/need to know is your zodiac sign.’
 b. *Tev jā-zina sav-a horoskop-a zīm-e.*
 2SG.DAT **DEB-know** RPO-NOM.SG.F horoscope-GEN.SG sign-NOM.SG
 ‘You should/need to know your zodiac sign.’

- (25) a. *Šis vienkārši ir posm-s,*
 DEM.NOM.SG.M simply be.PRS.3 period-NOM.SG
kur-u vajag izdzīvo-t <...>
 REL-ACC.SG **vajadzēt.PRS.3** live.through-INF
 ‘This is simply a period one should/has to live through <...>’
- b. *Šo posm-u vajag izdzīvo-t <...>*
 DEM.ACC.SG period-NOM.SG **vajadzēt.PRS.3** live.through-INF
 ‘One should/has to live through this period <...>’

But the modal verb being in an embedded clause is not necessarily a problem when identifying the modality type. While preventing us from using the communicative purpose as a criterion, such sentences can provide other clues. For examples, that *vajag* in (23) above is deontic is seen from the semantics of the other words in the sentence, such as *man zvana no darba un saka* ‘(they) call me from my job and tell me’. In (26) the deontic meaning of the debitive form can be deduced from the word *zīme* ‘sign’ which in this case means ‘foreboding event’.

- (26) *Varbūt zvirbul-is ir zīm-e,*
 maybe sparrow-NOM.SG be.PRS.3 sign-NOM.SG
ka mums “jā-lido” projām <...>
 COMPL 1PL.DAT **DEB-fly** away
 ‘Perhaps the sparrow is a sign that we should ‘fly’ away.’

Of course, this is also true for independent clauses. A dynamic reading is actualized if circumstances that bring about the necessity are specified in the context. Thus, one has to use their brain in (27) because the map is difficult. The grandmother in (28) describes her own actions that are necessary in order to shake another character’s hand, rather than making a suggestion to someone else.

- (27) [*<...> jo sarežģītāka karte un*]
vairāk jā-kustina smadzen-es,
 more **DEB-move** brain-NOM.PL
 [*jo labāk.*]
 ‘<...> the more complicated a map is and the more one has to use one’s brain, the better.’
- (28) [*Tu dod roku kā Dieva pirkstiņš, – vecmāma rūca, –*]
vajag stingri saķert, lai jūt.
vajadzēt.PRS.3 firmly **grab-INF** in.order.to feel.PRS.3

‘You are giving your hand like a finger of God, said Grandmother angrily, – One has to grab (it) firmly in order to feel (it).’

Since adverbial and conditional clauses provide information about circumstances, it is logical to treat modal verbs introduced by *kad* ‘when’ and *ja* ‘if’ as dynamic; see (29)–(30).

- (29) *Kad jā-atdod parād-s, tad vairs*
 when **DEB-give.back** debt-NOM.SG then more
ne-var bū-t personisk-ās dzīv-es.
 NEG-can.PRS.3 be-INF personal-GEN.SG.F.DEF life-GEN.SG
 ‘When one is required to pay a debt, then there can be no personal life anymore.’
- (30) *Ja vajag izšķir-tie-s par smag-u*
 if **vajadzēt.PRS.3 make.choice-INF-RFL** about difficult-ACC.SG
lēmum-u, piemēr-am, par studij-u maks-u,
 decision-ACC.SG example-DAT.SG about study-GEN.PL fee-ACC.SG
tad valdīb-a izstrādā priekšlikum-u <...>
 then government-NOM.SG work.out.PRS.3 proposal-ACC.SG
 ‘If it is necessary to decide on a difficult issue, for example, on the payment of education fees, then the government puts forward a proposal <...>’

The same effect is achieved in embedded clauses introduced by *lai* ‘in order to’ if they refer to necessity that one desires to avoid. It is normally used with negation but there is an example without negation in (31).

- (31) [*<...> darba apjoms būs pietiekami liels,*]
lai tiešām vajadzē-tu sadalī-t š-īs
 in.order.that really **vajadzēt-SBJ split-INF** DEM-GEN.SG.F
komisij-as darb-u.
 commission-GEN.SG work-ACC.SG
 ‘<...> the amount of work is large enough that it is necessary to split the work of this commission.’

Nevertheless, some examples can only be unambiguously interpreted as dynamic if one takes into account such extralinguistic information as that it is only under pressing circumstances that goods are sold for less money than it is required to produce them; see (32).

- (32) *Daudz-iem pien-a ražotāj-iem*
 many-DAT.PL.M milk-GEN.SG producer-DAT.PL
pien-s ir jā-pārdod lētāk,
 milk-NOM.SG be.PRS.3 **DEB-sell** cheaper
 [*nekā viņi spēj to ražot.*]
 ‘Many producers of milk have to sell milk cheaper than it is possible
 for them to produce it.’

4.3. Deontic uses (non-negated forms of present, subjunctive and future)

Based on the criteria presented in 4.3, one can gain the following results for non-negated forms of present, subjunctive and future. I set these forms apart because for both the past tense and forms with negation I use additional criteria that may influence the results. What is common to non-negated forms of present, subjunctive and future is that they do not show any considerable difference between the debitive and *vajadzēt*. With both modals the overwhelming majority of examples, ranging from 70% in the future tense and 70% in the present to almost 100% in the subjunctive, receive deontic interpretation. There is also no difference in meaning linked to the presence or absence of the auxiliary in the present tense of the debitive.

Apart from suggestions and advice, both modals are found in formulations of social norms, rules and instructions; see the debitive in the present and the subjunctive in (33)–(34) and *vajadzēt* in the same forms in (35)–(36).

- (33) [*Kad izlemts šūdināt tautastērpu,*
jā-zina, kur-am novad-am t-as būs
DEB-know which-DAT.SG.M region-DAT.SG DEM-NOM.SG.M be-FUT.3
piederīg-s <...>
 related-NOM.SG.M
 ‘When one has decided to order a national costume, it is necessary to
 know which region it will belong to <...>’
- (34) *Medikament-u izvēl-i, protams,*
 medicine-GEN.PL choice-ACC.SG certainly
bū-tu jā-saskaņo ar ārst-u.
be-SBJ DEB-coordinate with doctor-ACC.SG
 ‘One should certainly consult a doctor about the choice of medicine.’

- (35) *Ar draug-a māt-i var un vajag*
 with friend-GEN.SG mother-ACC.SG can.PRS.3 and **vajadzēt.PRS.3**
sarunā-tie-s <...>
converse-INF-RFL
 ‘It is both possible and necessary to have conversations with your
 boyfriend’s mother.’
- (36) *Vecāk-iem vajadzē-tu pieskatī-t bēr-n-us un*
 parent-DAT.PL **vajadzēt.PRS.3** **look.after-INF** child-ACC.PL and
māj-ās runā-t par drošīb-u uz led-us <...>
 home-LOC.PL **talk-INF** about safety-ACC.SG on ice-GEN.SG
 ‘Parents should look after their children and talk at home about safe-
 ty on the ice <...>’

The debitive is preferred in official rules and instructions, as in (37), especially in the present tense, due to the above-mentioned stylistic difference between the two modals.

