

On subjects of necessity verbs in Latvian: A corpus-based study of the debitive vs vajadzēt

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The analysis of data extracted from the Balanced Corpus of Modern Latvian reveals that the non-modal variant of *vajadzēt* is mostly used with pronouns, especially those referring to the speaker. The modal variant of *vajadzēt*, on the contrary, is similar to the debitive in that the majority of their dative subjects are non-participants of the speech act, mostly represented by substantives which can be not only animate but also inanimate. In those cases where the modal *vajadzēt* and the debitive have the speaker as their subjects, they are more likely to receive dynamic meaning. If the subject corresponds to the addressee or non-participants of the speech act, the most frequent interpretation is a deontic one. Epistemic meaning is relatively more common with the modal *vajadzēt* than with the debitive irrespective of the subject type.

Keywords: Latvian, necessitive modality, deontic modality, dynamic modality, subject, animacy.

1. Introduction

Although modal and non-modal uses of *vajadzēt* are commonly treated as belonging to the same meaning of one verb, their distribution across tense and mood forms is different, and they also combine with different subjects. The article focuses on the latter issue, as it compares the non-modal *vajadzēt* with its modal counterpart in relation to their ability to combine with various classes of nouns and pronouns that serve as their subjects. The modal variant of *vajadzēt* is also compared to a synonymous grammatical expression called debitive. The study is based on data extracted from the Balanced Corpus of Modern Latvian, namely from the annotated version of the *miljons-2.0* subcorpus comprising 3.5 million words, further referred to as ‘Corpus’.¹

¹ This was one of the Latvian corpora found at www.korpuss.lv before the new version appeared. The data on the verb *vajadzēt* and the debitive were obtained from the annotated *miljons-2.0* subcorpus in 2015–2016. In spite of the use of the annotated version, most of the data had to be manually selected in Excel from a wider range of results containing a sequence of certain symbols, see the explanation in Daugavet (2017). Further classification of the data according to different tense and mood forms also had to be carried out in Excel by combining manual selection with various kinds of manipulations provided by that program. The same is true for any additional information that is used to characterise the distribution of *vajadzēt* and the debitive in the current article, that is, presence vs absence of subjects, various types of subjects, and, last but not least, various types of modal meaning.

After the introduction in Section 1, Section 2 provides general information on the meaning and grammatical peculiarities of *vajadzēt* in both its modal and non-modal uses, as well as the debitive. Section 3 discusses the use of all three constructions with and without a subject in the dative. In Section 4 all subjects are divided into (personal) pronouns and substantives, the classification then being rearranged in order to reflect the participation of subjects in the speech act. Substantives are further divided according to animacy in Section 5, which also gives an overview of various types of animate and inanimate subjects found with the two variants of *vajadzēt* and the debitive. Section 6 introduces the classification of nominal and pronominal subjects according to their position before or after the (modal) verb. In Section 7 the focus shifts to the comparison between the modal *vajadzēt* and the debitive with respect to the influence that various subject types (speaker vs addressee, animate vs inanimate subjects, preposed vs postposed subjects) may have on the type of modal meaning conveyed by these two constructions. Section 8 contains a conclusion.

2. Constructions based on *vajadzēt* and debitive

In Latvian dictionaries the verb *vajadzēt* is provided with two meanings, of which the first one is identified with necessity or desirability, and the second one with certainty.² Examples that serve to illustrate these uses show that the meaning of necessity or desirability is attributed to two different constructions. The verb can be translated as ‘need’ in combination with a direct object, but conveys a more diverse range of necessity including moral obligation when combined with another verb in the infinitive. The second construction is additionally associated with the meaning of certainty. Both constructions take a subject in the dative. I will further call uses of *vajadzēt* with an infinitive ‘modal’, and those without an infinitive ‘non-modal’.

- (1) a. *Man steidzami vajag naud-u <...>*
 1SG.DAT urgently **VAJADZĒT.PRS.3** money-ACC.SG
 ‘I urgently need money.’
- b. *Man vajag mazāk dzer-t zāl-es <...>*
 1SG.DAT **VAJADZĒT.PRS.3** less **drink-INF** medicine-ACC.PL
 ‘I should take less medicine.’

² See the dictionaries at www.tezaurs.lv/#/vardnicas.

Sometimes either a direct object or a verb in the infinitive may be omitted, producing sentences as below. Although it is possible to identify the missing element as a verb in, the example in (2b) is less transparent. In the current study I treat all sentences that do not have a verb in the infinitive attached to *vajadzēt* as non-modal, together with those sentences where *vajadzēt* is used with a direct object.

- (2) a. [*Instinkti nav skaisti,*
vajag *skaist-i,*
VAJADZĒT.PRS.3 beautiful-ADV
 [*jo tas ir daļa romantikas.*]
 ‘Instincts are not beautiful, but one needs (something to be done) beautifully, [because this provides an element of romanticism].’
- b. [*Likās, ka pat ar bļodu nepietiks,*]
vajadzē-s *vēl un vēl.*
VAJADZĒT-FUT.3 more and more
 ‘It seemed that even the (whole) bowl wasn’t enough, and one would need more and more.’

Although *vajadzēt* is found in various tense and mood forms, it is shown in Daugavet (2017) that their frequencies are different according to whether we consider the modal uses or the non-modal ones. The non-modal variant of the verb is the most frequent in the present tense (68%), the rest comprising the past (13%), future (9%) and the subjunctive (8%). The modal counterpart is much more frequently used in the subjunctive (43%), with the present tense coming second (28%) and the past third (21%).³ The frequent use of the subjunctive is probably caused by the speakers’ wish to soften the suggestion, as it may sound too categorical and subjective.

- (3) *Vecāk-iem vajadzē-tu pieskatī-t bēr-n-us un*
 parent-DAT.PL **VAJADZĒT-SBJ** **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 safety on the ice <...>.’

³ Minor differences in the frequencies of tense and mood forms of both *vajadzēt* and the debitive between the current article and their presentation in Daugavet (2017) are due to several mistakes that were only discovered after publication.

As an expression of verbal necessity the modal variant of *vajadzēt* is synonymous with the debitive—a grammatical form that can be produced with any Latvian verb (including *vajadzēt*⁴) by adding the debitive prefix *jā-* to the present-tense stem 4. The similarity is further supported by the use of dative for the expression of the subject.