- (37) *Vis-iem būvniecīb-as dalībniek-iem jā-ievēro*
 all-DAT.PL.M construction-GEN.SG participant-DAT.PL **DEB-comply**
Latvij-as nacionāl-o standart-u un
 Latvia-GEN.SG national-ACC.SG.DEF standard-ACC.SG and
Eirop-as tehnisk-o apstiprinājum-u
 Europe-GEN.SG technical-ACC.SG.DEF approval-GEN.PL
prasīb-as <...>
 requirement-ACC.PL
 ‘All persons participating in construction shall comply with the re-
 quirements of the Latvian national standards and European technical
 approvals <...>’

In the future tense the debitive is used to formulate official decisions (38) while less official intentions are expressed by future forms of both modals (39)–(40).

- (38) *Ab-iem arī būs jā-maksā 900 lat-u*
 both-DAT.PL.M also **be-FUT.3** **DEB-pay** 900 lats-GEN.PL
valst-ij par radī-t-o kaitējum-u.
 state-DAT.SG for produce-PST.PP-ACC.SG.DEF damage-ACC.SG
 ‘Both are also to pay 900 LVL to the state for the damage done.’
- (39) *Atver-iet durv-is, vai arī vajadzē-s*
 open-IMP.2PL door-ACC.PL or also **vajadzēt-FUT.3**

uzlauz-t.

break.open-INF

‘Open the door, otherwise it will be necessary to break it open.’

(40) *Pag, pag, bū-s jā-paskatā-s,*

wait wait **be-FUT.3 DEB-look-RFL**

kād-a t-ā tort-e ir <...>

what-NOM.SG.F DEM-NOM.SG.F cake-NOM.SG be.PRS.3

‘Wait, wait, one has to have a look (and see) what kind of cake it is

<...>’

4.4. Dynamic uses (non-negated forms of present, subjunctive and future)

Dynamic uses are more rare. Subjunctive is the least expected form with the dynamic reading. With *vajadzēt* it is only found after *lai* ‘in order that’ in (31) above. There are two dynamic examples with the debitive that present the results of an arithmetical calculation, as in (41). The emphasis is placed on the figures while the situation itself is presented as given information and thus perceived as inevitable. Without the exact figures, the same sentence would likely receive a deontic reading.

(41) [*ES dalībvalstis 2005. gadā apņēmās līdz 2010. gadam palielināt palīdzību līdz 0,56 % no kopienākuma.*]

Lai sasnieg-tu š-o mērķ-i, t-ām

in.order.to achieve-SBJ DEM-ACC.SG goal-ACC.SG DEM-DAT.PL.F

bū-tu jā-atvēl aptuveni 69 miljard-i eiro.

be-SBJ DEB-assign approximately 69 billion-NOM.PL euro

‘In 2005 the EU member states came to an agreement to increase the support so that it reaches 0.56% GNI in 2010. In order to achieve this goal, they have to set apart approximately 69 billion euros.’

In embedded clauses introduced by *ja* ‘if’ and *kad* ‘when’ the subjunctive form of the debitive is counterfactive, as in (42)–(43). There are several such instances of the debitive, while I have found no examples with *vajadzēt* among the selected sentences.

(42) <...> *ja man bū-tu jā-uztur ģimen-e,*

if 1SG.DAT **be-SBJ DEB-support** family-NOM.SG

- kur-as man nav,*
REL-GEN.SG.F 1SG.DAT NEG.be.PRS.3
[*ar maniem ienākumiem atliktu vienīgi pakārties.*]
'If I needed to support a family, which I don't have, the only choice with my income would be to hang myself.'
- (43) [*<...> mediji iet viņu pavadā – brīdī.*]
kad t-as vienkārši bū-tu jā-ignorē.
when DEM-NOM.SG.M simply **be-SBJ DEB-ignore**
'The media encourage them at the moment when it ought to simply be ignored.'

In comparison to the subjunctive, the present tense is more likely to be used in dynamic meaning. There is about 20% of dynamic uses among the present tense forms of each of the modals, already illustrated by the examples in 4.3. A remarkable feature of *vajadzēt* is its use with the meaning of participant-internal modality, which is present in half of these examples.

The largest share of dynamic uses (about 30%) is found with the future tense. The future tense is more likely to actualize the dynamic meaning, as a reference to the future implies a change of circumstances while social norms reflected in deontic uses are usually supposed to be the same for all times. In the present tense, sentences (44)–(45) would represent suggestions rather than descriptions of circumstances.

- (44) *Š-ajā situācij-ā pašvaldīb-ai paš-ai*
DEM-LOC.SG situation-LOC.SG municipality-DAT.SG self-DAT.SG.F
vajadzē-s meklē-t vis-u projekt-am
vajadzēt-FUT.3 look.for-INF all-ACC.SG project-DAT.SG
papildus nepieciešam-o finansējum-u <...>.
additional necessary-ACC.SG.DEF funding-ACC.SG
'In this situation the municipality will have to independently look for any additional funding which is necessary for the project <...>'
- (45) [*Jā runājam par 2005. gada budžetu –*]
un t-as mums bū-s jā-izgatavo
and DEM-NOM.SG.M 1PL.DAT **be-FUT.3 DEB-produce**
un bū-s jā-pieņem,
and be-FUT.3 **DEB-accept**
[*un vienalga, vai tas būs dienu agrāk vai dienu vēlāk <...>*]
'Concerning the 2005 year budget—and we'll have to prepare and accept it, and it's not important if it's going to be a day earlier or later <...>'

The dynamic uses of the future forms of the debitive and *vajadzēt* also include several examples with embedded clauses introduced by *kad* ‘when’ (46)–(47) and *ja* ‘if’ (48)–(49).

- (46) [*Jau tā pārāk šaurās lapas vajadzēja arī aprasināt ar ūdeni,*
lai ne-sakalst, kad vajadzēs lieto-t.
 in.order.that NEG-lose.moisture.PRS.3 when **vajadzēt-FUT.3 use-INF**
 ‘The leaves, which were already too narrow, also had to be sprinkled
 with water so that they are not too dry when one needs (literally:
 when one will need) to use them.’
- (47) *Bū-s gadījum-i, kad darba devēj-am*
 be-FUT.3 occasion-NOM.PL when employer-DAT.SG
bū-s jā-sedz ar repatriācij-u
be-FUT.3 DEB-cover with repatriation-ACC.SG
saistī-t-ie izdevum-i.
 link-PST.PP-NOM.PL.M.DEF expense-NOM.PL
 ‘There will be occasions when an employer has to sustain repatria-
 tion expenses.’
- (48) [*Jaunā parauga pasu noformēšana ierastajā 20 dienu laikā pieauguša-*
jiem izmaksās 15 latus, bet,
ja pas-i vajadzēs saņem-t četr-u
 if passport-ACC.SG **vajadzēt-FUT.3 receive-INF** four-GEN.PL
dien-u laik-ā,
 day-GEN.PL time-LOC.SG
 [*tā maksās 25 latus.*]
 ‘Adults will have to pay 15 LVL in order to receive a new-type passport
 in 20 days, but if one has to receive a passport in four days, it will cost
 25 LVL.’
- (49) [*<...> betona spraugās jau bija saaugusi zāle un pat kārkli.*
Tos, protams, visdrīzākajā laikā izdīrāsim laukā, bet tas gan būs traki,]
ja beton-s bū-s jā-lauž ārā!
 if concrete-NOM.SG **be-FUT.3 DEB-break** out
 ‘<...> There were grass and even willows growing through the cracks
 in the concrete. We will shortly get rid of them, of course, but it will
 be madness if we have to tear up the concrete!’