- (4) [*Viņa nesaprot,*]
kādēļ man tik daudz kafij-as jā-dzer.
 why 1SG.DAT so much coffee-GEN.SG **DEB-drink**
 ‘[She doesn’t understand] why I need to drink so much coffee.’

The meaning of the debitive can be combined with various tense and mood meanings by adding the auxiliary *būt* ‘be’ (5).⁵

- (5) *Bērn-iem bū-tu jā-sāk mācī-tie-s*
 child-DAT.PL **be-SBJ** **DEB-start** teach-INF-RFL
sveš.valod-as,
 foreign.language-ACC.PL
 [*cik agri vien iespējams.*]
 ‘Children should start learning foreign languages [as early as possible].’

The use of the auxiliary is optional in the present tense. In Daugavet (2017) this is presented as a reason why present tense forms without the auxiliary are the most frequent forms of the debitive in the Corpus (59%). 23% are present tense with the auxiliary, and the rest of the debitive forms are almost equally divided between the past, future, and subjunctive. Since negation in the debitive can only be expressed in the auxiliary, the tendency to avoid the auxiliary leads to affirmative uses in 95% of examples. For comparison, with *vajadzēt* negation is added as a prefix, which is common for synthetic verbal forms in Latvian,

⁴ See the example on the Internet:

<i>Kāpēc</i>	<i>bū-tu</i>	<i>jā-grib</i>	<i>un</i>	<i>jā-vajag</i>	<i>pie-skrūvē-t</i>
why	be-SBJ	DEB-want	and	DEB-VAJADZĒT	PVB-screw-INF
<i>objektīv-u</i>		<i>otrādāk?</i>			
objective-ACC. SG		otherwise			

‘Why must one want and need to fasten the objective in some other way?’

<http://klab.lv/community/pajautaa/2086728.html> (23.10.2015)

⁵ It is interesting that historically *vajadzēt* was borrowed from Finnic as a non-verbal predicator combined with ‘be’, e.g. *bija vajaga*, and only later reinterpreted as a verb (Karulis 2001, 1106).

and the share of affirmative forms of *vajadzēt* is roughly equal for modal and non-modal uses, comprising slightly more than 70%.

- (6) a. *Tev par to nav jā-domā.*
 2SG.DAT about DEM.ACC.SG NEG.be.PRS.3 DEB-think
 ‘You needn’t think about it.’
- b. <...> *tev ne-vajadzē-tu iejauk-tie-s.*
 2SG. DAT NEG-VAJADZĒT-SBJ interfere-INF-RFL
 ‘You shouldn’t interfere.’

A striking feature of the debitive is the object in the nominative case (7a), although it is sometimes replaced with the accusative in the modern language. The 1st and 2nd person pronouns can only have an accusative form in this position (7b).

- (7) a. [*Jo tu zini, ka*]
tev cilvēk-s jā-pieņem tād-s,
 2SG. DAT human-NOM.SG DEB-accept such-NOM.SG.M
 [*kāds viņš ir.*]
 ‘Because you know that you should accept a person [as they are].’
- b. *Tev mani ir jā-saprot.*
 2SG.DAT 1SG.ACC be.PRS.3 DEB-understand
 ‘You should understand me.’

The object in the nominative harks back to the origin of the debitive as an existential construction combined with a relative clause (Holvoet 2001, 9–27). Synchronically, Holvoet (2007, 184–185; 2001, 41–43) treats the debitive as an incorporated modal verb, and I will further stick to this interpretation if only for the reason that it allows us to refer to both *vajadzēt* and the debitive as ‘verbs’.

3. Subjects

Although it is usual for *vajadzēt* to take a subject in the dative, both the modal and the non-modal variants are also quite common without (phonetically expressed) subjects. Compare the following examples below.

- (8) non-modal *vajadzēt*
- a. *Vīriet-im vajag rotaļliet-u.*
 man-DAT.SG VAJADZĒT.PRS.3 toy-ACC.SG
 ‘A man needs his toy.’
- b. [*Lai viens otru ieraudzītu un novērtētu,*]
vajag div-us.
 VAJADZĒT.PRS.3 2-ACC.PL
 ‘It is necessary for two persons to be present [so that one can see and appreciate the other].’
- (9) modal *vajadzēt*
- a. *Cilvēk-am vajag dzīvo-t sav-u*
 human-DAT.SG VAJADZĒT.PRS.3 live-INF RFL-ACC.SG.F
paš-a dzīv-i <...>
 self-GEN.SG life-ACC.SG
 ‘A person should live their own life.’
- b. *Bērn-a vēlm-ēs vajag ie-klausī-tie-s <...>*
 child-GEN.SG wish-LOC.PL VAJADZĒT.PRS.3 PVB-listen-INF-RFL
 ‘It is necessary to listen to a child’s wishes.’

It is also true that not every dative form in the vicinity of the verbs in question should definitely be taken as their subject. Datives may also express purpose. The ambiguity is especially clearly seen with the non-modal *vajadzēt*, as in (10) below, because its subjects can only convey the semantic role of experiencer, which must be human or at least human-like. Anything less anthropomorphic in the position of the subject invokes an alternative reading of the dative as a purpose.

- (10) <...> *suņ-iem vajag daudz mīlestīb-as*
 dog-DAT.PL VAJADZĒT.PRS.3 much love-GEN.SG
un laik-a <...>
 and time-GEN.SG
 1. ‘<...> dogs need much love and time <...>’
 2. ‘<...> one needs (to be able to give) much love and time in order to have dogs <...>’

It is also possible, of course, to have both types of datives in one sentence.

- (11) <...> *tos man vajag kofēr-iem,*
 DEM.ACC. PL.M 1SG.DAT VAJADZĒT.PRS.3 suitcase-DAT.PL
 [*lai drošāk ir tos transportēt.*]

'I need them (pieces of foam rubber – AD) for the suitcases [so that it is safer to transport them.]'

In the current work all ambiguous cases are counted among those having subjects. As shown in Table 1, the percentage of examples with a (phonetically realized) subject is somewhat higher for the non-modal *vajadzēt* than for its modal counterpart. In order to evaluate the statistical significance of results, the χ^2 test is applied in Excel as discussed in Rasinger (2013, 157–160).