4.5. Factivity (past tense without negation)

I have already mentioned the counterfactive meaning of several subjunctive forms of the debitive in my selected data; see (42)–(43). Counterfactive uses are more common among past-tense forms, where they are found in 20–25 examples of the selected 100 sentences with each of the modals; see (50)–(51).

(50) counterfactive debitive

Valst-ij par īrniek-u pārceļšan-u bija
state-DAT.SG about tenant-GEN.PL transfer-ACC.SG **be.PST.3**

jā-domā jau pirms vairāk-iem gad-iem,
DEB-think already before several-DAT.PL.M year-DAT.PL

[*kad dzīvokļi nemaksāja tik dārgi.*]

‘The state should have thought about moving the tenant several years ago when flats were not so expensive.’

(51) counterfactive *vajadzēt*

Tev vajadzēja sargāt mant-as,
2SG.DAT **vajadzēt.PST.3** guard-INF property-ACC.PL

viņ-i teica.

3-NOM.PL.M say.PST.3

[*Kā tu drīkstēji aiziet prom?*]

‘You were supposed to watch over <our> things. How could you go away?’

As Holvoet (2007, 166–167) points out, whether or not the action in question was performed defines the choice between dynamic and deontic reading. “If the speaker has performed an action in spite of its being in contradiction with some rule of conduct, then he will usually present it as having being inevitable and imposed by outward constraint, i.e. he will formulate this necessity as ‘dynamic’; with reference to exactly the same situation, this necessity will be presented as deontic when the action was not performed <...>”. I would like to add that it is not always so that performed actions are in an obvious contradiction with social norms or rules— for instance, there is nothing wrong with consuming less water or working hard, as in the factive examples (52)–(53) below. The potentially negative evaluation of the situations they depict arises from the fact that the subjects are presented as having no choice about important issues.

- (52) factive debitive
 [Cilts pārstāvju kļuva arvien vairāk,]
bet ūden-s daudzum-s, ar ko viņ-iem
 but water-GEN.SG quantity-NOM.SG with REL.ACC 3-DAT.PL.M
bija jā-iztiek, aizvien saruka.
be.PST.3 DEB-subsist ever shrink.PST.3
 ‘The number of people in the tribe was increasing, but the quantity of water that they had to subsist on was shrinking.’
- (53) factive *vajadzēt*
 [Pagājušajā sezonā bija tik daudz darba, ka skrēju kā vāvere ritenī.]
Vajadzēja apgū-t un spēlē-t četr-as
vajadzēt.PST.3 learn-INF and **play-INF** 4-ACC.PL.F
jaun-as lom-as teātr-ī plus vēl paspē-t
 new-ACC.PL.F part-ACC.PL theatre-LOC.SG plus more **be.in.time-INF**
uz televīzij-u <...>
 on television-ACC.SG
 ‘There was so much work in the last season that I was running like a squirrel on a wheel. I had to learn and play four new parts in the theatre plus be in time <for my work> on television.’

There are two regular expressions with *vajadzēt*, also found in the present tense of both *vajadzēt* and the debitive. One of these two expressions is factive and conveys exasperation over actions that the speaker believes to be excessive and even harmful; see (54). The other expression is common with verbs of perception and states that a particular situation is worth observing; see (55). If the omitted subject of the modal is imagined as an addressee, the meaning is counterfactive: ‘You should have observed what I observed’. But it is also possible to view the omitted subject as coinciding with the speaker and in this case the meaning is factive: ‘It was worth observing what I observed.’

- (54) *Kāpēc tev vajadzēja baidīt sieviet-es!*
 why 2SG.DAT **vajadzēt.PST.3** frighten-INF woman-ACC.PL
 ‘Why on earth did you frighten (literally: did you need to frighten) the women?’
- (55) **Vajadzēja redzēt** vilšan-o-s
vajadzēt.PST.3 see-INF disappointment-ACC.SG-RFL
viņ-a sej-ā,
 3-GEN.SG.M face-LOC.SG
 [kad viņš saņēma šo nepelnīto piecinieku.]

‘You should have seen the disappointment in his face when he received the unmerited best mark.’

Factive uses constitute about half of all selected sentences with each of the modals in the past tense, thus exceeding the percentage of counterfactive examples by at least twice. If factive sentences are to be seen as dynamic and the counterfactive sentences as deontic, it would mean that the share of deontic and dynamic uses in the past tense are reversed in comparison to what is seen from other tense/mood forms. It is, however, understandable that past-tense forms are more likely to be used when speaking about circumstances, which are expected to change with time, than about norms and rules, which are usually viewed as valid for all times. (I have already pointed this out in connection with the future tense.) As distinct from the other tense/mood forms, including the future tense, past-tense forms do not provide means for expressing suggestions about the right course of action, as the action has already been carried out before the moment of speech. Counterfactive examples in which the speaker voices criticism of past actions form an exception, but it must be borne in mind that counterfactive uses do not present the most common deontic meaning in other tense/mood forms.

Although the majority of the sentences in the past are easily interpreted as either factive or counterfactive, in some cases it is not important, or not even known, if the necessity they express was ever realized because the focus lies on the necessity itself. It is not clear from the immediate context in the examples below if the action is ever carried out. It is natural that some of them are formulations of agreements or rules, see (56)–(57), but one can also find sentences, as in (58)–(59), that may have dynamic meaning.

- (56) [*<...> venēciešu delegācija mierīgi apsēdās pie sarunu galda ar mongoļiem un noslēdza ar viņiem līgumu.*]
Venēcieš-iem bija jā-apgādā mongoļ-i
 Venetian-DAT.PL **be.PST.3** **DEB-provide** Mongol-NOM.PL
ar kart-ēm
 with map-DAT.PL
 [*un visu nepieciešamo informāciju, lai tie varētu iebrukt Eiropā.*]
 ‘The Venetian delegation sat around the negotiating table with the Mongols and made an agreement with them. The Venetians were supposed to provide the Mongols with maps and all the information they required in order to attack Europe.’

- (57) [*Bet pie šādiem nosacījumiem Briseles pirmā atbilde,*
kur-u saņēm-ām septembr-ī un uz
 REL-ACC.SG receive.PST-2PL September-LOC.SG and to
kur-u vajadzēja do-t atbild-i līdz
 REL-ACC.SG **vajadzēt.PST.3** **give-INF** answer-ACC.SG until
oktobr-im, bija <...>
 October-DAT.SG be.PST.3
 ‘But in such conditions, the first answer from Brussels, which we received in September and which was to be answered by October, was <...>’
- (58) [*Viņš gaidīja , kad varēs izrauties virszemē, tieši tai brīdī, kad ziema pāriet pavasarī,*
tikai vajadzēja nogaidīt,
 only **vajadzēt.PRS.3** **wait-INF**
 [*jo saprata, ka ir agrais zieds, pārējie nāks pēc tam <...>.*]
 ‘It waited for the time when it would be possible to break out onto the surface, exactly the moment when winter turns into spring; it only had to wait, because it understood that it was an early one, and the rest would come later.’
- (59) [*Morics nekad to un vispār neko saistītu ar mašīnām vairs negribēja atcerēties,*
jo tas taču bija neatgriezeniski
 because DEM.NOM.SG.M nevertheless **be.PST.3** permanently
jā-izdedzina no viņ-a apziņ-as.
DEB-burn from 3-GEN.SG.M consciousness-GEN.SG
 ‘Maurice wished to never remember either this or anything associated with cars because this (kind of things—A.D.) was to be wiped from his memory.’

In several deontic examples with the debitive the required action was nevertheless made real, which is separately mentioned later in the sentence; see (60)–(61).

- (60) [*Arī tad (barikāžu laikos—A.D.) cilvēki baiļojās, kā būs, bet,*
kad bija jā-brauc uz barikād-ēm, brauca.
 when **be.PST.3** **DEB-go** to barricade-DAT.PL **go.PST.3**
 ‘In those times (in the time of the barricades—A.D.) people feared what lay ahead, too, but when it was necessary to go to the barricades, they went.’

- (61) [*Tie bija sveši cilvēki, kas deva man pajumti.*]
Man bija jā-ievēro viņ-u noteikum-i,
 1SG.DAT **be.PST.3 DEB-respect** 3-GEN.PL rule-NOM.PL
ieradum-i, kaprīz-es, valdonīb-a — to gan
 habit-NOM.PL whim-NOM.PL arrogance-NOM.SG DEM-ACC.SG PTC
es paciet-u līdz zinām-ai robež-ai.
 1SG.NOM endure.PST-1SG to known-DAT.SG.F border-DAT.SG
 ‘They were strangers, those people that gave me shelter. I was supposed to respect their rules, habits, whims, arrogance. I did, to a certain point.’

4.6. Negation

4.6.1. Position of negation

In general, negation can be added to either the modal verb or the main verb, and both possibilities are found with *vajadzēt*. Debitive forms have only one position for negation, associated with the auxiliary, while inserting the negation morpheme immediately between the debitive prefix and the verb itself does not seem plausible. In the Corpus the difference between the two modals with respect to the position of negation is less clear-cut. In my data there is only one example with *vajadzēt* showing the negation on the main verb (62). Perhaps it is not a mere coincidence that the example contains a negative pronoun that is normally used with a negated verb.

- (62) [<...> *vai tālab, ka man nebija drosmes,*
bū-tu vajadzēj-is ne-darī-t neko?
be-SBJ vajadzēt-PST.PA NEG-do-INF nothing.ACC
 ‘<...> or since I didn’t have courage, should I have done nothing?’

Two more examples are found with negation on both *vajadzēt* and the main verb, one of them being (63). In both cases the negation on the main verb is a part of the repeating pattern *ne... ne..* ‘neither... nor...’.

- (63) <...> *pirms-skol-as vecum-a bēr-n-us vispār*
 pre-school-GEN.SG age-GEN.SG child-ACC.PL at.all
ne-vajag īpaši ne bīdī-t, ne bremzē-t.
NEG-vajadzēt.PRS.3 especially **NEG push-INF NEG hold.back-INF**
 ‘<...> children of preschool age do not need to be either nudged or held back.’

The debitive, on the contrary, is actually found once in the Corpus with the negation inserted between the debitive prefix and the verb base, even though the unusual example in (64) does not come from my set of data.

- (64) *Tikai jā-ne-aizmirst domā-t.*
 only **DEB-NEG-forget** think-INF
 ‘One only must not forget to think.’

Thus, both *vajadzēt* and the debitive normally add negation to the modal constituent, while adding negation to the main verb is only found in exceptions.

4.6.2. Scope of negation

Irrespective of the position of the negation morpheme, it may have scope either over the modal verb, meaning lack of necessity, or the main verb, conveying the necessity of refraining from the action indicated by the main verb.¹⁴ It is common to necessity verbs that are not specialized in terms of deontic and dynamic modality that negation having scope over the main verb means negative deontic necessity, while negation scoping over the modal means lack of dynamic necessity (Holvoet 2007, 144). Since in Holvoet’s interpretation *vajadzēt* tends to be more deontic and the debitive more dynamic, he states that negated forms of the debitive usually convey lack of necessity, while with *vajadzēt* negation may mean lack of necessity or negative deontic necessity. Although my analysis shows no such tendencies for either *vajadzēt* or the debitive when they are used without negation, my data turn out to generally confirm Holvoet’s statement about the meanings of each of the modals with negation.

There is a striking difference between *vajadzēt* and the debitive with respect to the scope of negation in all but one tense. The debitive means lack of necessity in 70% of all negated present and future tense forms, 80% of the subjunctive forms, and 90% of the past-tense forms. But as opposed to what Holvoet says about the ambiguity of *vajadzēt*, my analysis finds that the latter is more common to express the necessity to refrain from an action. There is 80% of examples

¹⁴ In some examples the negation, formally attached to the modal verb, actually has scope over one of the arguments of the main verb, as in the following sentence:

<...> *mamm-ai šajā gadījumā nav jā-klausā-s*
 mother-DAT.SG dem.LOC.SG case-LOC.SG NEG.be.PRS.3 DEB-listen.PRS.3-RFL
bērn-ā, bet sevī
 child-LOC.SG but RFL.LOC
 ‘A mother must listen to herself in this situation rather than to the child’.

with this meaning in the present tense of *vajadzēt*, and 90% in the subjunctive, although the percentage drops to 60% in the past tense. The future tense stands out as it shows lack of necessity in all 10 sentences that are found with the future forms of *vajadzēt* in the Corpus.

That negation with the debitive is unlikely to have scope over the main verb in most forms, might be explained by the fact that, notwithstanding the example in (64), it is structurally impossible to insert the negation morpheme between the debitive prefix and the verb itself, that is, in a position where it would unambiguously belong to the main verb.

Sentences conveying lack of necessity with either of the two modals may sometimes be recognized by formal features. Firstly, it is typical for them to contain the adverb *vairs* ‘any more’, as in (65)–(66).

- (65) *Man nuo viņ-iem vairs nav jā-baidā-s.*
 1SG.DAT from 3-DAT.PL.M more **NEG.be.PRS.3** **DEB-fear-RFL**
 ‘I don’t need to be afraid of them any more.’

- (66) [*Verdošais šķidrums izplatījās pa visu ķermeni tā,*
ka ģērb-tie-s vairs ne-vajadzēja.
 that **dress.up-INF-RFL** more **vajadzēt.PRS.3**
 ‘The boiling liquid spread over the whole body so that it was not necessity to dress up any more.’

Secondly, they may take the form of questions, (67)–(68).

- (67) [*Mēs maz par to pasauli zinām, <...> maz par sevi zinām.*
Var-būt arī nav jā-zina?
 may-be also **NEG.be.PRS.3** **DEB-know**
 ‘We know little about this world, <...> we know little about ourselves.
 Or maybe we don’t need to know?’

- (68) *Vai š-iem grozīj-um-iem vajag vai*
 Q DEM-DAT.PL.M change-DAT.PL *vajadzēt.PRS.3* or
ne-vajag noteik-t steidzamīb-u?
NEG-vajadzēt.PRS.3 **determine-INF** urgency-ACC.SG
 ‘Does one need to determine the urgency of these changes or not?’

4.6.3. Prohibition

As mentioned above, all examples expressing necessity to avoid a certain situation or refrain from certain actions are treated as deontic. From the viewpoint that dynamic necessity involves cancellation of the subject’s free will (Holvoet

2007, 24) it makes perfect sense because prohibition is only needed if the subject is free to choose between various options.