Table 1. Overt subjects with *vajadzēt* and the debitive

	vajadzēt				debitive	
	non-modal		modal			
no subject	449	57.64%	1184	64.70%	6434	60.72%
subject	330	42.36%	646	35.30%	4163	39.28%
total	779	100.00%	1830	100.00%	10597	100.00%

Table 1 also presents the results for the debitive, which can be similarly used without a subject.

(12) debitive

a. [Viņa domā, ka]

cilvēk-am jā-dzīvo priecīg-i un kvalitatīv-i,
 human-DAT.SG **DEB-live** joyful-ADV and good.quality-ADV
pašam jā-lemj sav-a dzīv-e <...>
 own-DAT.SG.M **DEB-decide** RFL-NOM.SG.F life-NOM.SG

'[She believes that] a person should live joyfully and with quality, and they themselves should decide on their lives.'

b. *Pēc iespēj-as mazāk jā-ie-klausās*
 after possibility-GEN.SG less **DEB-PVB-listen**

cit-u padom-os.
 other-GEN.PL advice-LOC.PL

'It is necessary to listen to other people's advice as little as possible.'

The frequencies obtained for the two types of sentences with the debitive fall between those found with the modal and the non-modal *vajadzēt*, but in reality there is no statistically significant difference between the debitive and the latter ($p=0.09$ while the p -value for a χ^2 -square test should be less than 0.05). The

interpretation of this fact requires an analysis of examples without a subject but they remain outside the scope of the present article. On the whole, one can conclude that all the three verbs are quite common without a subject, so that any observations about *vajadzēt*, and also the debitive, based on their uses with a subject, is only valid for one third of all their uses.

4. Word classes

In those sentences with *vajadzēt* that do have a (phonetically-realized) subject, the latter is usually represented by either a substantive or a personal pronoun. (I will further refer to these two types of subjects as to ‘nominal’ and ‘pronominal’ ones.) Since there already are some sentences with nominal subjects above, I only provide examples of pronominal subjects in (13).

- (13) a. non-modal *vajadzēt*
Tev vajag iemesl-u atkratī-tie-s
 2SG.DAT VAJADZĒT.PRS.3 reason-ACC.SG rid-INF-RFL
no manis.
 from 1SG.GEN
 ‘You need an excuse in order to get rid of me.’
- b. modal *vajadzēt*
Tev vajag ie-t māj-ā.
 2SG.DAT VAJADZĒT.PRS.3 go-INF house-LOC.SG
 ‘You should go into the house.’

Their exact percentages, however, are very different, and also depend on whether *vajadzēt* is used as a modal verb; see Table 2. The non-modal *vajadzēt* is characterized by a very high share of personal pronouns. The modal counterpart, on the contrary, prefers substantives as its subjects but, simultaneously, it does not show such a large gap between nominal and pronominal subjects.

Table 2. Nominal and pronominal subjects with *vajadzēt* and the debitive

	vajadzēt				debitive	
	non-modal		modal			
SUB	69	20.91%	312	48.30%	2401	57.67%
PERS	216	65.45%	252	39.01%	1257	30.19%
other	45	13.64%	82	12.69%	505	12.13%
total	330	100.00%	646	100.00%	4163	100.00%

The same two classes of subjects can also be established for the debitive; compare (13b) and (14).

- (14) debitive
Tev tagad jā-iet atpūs-tie-s.
 2SG.DAT now **DEB-go** rest-**INF-RFL**
 ‘You should / need to go and rest.’

While also preferring nominal subjects, the debitive is distinct from the modal *vajadzēt* in that it demonstrates a much lower frequency of personal subjects. In fact, it appears like a mirror image of the non-modal *vajadzēt*, with a considerable gap between the two subject types.⁶ Table 2 shows a steady decrease in personal pronouns as it moves from the non-modal *vajadzēt* to the debitive, balanced by an increase in substantives. The modal *vajadzēt* may look like a compromise between the two radical options.

The data merged under the label ‘other’ correspond to demonstrative, definitive, indefinite, interrogative, relative and negative pronouns and comprise 12–13% of data, irrespective of the verb, see (15). I will not pay these any special attention.

- (15) a. *Kam šogad vajag “Eirovīziju”?*
 INT.DAT this.year **VAJADZĒT.PRS.3** Eurovision-ACC.SG
 1. ‘Who needs the Eurovision Song Contest this year?’
 2. ‘What purpose is Eurovision going to serve this year?’
 b. [*Precējos un pat neiedomājos, ka*]
tam taču vaadjē-tu bū-t uz mūž-u.
 DEM.DAT.SG PCL **VAJADZĒT.PRS.3** **be-**INF**** for life-ACC.SG
 ‘[I got married without even thinking that] this should be for life.’
 c. *Atēn-as jā-redz katr-am.*
 Athens-NOM.PL **DEB-see** everybody-DAT.SG.M
 ‘Everybody should visit Athens.’

⁶ From the statistical viewpoint it is interesting that the χ^2 test shows the observed values for the debitive to be very close to the expected ones as distinct both the modal and the non-modal *vajadzēt*.

⁷ The meaning of the interrogative *kam* ‘who, what’ (DAT) here is ambiguous between subject and purpose.

4.1. Participation in speech act

It is evident that pronominal subjects could be further differentiated according to person, as presented in Table 3. Singular and plural pronouns are lumped together.

Table 3. *Pronominal subjects according to person*

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
SUB	69	20.91%	312	48.30%	2401	57.67%
1	124	37.58%	115	17.80%	677	16.26%
2	38	11.52%	60	9.29%	276	6.63%
3	54	16.36%	77	11.92%	304	7.30%
other	45	13.64%	82	12.69%	505	12.13%
total	330	100.00%	646	100.00%	4163	100.00%

Since the 3rd person pronouns refer to those people (and objects) that do not participate in the speech act as either speaker or addressee, it may be of interest to count them together with substantives as the latter do not participate in the speech act either. Frequencies of the 1st and the 2nd person forms are also conflated, as they represent speech-act participants.