Such uses constitute about 80% of sentences containing the negated present tense of *vajadzēt*; see (69). There are also similar examples with the debitive, as in (70), but they only constitute about 20% of all selected sentences, even if they are perhaps not as rare as Holvoet (2007, 145–146) suggests.

- (69) *Ne-vajag pirk-t pirotehnik-u no*
NEG-vajadzēt.PRS.3 buy-INF firework-ACC.SG from
privātperson-ām <...>
 individual-DAT.PL
 ‘One must not buy fireworks from individuals.’
- (70) *<...> krustojum-ā nav jā-brauc ar liel-u*
 crossroads-LOC.SG **NEG.be.PRS.3 DEB-drive** with big-ACC.SG
ātrum-u.
 speed-ACC.SG
 ‘One must not drive at high speed at crossroads.’

The subjunctive is very similar to the present tense, with 90% of *vajadzēt* forms and 20% of the debitives meaning more or less categorical prohibition; see (71)–(72).

- (71) *<...> bērnu-līdz 12 gad-u vecum-am*
 children-ACC.PL before 12 year-GEN.PL age-DAT.SG
ne-vajadzē-tu lik-t sēdē-t priekšēj-ā sēdekl-ī <...>
NEG-vajadzēt-SBJ put-INF sit-INF front-LOC.SG seat-LOC.SG
 ‘Children under 12 should not be seated in the front seat.’
- (72) *Šād-a izvēl-e ne-bū-tu jā-atkārtoti arī*
 this.kind-NOM.SG.F choice-NOM.SG **NEG-be-SBJ DEB-repeat** also
stratēģiski svarīg-u valst-s uzņēmum-u
 strategically important-GEN.PL state-GEN.SG enterprise-GEN.PL
vadīšan-ā.
 management-LOC.SG
 ‘This kind of choice should not be repeated in the management of strategically important state-owned enterprises.’

In the past tense, the percentage of examples that express necessity to refrain from certain actions is smaller for both modals, as this meaning is found in 60% of *vajadzēt* and less than 5% of the debitives. Similar to past-tense forms without negation, it is only *vajadzēt* that conveys hindsight appreciation (73); see Hol-

voet (2007, 167). The debitive describes a prohibition that was applicable in the past (74).

- (73) [*Zādzība viņus absolūti neinteresēja.*]
Ne-vajadzēja vērtīg-as liet-as **atstā-t**,
NEG-vajadzēt.PST.3 valuable-ACC.PL.F thing-ACC.PL **leave-INF**
 — *viens no tiem pamācīja <...>*
 ‘The theft didn’t spark their interest. You shouldn’t have left valuable possessions, one of them lectured <...>’
- (74) [*Lai smalkā aristokrātija aiz biezajiem dzīvžogiem varētu slēpt savas vājības, melus, nodevību, kaislības un intrigas—visu cilvēcisko vājību paleti.*]
T-as nejauš-ajiem garām-gājēj-iem
 DEM-NOM.SG.M accidental-DAT.PL.M.DEF by-passer-DAT.PL
ne-bija jā-zina.
NEG-be.PST.3 DEB-know
 ‘So that behind the thick hedges the refined aristocracy could hide their weakness, lies, treachery, passions and intrigues—the whole range of human weakness. The accidental passers-by were not entitled to know this.’

4.6.4. Lack of necessity

It is stated in 4.5.2. that negation having scope over the modal verb means lack of dynamic necessity. Holvoet (2007, 144–145) claims that “<...> if an action is not required, it is usually irrelevant whether lack of dynamic necessity or lack of deontic necessity is involved”. My understanding of the matter is that lack of obligation may itself be perceived as a type of circumstance. In other words, sentences meaning lack of necessity tend to be interpreted as dynamic if there are no clues that would point otherwise. This is exactly opposite to the situation in sentences where necessity is found without negation, as they gravitate towards deontic interpretation if not provided with additional clues; see 4.3.2. One can propose that stating a necessity implies a conflict between things as they are and a human will that wishes to change them, while stating lack of necessity simply reflects things as they are.

Typical examples of sentences in which the necessity is difficult to specify as either dynamic or deontic are given in (75)–(76). The subjects’ freedom from working or doing a particular job may be due to being allowed to act this way,

but it may also come from circumstances such as not having a job or having a job that does not require these particular functions.

- (75) [*Labākā atpūšanās ir tā,*]
ka nav jā-ceļa-s konkrēt-ā laik-ā
 COMPL **NEG.be.PRS.3 DEB-get.up-RFL** certain-LOC.SG time-LOC.SG
un jā-būt darb-ā.
 and **DEB-be** work-LOC.SG
 ‘The best rest is that one doesn’t have / isn’t required to get up at a certain time and go to work.’
- (76) *Man ne-vajadzēja paraksti-t nevien-u papīr-u,*
 1SG.DAT **NEG-vajadzēt.PST.3 sign-INF** none-ACC.SG paper-ACC.SG
nevien-u līgum-u, ne-vajadzēja uzrādī-t
 none-ACC.SG contract-ACC.SG **NEG-vajadzēt.PST.3 show-INF**
dokument-us vai atves-t galvotāj-us.
 document-ACC.PL or **bring-INF** warrantor-ACC.PL
 ‘I didn’t have to / wasn’t required to sign any papers, any contracts, nor did I have to / was I supposed to show documents or provide warrantors.’

Such ambiguous sentences are mostly found with the debitive—perhaps for the reason that it is the debitive that is usually interpreted as conveying lack of necessity and they have more chances to occur among the more numerous forms. Further I will treat them as dynamic.

A special kind of ambiguity is found in questions, as the speaker may inquire either about the situation itself (‘Do the particular circumstances require my help?’) or the addressee’s opinion about the situation (‘Do you think I should volunteer to help in these circumstances?’); see (77). Since such questions are usually asked with the purpose of receiving instructions, I will further consider them deontic.

- (77) [*Vilnis. Dzer? Indra. Nē. Kurina pirti.*]
Viln-is. Kād-u? Ne-vajag palīdzē-t?
 Vilnis-NOM.SG what-ACC.SG **NEG-vajadzēt.PRS.3 help-INF**
 [*Indra. Nē, paldies.*]
 ‘Vilnis: Is he drinking? Indra: No. He’s preparing the bath house. Vilnis: What bath house? Should I help? (literally: Does one not need to help?) Indra: No, thank you.’

As may be clear from what I said above, in my analysis the dynamic interpretation prevails for both the debitive and those instances of *vajadzēt* that do not convey prohibition. Actually, *vajadzēt* is used in this meaning more regularly than the debitive. Almost all examples with *vajadzēt* that convey lack of necessity in any of the tense/mood forms are dynamic, exceptions being either questions as in (77) or epistemic sentences that will be separately discussed later. Further I provide instances of *vajadzēt* meaning lack of dynamic necessity in the present (78)–(79), future (80) and past (81) tenses, as well as in the subjunctive (82). The *vajadzēt* in (79) is especially interesting as it reflects participant-internal necessity.