Table 4. *Subjects according to person, with nouns and 3rd person pronouns lumped together*

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
SUB+3	123	37.27%	389	60.22%	2705	64.98%
1+2	162	49.09%	175	27.09%	953	22.89%
other	45	13.64%	82	12.69%	505	12.13%
total	330	100.00%	646	100.00%	4163	100.00%

On the first glance, the dynamics between participants and non-participants of the speech act in Table 4 is reminiscent of the pattern demonstrated by pronominal and nominal subjects. The share of speech-act participants is the highest with the non-modal *vajadzēt* and decreases in sentences with the modal counterpart, to reach the lowest point with the debitive. Correspondingly, non-

participants are the least frequent in combination with the non-modal verb but their percentage increases with the modal *vajadzēt* and reaches its maximum in the context of the debitive. However, the important difference between the patterns in Table 2 and Table 4 lies in the fact that it is only the non-modal *vajadzēt* with its preference for speech act participants as subjects that distinctly stands out in Table 4. The distribution of frequencies shown by the modal *vajadzēt* and the debitive is very similar, as they both clearly prefer non-participants as their subjects, the difference being only marginally significant ($p=0.04$).

The disposition towards personal pronouns, shown by the non-modal and, to a lesser degree, the modal variant of *vajadzēt*, may be due to their use in a more informal style (Skujiņa 1999, 64). But the sharp drop in subjects that have speech-act participants as their referents, observed with both the modal *vajadzēt* and the debitive, may be explained by either their shared modal meaning or by the lack of a more specific lexical meaning characteristic for the non-modal *vajadzēt*.

Another issue is a contrast between speaker and addressee. A more fine-grained analysis requires differentiating between singular and plural forms of the 1st person because the 1st person plural is often used to refer to addressee as well as the speaker (inclusive 'we'). At the same time, there is no need to distinguish between singular and plural forms of the 2nd person pronouns, as they all refer to addressee. In Table 5 the 1st person plural is lumped together with all 2nd person pronouns.

Table 5. *Speaker vs other speech-act participants as subjects*

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
1SG	94	58.02%	66	37.71%	377	39.56%
1PL+2	68	41.98%	109	62.29%	576	60.44%
total	162	100.00%	175	100.00%	953	100.00%

Of two speech-act participants, the non-modal *vajadzēt* occurs more frequently with a subject that only has reference to speaker. Its modal counterpart is different in that it prefers subjects that are associated with addressee or addressee and speaker both. In this, the modal *vajadzēt* is almost identical to the debitive.

Curiously, the non-modal *vajadzēt* is not statistically different from the modal counterpart and the debitive if one simply compares the frequencies of all 1st

person pronouns vs all 2nd person pronouns ($p=0.09$). Since the distinction lies with the (potentially) inclusive 2nd person plural, one can make a connection to its hortative uses with the modal *vajadzēt* and the debitive.

- (16) a. [*Toreiz rosināju,*]
ka mums vajadzē-tu izvīrī-t
 COMPL 2PL.DAT VAJADZET-SBJ put.forward-INF
kād-u nacionāl-u idej-u.
 some-ACC.SG.F national-ACC.SG.F idea-ACC.SG
 ‘[At that time I suggested] that we should construct a national idea.’
- b. [*Mēs esam latvieši,*]
un mums ar to jā-lepoja-s.
 and 1PL.DAT WITH DEM.ACC DEB-be.proud
 ‘[We are Latvians,] and we should be proud of it.’

5. Animacy

Another possible classification of subjects involves animacy. Since the personal pronouns, including the 3rd person forms, commonly relate to animate beings,⁸ this classification is only applied to nominal subjects. More precisely, all nominal subjects are divided into animate, inanimate and collective. Beside humans, animate subjects also include animals and supernatural beings. Collective subjects comprise organizations, state structures and states. Areas of specialized skill and knowledge, such as literature or education, are treated as inanimate subjects.

As can be seen from Table 6, the non-modal *vajadzēt* again stands out, as it favours animate subjects over inanimate. The modal *vajadzēt* is also more common with animate subjects but it only shows a narrow difference in the frequencies of animate and inanimate subjects rather than the huge gap found with the non-modal counterpart. Again, the modal *vajadzēt* is very similar to the debitive, their difference being statistically not very significant ($p=0.03$). The frequencies of collective subjects are almost identical in all the three columns.

⁸ In less formal styles the 3rd person pronoun *viņš* ‘he’, *viņa* ‘she’ and the corresponding plural forms can also refer to inanimate objects.

Table 6. Subjects according to animacy

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
ANIM	48	69.57%	135	43.27%	1186	49.40%
INANIM	8	11.59%	111	35.58%	683	28.45%
COLECT	13	18.84%	66	21.15%	532	22.16%
total	69	100.00%	312	100.00%	2401	100.00%

The preference of the non-modal *vajadzēt* towards animate subjects is in accord with its preference towards those subjects that only refer to speaker, as the latter also reflects the animacy hierarchy. The subject of the non-modal *vajadzēt* is typically an experiencer of the ‘need’ encoded in its lexical meaning, and this role is hardly compatible with inanimate nouns. Even in cases when the subject is inanimate, it is conceived as partly anthropomorphic. For instance, saplings in (17) are envisioned as experiencing the need in loose soil so that they can demonstrate another property also shared by animate beings, namely, their ability to grow. The modal *vajadzēt*, as well as the debitive, do not have this restriction as their subjects express semantic subjects of the main verb.

- (17) *Pat maz-iem stād-iem vajag*
 even small-DAT.PL.M sapling-DAT.PL **VAJADZĒT.PRS.3**
irden-u zem-i.
 loose-ACC.SG.F soil-ACC.SG
 ‘Even small saplings need loose soil.’

In the sections to follow I take a closer look at those groups of substantives that occur in both animate and inanimate subjects.

5.1. Animate subjects

The overwhelming majority of animate subjects are human, although a few examples have animals and supernatural beings as their subjects.

- (18) a. <...> *suņ-iem vajag daudz mīlestīb-as*
 dog-DAT.PL **VAJADZĒT.PRS.3** much love-GEN.SG
un laik-a <...>
 and time-GEN.SG

1. ‘<...> dogs need much love and time <...>’
 2. ‘<...> one needs (to be able to give) much love and time in order to have dogs <...>’
- b. *Tur tak vajag cūk-ām bū-t!*
 there PCL VAJADZĒT.3.PRS pig-DAT.PL be-INF
 ‘There must be pigs there!’
- c. *Enģeļ-iem nav sevi jā-uztur.*
 angel-DAT.PL NEG.be.PRS.3 RFL DEB-support
 ‘Angels don’t have to support themselves.’

Human subjects may be viewed as belonging to three or four groups. In the first group they are referred to according to their occupation or the place they live in. In both cases, the characterisation is not permanent and may be changed if a person so wishes.