(78) dynamic present *vajadzēt*

[*Katrs otrais sevi cienošs Latvijas copmanis vismaz reizi dzīvē bijis uz Peipusa.*]

Biež-āk ziem-ā kā vasar-ā,
often-COMP winter-LOC.SG than summer-LOC.SG

jo ziem-ā ne-vajag meklē-t
because winter-LOC.SG NEG-*vajadzēt*.PRS.3 look.for-INF

laiv-u.

boat-ACC.SG

[*Ej pa ledu uz visām četrām debesspusēm <...>*]

‘Every second self-respecting Latvian angler has been on Peipus lake at least one time in his life. More often in winter, because in winter one doesn’t need to look for a boat. You can walk on the ice in any direction you want.’

(79) dynamic (participant-internal) present *vajadzēt*

[*Ja saņemos, man ir milzīgas darba spējas, man strādā prāts, varu ātri un asi reaģēt uz notiekošo,*]

man ne-vajag ilg-i domā-t un
1SG.DAT NEG-*vajadzēt*.PRS.3 long-ADV think-INF and

spriedelē-t.

expatiate-INF

‘If I pull myself together, I have a huge ability to work, my mind works, I have quick and sharp reactions to what is going on, I don’t need to think long and discuss at length.’

(80) dynamic future *vajadzēt*

[*Rīt būšu vesela,*]

un tev ne-vajadzē-s man-ā viet-ā
 and 2SG.DAT NEG-**vajadzēt-FUT.3** my-LOC.SG place-LOC.SG
neko darī-t.
 nothing.ACC **do-INF**

‘I will be well tomorrow and you won’t have to do anything in my place.’

- (81) dynamic past *vajadzēt*

<...> *nu viņ-i bija klāt uz viet-as*
 now 3-NOM.PL.M be.PST.3 present on place-GEN.SG
un vairs nekur ne-vajadzēja brauk-t.
 and more nowhere NEG-**vajadzēt.PST.3** go-INF

‘Now they were at the location and there was no need to go any further.’

- (82) dynamic subjunctive *vajadzēt*

[*Jā pret valsts valodu mēs paši būtu izturējušies ar pienācīgu cieņu, krievi sen to būtu apguvuši un*]

Godman-im ne-vajadzē-tu teik-t šād-us
 Godmanis-DAT.SG NEG-**vajadzēt-SBJ** say-INF such-ACC.PL.M
latvieš-u paš-cieņ-u pazemoj-oš-us
 Latvian-GEN.PL self-respect-ACC.SG demean-PRS.PA-ACC.PL
vārd-us.

word-ACC.PL

‘If we had treated the state language with due respect, the Russians would have mastered it long ago and Godmanis would not have to say such words that are demeaning to the Latvian self-respect.’

Although the debitive, too, is capable of conveying lack of dynamic necessity in the same tense/mood forms, it is less uniform in comparison to *vajadzēt* as it also expresses lack of deontic necessity in formulations of rules and social norms where *vajadzēt* is excluded as stylistically marked.

- (83) dynamic present debitive

[*Darbs ir tuvu mājām,*]
nav nekur jā-brauc <...>
 NEG.be.PRS.3 nowhere **DEB-drive**

‘The job is near home, there is no need to go anywhere <...>’

- (84) deontic present debitive

[*Astma ir slimība,*]

- no kā nav jā-baidā-s un*
 from REL.GEN.SG NEG.be.PRS.3 DEB-fear-RFL and
nav no tās jā-izvairā-s,
 NEG.be.PRS.3 from DEM.GEN.SG.F DEB-avoid-RFL
 [*bet jārikojas, lai mazinātu tās izpausmes un palīdzētu bērnam ar to sadzīvot.*]
 ‘Asthma is a disease that is not to be feared or avoided. Instead one should act properly in order to attenuate its effects and help children to live with it.’
- (85) dynamic future debitive
 [<...> *es tev solu,*]
ka nekas tād-s tev vairs
 that nothing.NOM such-NOM.SG.M 2SG.DAT more
ne-bū-s jā-piedzīvo.
 NEG-be-FUT.3 DEB-live.through
 ‘<...> I promise you that you will never again have to experience anything of this kind.’
- (86) deontic future debitive
 [<...> *ja ķīmiskā viela ir metāls, kurš ir saistītā veidā instrumentos, vai ķīmiskās vielas koncentrācija darba vides gaisā ir zem 10 %,]*
periodisk-ās veselīb-as pārbaud-es
 periodic-NOM.PL.F.DEF health-GEN.SG examination-NOM.PL
ne-bū-s jā-veic.
 NEG-be-FUT.3 DEB-make
 ‘<...> if a chemical substance is a metal in a bound form contained in tools or the air concentration of a chemical substance in the working environment is below 10%, there will be no need to carry out periodic medical examinations.’
- (87) dynamic past debitive
 [<...> *rekonstrukcijas laikā pārvietošanās pa ceļu bija iespējama]*
un ne-vien-u brīd-i ne-bija jā-meklē
 and NEG-one-ACC.SG moment-ACC.SG NEG-be.PST.3 DEB-look.for
apbrauc-am-ie ceļ-i.
 drive.around-PRS.PP-NOM.PL.M.DEF road-NOM.PL
 ‘It was possible to use the road during the reconstruction and there was no need to look for roundabout ways at any time.’
- (88) deontic past debitive
 [<...> *līgums ar “Dinamo” man bija beidzies]*

un formāli viņ-iem man nekas
and formally 3-DAT.PL.M 1SG.DAT nothing.NOM.SG

ne-bija jā-paziņo.

NEG-be.PST.3 DEB-inform

‘The contract with Dinamo had ended, and from a formal point they didn’t need to inform me about anything.’

- (89) dynamic subjunctive debitive

[<...> *es domāju, ka pietiktu sakārtot lauku ceļus, nodrošināt ātrgaitas internetu ikvienā apdzīvotā vietā un*]

Latvij-as lauk-iem par attīstīb-u

Latvia-GEN.SG countryside-DAT.PL about development-ACC.SG

vairs ne-bū-tu jā-raizēja-s.

more **NEG-be-SBJ DEB-worry-RFL**

‘<...> I think that as soon as country roads would be repaired and high-speed internet provided in every inhabited place those in the Latvian countryside would not have to worry any more about development.’

- (90) deontic subjunctive debitive

[<...> *ja Latvijas nodokļu rezidents strādā Īrijā līdz 183 dienām, tad nodoklis ir jāmaksā tikai Latvijā.*]

Savukārt Īrij-ā šajā period-ā vispār

in.turn Ireland-LOC.SG DEM.LOC.SG period-LOC.SG at.all

ne-bū-tu jā-maksā nodokl-is.

NEG-be-SBJ DEB-pay tax-NOM.SG

‘<...> if a Latvian tax resident works in Ireland for less than 183 days, taxes must be paid only in Latvia. In turn, it would not be necessary at all to pay taxes in Ireland for this period.’

There are features pertaining to lack of dynamic necessity that are found with the debitive and *vajadzēt*.

It is very common for negated subjunctive forms of both modals to be used after *lai* ‘in order that’ to refer to the possible situation that one wishes to avoid; see (91)–(92). The construction is much more frequent with the debitive than with *vajadzēt*, and is also found with the present tense of the debitive (93), although less often.