- (19) a. *Vai ziedotāj-am vajag*
 PCL contributor-DAT.SG VAJADZĒT.PRS.3
novērtējum-u vai vienkārš-i paldies?
 appreciation-ACC.SG PCL simple-ADV thank.you
 ‘Does a contributor need appreciation or just a thankyou?’
- b. *Draudzen-ei vajadzē-tu tav-as*
 female.friend-DAT.SG VAJADZĒT-SBJ your-ACC.PL.F
pūl-es novērtē-t.
 effort-ACC.PL appreciate-INF
 ‘Your (female) friend should appreciate your efforts.’
- c. *Pagaidām smag-ās kast-es jā-nes*
 so.far heavy-ACC.PL.F.DEF box-ACC. PL DEB-carry
šofer-im <...>
 driver-DAT.SG
 ‘So far it is a driver who is expected to carry the heavy boxes <...>’

In the second group human subjects are referred to by their gender, age, family relationships, nationality and religion, that is, by those features that are traditionally viewed as impossible or, at least, very hard to change.

- (20) a. [*Arvien populārāks ir uzskats, ka*
vīriet-im vajag jaun-as izjūt-as.
 man-DAT.SG VAJADZĒT.PRS.3 new-ACC.PL.F sensation-ACC.PL

‘[It is getting more popular to think that] a man needs new sensations.’

- b. *Ik pa laikam vīr-iem vajag*
 from.time.to.time husband-DAT.PL VAJADZĒT.PRS.3
iedzer-t,
get.drunk-INF
 [bet sievām — izstrīdēties.]
 ‘From time to time the husbands need to get drunk, [and the wives to quarrel].’
- c. [Daudzi vīrieši arī mūsdienās uzskata, ka]
sieviet-ei jā-audzina bēr-n-i.
 woman-DAT.SG DEB-nurse child-NOM.PL
 ‘[Even today many men believe that] a woman should nurse children.’

A special case of irreversible characteristics is represented by personal names. I count them as the share of personal names in the text is sensitive to its stylistic properties.

- (21) a. *Gunt-ai vajag tād-u,*
 Gunta-DAT.SG VAJADZĒT.PRS.3 such-ACC.SG
 [kas dara pāri <...>]
 ‘Gunta needs one [who mistreats <...>]’
- b. *Varbūt Laur-ai vajag daudz runāt*
 maybe Laura-DAT.SG VAJADZĒT.PRS.3 much speak-INF
par sevi.
 about RFL.ACC
 ‘It is possible that Laura should / needs to speak a lot about herself.’
- c. *Aij-ai jā-ieklausās sav-ā sirdsbals-ī <...>*
 Aija-DAT.SG DEB-listen RFL-LOC.SG heart.voice-LOC.SG
 ‘Aija should / needs to listen to the voice of her heart <...>.’

One more group can be made of subjects expressed by substantives *cilvēks* ‘human, person’ and *persona* ‘person (in official documents)’. They are synonymous with ‘animate subjects’ in general.

- (22) a. *Cilvēk-am vajag liel-āk-u*
 human-DAT.SG VAJADZĒT.PRS.3 big-COMP-ACC.M.SG

- sod-u* *un* *liel-āk-u* *piedošan-u* <...>
 punishment-ACC.SG and big-COMP-ACC.SG.F forgiveness-ACC.SG
 ‘A human needs a bigger punishment and a bigger forgiveness <...>’
- b. *Tiev-iem* *cilvēk-iem* **vajadzē-tu** **mēģinā-t**
 thin-DAT.PL.M human-DAT.PL **VAJADZĒT-SBJ** **try-INF**
sasnieg-t *normāl-u* *svar-u* <...>
 reach-INF normal-ACC.SG.M weight-ACC.SG
 ‘Thin persons should / would need to try to obtain a normal weight
 <...>’
- c. *Tād-as* *liet-as* **jā-saprot** *jebkur-am*
 such-NOM.PL.F thing-NOM. PL **DEB-understand** any-DAT.SG.M
normāl-am *cilvēk-am.*
 normal-DAT.SG.M human-DAT.SG
 ‘Any normal person should understand such things.’

As one can see from Table 7, the most frequent groups of subjects found with the non-modal *vajadzēt* are those expressing irreversible characteristics, such as family relationship or age, and also personal names, introduced as a separate group. They are followed by substantives meaning ‘person, human’. Reversible characteristics are among the least frequent ones, the only group that has a smaller share of participants being the heterogeneous ‘other’. The modal *vajadzēt*, on the contrary, favours those subjects that are referred to by reversible characteristics, although the percentage of irreversible characteristics is still rather high. The gap between reversible and irreversible characteristics is even larger with the debitive, but the difference between the modal *vajadzēt* and the debitive is only marginally significant ($p=0.02$).

Table 7. Animate nominal subjects according to categorical properties

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
reversible	6	13%	70	52%	732	62%
irreversible	19	40%	33	24%	232	20%
names	12	25%	20	15%	89	8%
human	8	17%	11	8%	122	10%
other	3	6%	1	1%	11	1%
total	48	100%	135	100%	1186	100%

5.2. Inanimate subjects

There are only a few inanimate nouns acting as subjects for the non-modal *vajadzēt*. The reason for their small number is that, as stated above, inanimate nouns are incompatible with the role of an experiencer. Half of them are physical objects, such as plants and body parts. The rest are more abstract nouns that designate emotions, actions and events, and one noun actually means ‘universe’.

- (23) a. [*Krūtīs kā jaudīga turbīna sakustējās bailes.*]
Bail-ēm vajadzēja dzinēj-a.
 fear-DAT.PL VAJADZĒT.PST.3 engine-GEN.SG
 ‘[A fear came into motion in (his) heart like a powerful turbine.]
 The fear needed an engine.’
- b. *Zol-es turnīr-am vajadzēja*
 card.game-GEN.SG tournament-DAT.SG VAJADZĒT.PST.3
skaist-u nosaukum-u <...>
 beautiful-ACC.SG.M name-ACC.SG
 ‘The card-game tournament needed a nice name <...>’
- c. *Ja Visum-am vajag mani*
 if universe-DAT.SG VAJADZĒT.PRS.3 1SG.ACC
 [– *lūdzu, es te esmu*].
 ‘If the universe needs me, [no problems, here I am.]’