- (91) [<...> *viņš sarīkoja apvērsumu,*]

lai vēlēšan-ās ne-bū-tu jā-piedzīvo zaudējum-s.

in.order.that election-LOC.PL **NEG-be-SBJ DEB-suffer** defeat-NOM.SG

'<...> he organized a coup d'état so that he would not suffer an electoral defeat.'

(92) [*Tomēr iniciatīva jāuzņemas,*]

lai ne-vajadzē-tu pavadī-t dzimšan-as dien-u,
in.order.that **NEG-vajadzēt-SBJ spend-INF** birth-GEN.SG day-ACC.SG
[*raizējoties — vai tikai viņš atkal to neaizmirsīs?*]

'But one must take initiative so that one doesn't spend their birthday worrying if he hasn't forgot it, again.'

(93) [<...> *situācija tur ir novērtēta un arī aprēķināta tā,*]

lai otr-ā stāv-a kaimiņ-iem
in.order.that second-GEN.SG.M.DEF storey-GEN.SG neighbour-DAT.PL
nav jā-baidā-s par ielūšan-u
NEG.be.PRS.3 DEB-fear-RFL about breaking through-ACC.SG
pagrabstāv-ā.
cellar-LOC.SG

'The situation there has been evaluated and also calculated so that the neighbours from the second floor are not afraid of falling all the way to the cellar.'

Without *lai* 'in order that' the subjunctive forms of the modals warn against a situation that nevertheless takes place; see (94)–(95). (The example in (95) is a repetition of (82).)

(94) [*Viņš man mazliet palasīja morāli, kāpēc neesmu griezies pie veikala vadības ar savu pretenziju*] —

tad t-as vis-s tik-tu
then DEM-NOM.SG.M all-NOM.SG.M AUX-SBJ
atrisinā-t-s uzreiz un ne-bū-tu jā-iesaista
resolve-PST.PP-NOM.SG.M at.once and **NEG-be-SBJ DEB-involve**
portāl-a redakcij-a.
portal-GEN.SG editorial.board-NOM.SG

'He gave me a short lecture that I should have spoken to the shop management about my complaint, then all this would have been resolved at once and one would not have needed to involve the editors of the portal.'

(95) [*Jā pret valsts valodu mēs paši būtu izturējušies ar pienācīgu cieņu, krievi sen to būtu apguvuši un*]

Godman-im ne-vajadzē-tu teik-t šād-us
Godmanis-DAT.SG **NEG-vajadzēt-SBJ say-INF** such-ACC.PL.M

latvieš-u paš-cieņ-u pazemoj-oš-us
 Latvian-GEN.PL self-respect-ACC.SG demean-PRS.PA-ACC.PL.M
vārd-us.
 word-ACC.PL

‘If we had treated the state language with due respect, the Russians would have mastered it long ago and Godmanis would not have to say such words that are demeaning to the Latvian self-respect.’

4.7. Epistemic modality

Holvoet (2007, 149) finds it remarkable that the verb *vajadzēt* and the debitive are also found with epistemic meaning, because impersonal modals are rarely used in epistemic meaning in other languages. According to Kalnača (2013) and Lokmane & Kalnača (2014), the epistemic use of *vajadzēt* is only found in combination with *būt* ‘be’, while the debitive is also used epistemically with other stative verbs including *gulēt* ‘lie; sleep’. See the examples in (96)–(97), taken from Kalnača (2013) and Lokmane & Kalnača (2014).

(96) deontic and epistemic

Mās-ai šovakar vajag bū-t mājās
 sister-DAT.SG this.evening **vajadzēt.PRS.3** **be-INF** at.home
*septiņos.*¹⁵
 7.o'clock

- a. ‘(My) sister should be at home at 7 o’clock tonight.’
 b. ‘(My) sister must be at home at 7 o’clock tonight.’

(97) deontic and epistemic

Ilz-es meit-ai ir jā-guļ diendus-a.
 Ilze-GEN.SG daughter-DAT.SG **be.PRS.3** **DEB-sleep** nap-NOM.SG

- a. ‘Ilze’s daughter should take a nap.’
 b. ‘Ilze’s daughter must be taking a nap.’

My data shows that epistemic uses of both *vajadzēt* and the debitive are more diverse as they are used with different types of verbs and also comprise cases that are transitional between epistemic modality and root modality. Nevertheless, epistemic uses are not frequent, with no more than 5–10% in each of the tense/mood forms and even fewer examples in the same forms with nega-

¹⁵ The same sentence with the debitive instead of *vajadzēt* seems to only have the deontic meaning (Lokmane & Kalnača 2014, 187).

tion. No unambiguous examples are found in the future tense, as the future tense itself often conveys epistemic modality.

It is true that with the present tense both modals are only used with *būt* ‘be’; see (98) for the debitive and (99) for *vajadzēt*, which is actually intermediate between dynamic and epistemic modality.

- (98) <...> *teorētiski netālu jā-būt arī div-ām automašīn-ām.*
 theoretically not.far **DEB-be** also two-DAT.PL.F car-DAT.PL
 ‘<...> in theory, there also must be two cars in the vicinity.’

- (99) [*Bērziņam bija divi tādi momenti,*
ka rip-ai vajag bū-t aiz vārt-u
 COMPL puck-DAT.SG **vajadzēt.PRS.3** **be-INF** behind gate-GEN.PL
līnij-as,
 line-GEN.SG
 [*bet atkal nekā.*]
 ‘Bērziņš had two such occasions when the puck was certain to be behind the gate line, but then again there was nothing.’

Unambiguous epistemic examples are those containing predictions and forecasts; see (100)–(102).

- (100) [*<...> lidosta Rīga ir ieguvusi Starptautiskās gaisa transporta asociācijas <...> pētījuma rezultātus,*
atbilstoši kur-iem 2012. gad-ā Rīg-ā
 according REL-DAT.PL.M 2012 year-LOC.SG Rīga-LOC.SG
jā-būt ne mazāk kā 4,9 miljon-iem aviapasažier-u.
DEB-be NEG less than 4.9 million-DAT.PL air-passenger-GEN.PL
 ‘<...> the Riga Airport has received results of a research carried out by the International Air Transport Association in accordance with which there must be no less than 4.9 millions of air passengers in Riga in 2012.’

- (101) [*Piemēram, “Piebalgas alus” tirdzniecības vadītājs norāda*
tālāk-ajā perspektīv-ā noteikti vajadzē-tu
 further-LOC.SG.DEF perspective-LOC.SG definitely **vajadzēt-SBJ**
palielinā-tie-s patēriņ-am krog-os <...>
increase-INF-RFL consumption-DAT.SG restaurant-LOC.PL
 ‘For example, the trade manager of the *Piebalgas alus* points out that in a further perspective, the consumption in restaurants is certain to increase.’

- (102) *Par pūļ-a mežonīgum-u pārsteigum-am it kā*
 about crowd-GEN.SG ferocity-ACC.SG surprise-DAT.SG as.if
ne-vajadzēja bū-t.
NEG-vajadzēt.PST.3 be-INF
 ‘One was not expected to be surprised about the ferocity of the crowd.’

As transitional examples show, epistemic uses develop from either dynamic or deontic necessity. The first of the following sentences with the debitive can be treated in terms of dynamic necessity since blindness, even metaphorical, is a natural condition that cannot be changed (103). But the second example clearly refers to rules and regulations defining the work of the Lithuanian parliament and therefore is a representative of the deontic modality (104).