With the modal *vajadzēt*, subjects express semantic subjects of the main verb and therefore they are much more numerous and diverse. To an even greater extent this holds for the debitive. Still, the most numerous classes of inanimate objects, namely, physical objects, actions and attributes, correspond to those found with the non-modal *vajadzēt*. (By attributes I mean qualities attributed to objects and persons, including their emotions and attitudes. Actions and events are also united into one class.)

- (24) physical objects
- a. *Matrac-im ne-vajadzē-tu ieliek-tie-s*
 mattress-DAT.SG NEG-VAJADZĒT-SBJ concave-INF-RFL
mazuļ-a svar-a ietekm-ē.
 baby-GEN.SG weight-GEN.SG influence-LOC.SG
 ‘A mattress should not sag under the baby’s weight.’

- b. *Tautastērp-am jā-patīk <...>*
 national.costume-DAT.SG **DEB-be.liked**
 ‘(Your) national costume should be to your liking <...>’

(25) actions and events

- a. <...> *braukšan-ai kanāl-ā vajadzē-tu bū-t*
 navigating-DAT.SG canal-LOC.SG **VAJADZĒT-SBJ** **be-INF**
pa straum-i.
 along current-ACC.SG
 ‘Navigation on the canal should be along the current.’
- b. *Ekonomisk-ai izaugsm-ei jā-notiek*
 economic-DAT.SG.F growth-DAT.SG **DEB-take.place**
vienlaikus ar sociāl-o attīstīb-u.
 simultaneous with social-ACC.SG.F.DEF development-ACC.SG
 ‘Economic growth should take place simultaneously with social changes.’

(26) qualities attributed to objects and persons

- a. *Šād-a līmeņ-a kapacitāt-ei vajadzē-tu*
 such-GEN.SG.M level-GEN.SG capacity-DAT.SG **VAJADZĒT-SBJ**
bū-t pietiekam-ai nākam-ajiem piec-iem
BE-INF enough-DAT.SG.F next-DAT.PL.M.DEF 5-DAT.PL.M
gad-iem <...>
 year-DAT.PL
 ‘This level of capacity (literally: the capacity of such level – AD) should be enough for the next five years <...>’
- b. *Vakuūm-a blīvum-am jā-saglabā sav-a*
 vacuum-GEN.SG density-DAT.SG **DEB-preserve** RFL-NOM.SG.F
funkcionalitāt-e vis-u log-a
 functionality-NOM.SG whole-ACC.SG.M window-GEN.SG
kalpošan-as laik-u <...>
 serving-GEN.SG time-ACC.SG
 ‘The density of vacuum should preserve its functionality for the whole time when the window is used <...>’

(27) emotions and attitudes

- a. *Pa pēd-ām vajadzē-tu nāk-t uzticīb-ai*
 PREP footprint-DAT.PL **VAJADZĒT-SBJ** **come-INF** trust-DAT.SG

un paļāvīb-ai.

and reliance-DAT.SG

‘There should follow trust and reliance.’

- b. *Taču ir jā-būt vēlm-ei un spēj-ai*
 but be.PRS.3 **DEB-be** wish-DAT.SG and ability-DAT.SG
organizē-t sav-u darb-u <...>
 organize-INF RFL-ACC.SG.M work-ACC.SG
 ‘There should be wish and ability to organize one’s work <...>.’

Further I concentrate on those types of inanimate subjects that are only found with the modal *vajadzēt*. All of them are also used with the debitive, but, since the debitive is much more numerous in the Corpus, there are a couple of peripheral types and subtypes that only appear with the debitive. One possible way to classify inanimate subjects is to move from less abstract items to more abstract ones. Together with physical objects, the former include substances and places.

(28) substances

- a. *<...> ūden-im caur vāk-a šķirb-ām*
 water-DAT.SG through cover-GEN.SG hole-DAT.PL
ne-vajadzēja nāk-t.
NEG-VAJADZĒT.PST.3 come-INF
 ‘The water should not have come out through the openings in the cover.’
- b. *Gāzei ir jā-plūst <...>*
 gas-DAT.SG **be.PRS.3 DEB-flow**
 ‘Gas must be supplied <...>’

(29) places

- a. *Virtuv-ei lab-āk vajadzē-tu*
 kitchen-DAT.SG good-COMP.ADV **VAJADZĒT-SBJ**
atras-tie-s pa kreisi no māj-as
be-situated-INF-RFL rightward from house-GEN.SG
ieej-as <...>
 entrance-GEN.SG
 ‘The kitchen should better be situated on the right from the entrance to the house <...>’
- b. *Virtuv-ei jā-atrodas māj-as*
 kitchen-DAT.SG **DEB-be-situated** house-GEN.SG

iekšēj-ā daļ-ā <...>
 inner-LOC.SG part-LOC.SG
 ‘The kitchen should be situated in the inner part of the house <...>’

Several inanimate subjects of the debitive meaning smells and sounds can be grouped together with substances.

(30) sounds

[*Viņš lieliski zina,*
kā jā-skan itāļ-u mūzik-ai,
 how **DEB-sound** Italian-GEN.PL music-DAT.SG
 [*un pārliecināja, ka liepājnieki to var parādīt.*]
 ‘[He is well aware] how Italian should sound, [and he has proved that those from Liepāja are capable of producing it.]’

(31) smells

[*Man radās aizdomas,*
ka arī smarž-ai bija jā-būt vismaz
 COMPL also smell-DAT.SG **be.PST.3** **DEB-be** at.least
tād-ai paš-ai kā cit-os vec-ajos,
 such-DAT.SG.F same-DAT.SG.Fas other-LOC.PL old-LOC.PL.M.DEF
tumš-ajos un mitr-ajos dzīvokl-īš-os <...>
 dark-LOC.PL.M.DEF and damp-LOC.PL.M.DEF flat-DIM-LOC.PL
 ‘[I suspected] that the smell had to be at least the same as in other small flats that are ancient, dark and damp <...>’

At the next level of abstraction there are complicated objects (*daba* ‘nature’, *ganāmpulks* ‘herd’, *teātris* ‘theatre’, *siltumapgāde* ‘heat supply’) that may or may not have a physical dimension and consist of interacting items so that the resulting interaction is much more than the sum of the items. The above-mentioned example where the non-modal *vajadzēt* has a noun meaning ‘universe’ as its subject, is also included in this class, which is referred to as ‘networks’ in Table 8.