- (103) *Tur jā-būt galīgi akl-am,*
 there **DEB-be** completely blind-DAT.SG.M
 [un necēlās viņiem pretestības gars, tiem vīriem.]
 ‘One has to be completely blind, and they don’t have the mood to resist, those men.’
- (104) *Jau oktobr-a vid-ū budžet-a*
 already October-GEN.SG middle-LOC.SG budget-GEN.SG
projekt-am jā-būt Seim-ā <...>
 project-DAT.SG **DEB-be** Seimas-LOC.SG
 ‘The budget project must be in the Seimas as soon as the middle of October <...>’

The subjunctive and the past tense provide transitional examples with verbs other than *būt* ‘be’; see (105)–(107).

- (105) [Tā ir ļoti svarīga operācija, jo tās laikā apcietināti līderi,]
tādēļ t-ai bū-tu jā-dod efekt-s.
 therefore DEM-DAT.SG.F **be-SBJ DEB-give** effect-NOM.SG
 ‘This is a very important operation because in its course leaders are imprisoned, for this reason it ought to have (literally: give) an effect.’
- (106) [Tātad es sajutos tik vientuļa... tik vientuļa...]
Jums kā sieviet-ei vajadzē-tu mani sapras-t...
 2PL.DAT AS woman-DAT.SG **vajadzēt-SBJ** 1SG.ACC **understand-INF**
 ‘I have felt so lonely, so lonely... You must understand me since you are a woman.’

- (107) *Pamod-o-s, kad vajadzēja notik-t*
 wake.up.PST-1SG-RFL when **vajadzēt.PST.3** **happen-INF**
sarun-ai ar Bals-i no Augstum-iem.
 conversation-DAT.SG with voice-ACC.SG from height-DAT.PL
 ‘I woke up when it was time for the conversation with the Voice from Heaven.’

The two examples with negation below can be seen as transitional from deontic to epistemic modality, although the scope of negation is different, as one questions the lack of necessity (108) and the other expresses the necessity that a particular person be absent from the character’s house (109).

- (108) [*Ā, jūs esat mācītājs? <...> Bet pēc apģērba nemaz nevar pateikt.*]
Vai tad jums nav jā-būtt ād-ai
 Q then 2PL.DAT **NEG.be.PRS.3** **DEB-be** such-DAT.SG.F
balt-ai apkaklīt-ei vai kaut kam
 white-DAT.SG.F collar-DAT.SG or something.DAT
tamlīdzīg-am ap kakl-u?
 of.this.kind-DAT.SG.M around neck-ACC.SG
 ‘So you are a priest? <...> But one wouldn’t say so from the look of your clothes. Shouldn’t you have a white collar or something around your neck?’
- (109) [*Nemiera sajūtu un trauksmainu sasprindzinājumu rada gan spokainā telpa, kuras nemaz nav, gan arī liekais ēnu cilvēks.*]
kur-am Irmgard-es māj-ā nemaz
 REL-DAT.SG.M Irmgarde-GEN.SG house-LOC.SG in.no.way
nav jā-būt.
NEG.be.PRS.3 **DEB-be**
 ‘The feeling of anxiety and powerful strain is created by a ghostly space that actually does not exist, as well as by an odd shadow person who should not be in Irmgarde’s house at all.’

5. Conclusion

As can be expected from a more grammaticalized expression, the debitive is six times as frequent as *vajadzēt*. The difference, however, is not restricted to the general number of uses as the two modals also have different grammatical profiles. The most frequent form of the debitive is the present tense without auxiliary while *vajadzēt* is most frequently found in the subjunctive. The debitive is

also very rarely used with negation while negated forms of *vajadzēt* constitute about one-third of all forms. While the leading position of the subjunctive in *vajadzēt* may have semantic reasons, the high frequency of the present tense without auxiliary shown by the debitive, together with its low frequency of negated forms (where the negation morpheme is attached to the auxiliary) may have a structural explanation: shorter forms without auxiliary may be preferred by speakers.

Even though epistemic uses are more diverse than was previously thought, it is much more common for both modals to convey root necessity. To differentiate between deontic and dynamic uses, I relied on the communicative purpose of sentences and their information structure, as well as the meaning of words in the context and, to a lesser extent, extralinguistic information. It is worth mentioning that the communicative purpose may change depending on whether the speaker coincides with the subject of the modal, and so does the modality type. I also used factive vs counterfactive meaning as a criterion for dynamic vs deontic reading of the past-tense forms. With negation I also made use of the correlation between the scope of negation and the meaning of deontic necessity.

I found out that, without negation, both modals have equal chances to be used with deontic and dynamic meaning. Deontic uses comprise the majority of forms in the subjunctive and the present tense, as well as in the future tense. In the past tense the share of dynamic uses increases and amounts to half of all selected examples with both modals. On the whole, both modals in the present and future tenses and the subjunctive gravitate towards deontic interpretation if their uses are not provided with additional clues.

Nevertheless, the relationship between the two modals is not symmetric, as only *vajadzēt* is regularly used to express the meaning of participant-internal necessity (in van der Auwera and Plungian's classification) when the subject is in the 1st person. Another peculiarity of *vajadzēt* is its capacity to convey the reported speech, leading to the participant-internal necessity expressed when the subject is in the 3d person. The association between *vajadzēt* and participant-internal necessity might influence deontic uses of *vajadzēt* so that they are perceived as reflecting the speaker's interest in the outcome of the situation. This connection would explain the absence of *vajadzēt* from official documents as well as the prevalence of the subjunctive among its forms — probably caused by the speakers' wish to soften the suggestion as it may sound too categorical and subjective.

The most striking difference between the debitive and *vajadzēt* is found with negation. The debitive for the most part expresses lack of necessity, which tends

to be interpreted as dynamic if there are no clues that would point otherwise. The verb *vajadzēt*, on the contrary, conveys prohibition in the overwhelming majority of uses in the present tense and the subjunctive, and is used to criticize past actions in more than half of the past-tense forms. The future is the only tense in which the majority of *vajadzēt* uses with negation are interpreted as lack of necessity.

In sum, the existing view of the debitive as dynamic and *vajadzēt* as deontic is only confirmed by the Corpus when both modals are used with negation. Without negation, the share of dynamic vs deontic uses of the debitive and *vajadzēt* are roughly equal. But it must be borne in mind that it is only *vajadzēt* that regularly expresses participant-internal necessity and is also used to convey reported speech. The deontic uses of *vajadzēt* are more marked in comparison to the deontic uses of the debitive, as *vajadzēt* may be perceived as reflecting the speaker's interests.

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ABBREVIATIONS

1 — 1st person, 2 — 2nd person, 3 — 3d person, ACC — accusative, ADV — adverb, AFF — affirmative, AUX — auxiliary, COMP — comparative, COMPL — complementizer, DAT — dative, DEB — debitive, DEF — definite, DEM — demonstrative, DLM — delimitative, EVD — evidential, F — feminine, FUT — future, GEN — genitive, IMP — imperative, INF — infinitive, LOC — locative, M — masculine, NEG — negation, NOM — nominative, PL — plural, PRF — perfect, PRS — present, PST — past, PA — active participle, PP — passive participle, PTC — particle, PVB — preverb, Q — question marker, REL — relative pronoun, RFL — reflexive, RPO — reflexive possessive, SBJ — subjunctive, SG — singular

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