(32) complicated objects

a. *Tādējādi vajadzē-tu ievērojam-i saruk-t*
 this.way **VAJADZĒT-SBJ** noticeable-ADV **shrink-INF**
rind-ām uz reģistrācij-u,
 queue-DAT.PL for registration-ACC.SG

[*ko pašlaik veic aviosabiedrību darbinieki.*]

‘This way, there must be a noticeable decrease in queues for registration [that is currently served by the airlines staff.]’

- b. *Tīkl-am ir jā-aptver vis-as*
 network-DAT.SG **be.3.PRS DEB-cover** all-NOM.PL.F
apdzīvot-ās viet-as, ostas,
 inhabited-NOM.SG.F.DEF place-NOM.PL harbour-NOM.PL
robežpunkti utt,
 border.crossing-NOM.PL ETC

[*maksimāli intensificējot visu valsts un pašvaldību iestāžu pieslēgšanu.*]

‘The network should cover all inhabited locations, harbours, border crossings etc. [so that all state and municipal structures are connected where it is possible.]’

Functional parts of complicated objects (*kanāls* ‘channel’, *saskarne* ‘interface’, *pieslēgšanas punkts* ‘connection point’) often can be seen as objects or places that have no physical dimension, so they are called ‘virtual’ in Table 8. This small group is only found with the debitive.

- (33) [*Ja reiz no valsts budžeta finansējam teātrus, operu,*]
tad jā-būt vien-am kanāl-am,
 then **DEB-be** one-DAT.SG.M channel-DAT.SG
 [*kurš nodarbojas arī ar audiovizuālo vērtību saglabāšanu.*]
 ‘[If we fund theatre and opera from the state budget,] then there should be one channel that is responsible for preserving audiovisual treasures.’

Inanimate subjects also convey the above-mentioned actions and events (both referred to in Table 8 as ‘actions’), as well as circumstances. The former have much in common with substantives referring to periods of time when a particular event takes place.

- (34) circumstances
 a. <...> *perspektīv-ā konkurenc-ei vajadzē-tu*
 perspective-LOC.SG competition-DAT.SG **VAJADZĒT-SBJ**
pieaug-t arī perifēriāl-ajos novietojum-os.
increase-INF also peripheral-LOC.PL.M.DEF location-LOC.PL

‘<...> in the future competition should increase in the periphery as well.’

- b. *Problēm-ai bija jā-top atrisinā-t-ai*
 problem-DAT.SG **be.PST.3 DEB-AUX solve-PPP-DAT.SG.F**
uzreiz <...>
 at.once

‘The problem had to be solved at once <...>’

(35) time

a. no examples with non-modal *vajadzēt*

- b. *Mūsaprāt, 23. august-am — Molotov-a-Ribentrop-a*
 our.mind 23th August-DAT.SG Molotov-GEN.SG-Ribbentrop-GEN.SG
pakt-a parakstīšan-as dien-ai — vajadzē-tu
 pact-GEN.SG signing-GEN.SG day-DAT.SG **VAJADZĒT-SBJ**
kļū-t par ES līmeņ-a Eirop-as
become-INF PREP EU level-GEN.SG Europe-GEN.SG
totalitārisma-upur-u piemiņas
 totalitarianism-GEN.SG victim-GEN.PL memory-GEN.SG
dien-u.
 day-ACC.SG

‘We think that August 23, the day when the Molotov-Ribbentrop Pact was signed, should become a memorial day in the EU for the victims of European totalitarianism.’

- c. *Drīz jā-aust rīt-am.*
 soon **DEB-dawn** morning-DAT.SG
 ‘It must be dawning soon.’

A conglomeration of inanimate subjects that are most difficult to classify involves various more or less abstract categories reflecting how humans organize their activities, including cognitive ones, or how they view the structure of reality. The easiest groups to differentiate among them are substantives denoting prices, incomes and payments (see ‘price and pay’ in Table 8), as well as numbers.

(36) prices and payments

- a. <...> *mediķ-u apmaks-ai lauk-os un pilsēt-ās*
 physician-GEN.PL salary-DAT.SG field-LOC.PL and city-LOC.PL
vajadzē-tu atšķir-tie-s <...>
VAJADZĒT-SBJ differ-INF-RFL

‘<...> physicians’ salaries in the country should differ from those in cities <...>’

- b. *Tarif-iem ir jā-spēj nodrošināt*
 fare-DAT.PL **be.PRS.3** **DEB-be.able** provide-INF
infrastruktūr-as uzturēšan-a lab-ā
 infrastructure-GEN.SG maintenance-NOM.SG good-LOC.SG
kārtīb-ā <...>
 order-LOC.SG

‘Fares should be able to ensure that the infrastructure is maintained in good condition <...>’

(37) numbers

- a. [*Kopējo nozīmīšu skaitu grūti pateikt —*]
vajadzē-tu bū-t pāris tūkstoš-iem.
VAJADZĒT-SBJ **be-INF** couple thousand-DAT.PL
 ‘[The general number of badges is hard to establish.] There must be a couple of thousand.’

- b. <...> *mazāk-ajiem jā-būt trim*
 small-COMP-DAT.PL.DEF **DEB-be** three.DAT.PL
ēdināšan-as reiz-ēm,
 catering-GEN.SG time-DAT.PL
 [*bet skola var iedot tikai pusdienas <...>*]
 ‘<...> there must be three meals (a day) for the youngest children [but the school can only give lunch <...>]’

Prices, payments and numbers can be viewed as a special kind of contents associated with a fixed form of presentation. Especially close in meaning to prices and numbers are substantives conveying evaluation score: *vērtējums* ‘evaluation’, *atzīme* ‘score’, *rezultāts* ‘result’. These and other instances of this meaning in inanimate subjects are given under the label ‘document’. Together with *līgums* ‘contract’, *aizliegums* ‘prohibition’, *rīkojums* ‘order’, *budžets* ‘budget’ that pertain to the legal sphere they also include *filma* ‘movie’ and *mākslas darbs* ‘work of art’.

(38) information presented in fixed form

- a. [*Kurts Veils ir viens no tiem komponistiem, kas bijis nepamatoti aizmirsts,*]
bet patiesībā viņ-a kompozīcij-ām vajadzē-tu
 but in.truth 3-GEN.SG.M composition-DAT.PL **VAJADZĒT-SBJ**

- baudi-t* *tikpat* *liel-u* *popularitāt-i* *kā,*
enjoy-INF same big-ACC.SG.F popularity-ACC.SG as
piemēram, Astor-a Pjaccoll-as daiļrad-ei <...>
 for.example Astor-GEN.SG Piazzolla-GEN.SG creative.work-DAT.SG
 ‘[Kurt Weill is one of those composers who are undeservedly forgotten,] although in truth his compositions should be as popular as those by Astor Piazzolla, for example <...>’
- b. *Šā gad-a valst-s budžet-am*
 DEM.GEN.SG year-GEN.SG state-GEN.SG budget-DAT.SG
pēc grozījumu apstiprināšan-as
 after amendment-GEN.PL confirmation-GEN.SG
ir jā-kļūst par efektīv-u
be.PRS.3 DEB-become PREP effective-ACC.SG.M
instrument-u mūsu tautsaimniecīb-as stabilizācij-ā <...>
 instrument-ACC.SG our economy-GEN.SG stabilization-LOC.SG
 ‘After amendments are confirmed, this year’s state budget should become an effective instrument in stabilizing our economy <...>’

The next class appears in Table 8 as ‘idea’ and comprises, for example, such substantives as *jautājums* ‘question, issue’, *iebildums* ‘objection’, *stratēģija* ‘strategy’, *nozīme* ‘meaning’, *risinājums* ‘solution’, *tēls* ‘image’, *mērķis* ‘goal, purpose’, *viedoklis* ‘opinion’ etc. The inanimate subjects in this group have the meaning of structured or unstructured information and are differentiated from the group ‘document’ by the lack of a fixed form in which this information is presented.

- (39) information without fixed form of presentation
- a. [*Pirmkārt,*]
alg-as jautājum-am vajadzē-tu bū-t
 salary-GEN.SG issue-DAT.SG **VAJADZĒT-SBJ** **be-INF**
konfidentiāl-am <...>
 confidential-DAT.SG
 ‘[Firstly,] the issue of salary should be confidential <...>’
- b. *Iebildum-iem gan jā-būt pamatot-iem.*
 objection-DAT.PL PCL **DEB-be** well.founded-DAT.PL.M
 ‘Objections, on the other hand, should be well-founded.’

The group labelled ‘symbol’, on the contrary, refers to substantives that mean any kind of visual marks, both natural and artificial, verbal and non-verbal, that are perceived as carrying information, for example, *robežzīme* ‘landmark’, *norāde* ‘indication’, also used metaphorically as in *akcents* ‘emphasis’. The subjects in this group are only found with the debitive.

(40) symbols

Preč-u *zīm-ei* ***jā-būt*** *atšķirīg-ai*
 goods-GEN.PL mark-DAT.SG **DEB-be** different-DAT.SG.F
no *vis-ām* *cit-ām* *zīm-ēm <...>*
 from all-DAT.PL.F other-DAT.PL.F mark-DAT.PL
 ‘A trademark should be different from any other symbols <...>’

It can be concluded that, being semantic subjects of the main verb, inanimate subjects of the modal *vajadzēt* have a diversity of meanings, some of them very abstract. A very similar set of meanings is also characteristic for inanimate subjects of the debitive. In fact, there is no statistically significant difference between the frequencies obtained for the two modals ($p=0.09$).

Table 8. Inanimate nominal subjects according to categorical properties

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
object	4	50%	24	22%	116	17%
action	2	25%	17	16%	89	13%
attribute	1	13%	14	13%	93	14%
place			10	9%	38	6%
circumstances			9	8%	43	6%
idea			7	6%	84	12%
price and pay			7	6%	31	5%
substance			7	6%	29	4%
network	1	13%	5	5%	49	7%
document			4	4%	66	10%
number			3	3%	4	1%
time			2	2%	6	1%
symbol					26	4%
virtual					4	1%
total	8	100%	109	100%	678	100%

6. Information structure

Apart from the division into nominal and pronominal, subjects can also be arranged according to their position in a sentence before or after *vajadzēt*; see the example with the non-modal *vajadzēt* below where preposed and postposed subjects are combined within one sentence. The difference between preposed and postposed uses clearly reflects the contrast between given and new information.

- (41) [*Es pats saņemu naudu un pēc tam iedodu tik,*]
cik man vajag par telp-ām
 how.much 1SG.DAT **VAJADZĒT.PRS.3** for room-DAT.PL
un cik vajag man-am menedžer-im.
 and how.much **VAJADZĒT.PRS.3** my-DAT.SG.M manager-DAT.SG
 ‘[I receive the money myself and then give] the amount that I need in order to pay for the office and the amount that my manager needs.’

As Table 9 shows, preposed subjects are clearly predominant with the non-modal *vajadzēt*. The modal counterpart, while following the same pattern, shows a statistically significant increase in preference towards postposed subjects ($p=0.002$). As usual, the comparison between the modal *vajadzēt* and the debitive shows a further increase in the share of postposed subjects with the latter, although the significance of the results is marginal ($p=0.02$).

Table 9. Subjects according to their place in information structure

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
PRE	319	96.67%	591	91.49%	3674	88.25%
POST	11	3.33%	55	8.51%	489	11.75%
total	330	100.00%	646	100.00%	4163	100.00%

More precise results can be obtained if one distinguishes between nominal and pronominal subjects. Table 10 provides frequencies of different subject types as they are used prepositively vs postpositively with each of the three expressions. The only subject type showing significant difference among the latter are substantives ($p=0.008$), while personal pronouns and the group labelled ‘other’ (actually comprising other classes of pronouns) have the same

proportion of prepositive vs postpositive uses in all the three cases. In other words, the increase in postpositive uses shown by the modals in Table 9 is due to the increase in postposed substantives which the non-modal *vajadzēt* lacks.

Table 10. Preposed and postposed subjects: nouns and pronouns

	<i>vajadzēt</i>				debitive	
	non-modal		modal			
	substantives					
PRE	65	94.20%	266	85.26%	1955	81.42%
POST	4	5.80%	46	14.74%	446	18.58%
total	69	100.00%	312	100.00%	2401	100.00%
	personal pronouns					
PRE	211	97.69%	246	97.62%	1244	98.97%
POST	5	2.31%	6	2.38%	13	1.03%
total	216	100.00%	252	100.00%	1257	100.00%
	other subjects					
PRE	43	95.56%	79	96.34%	475	94.06%
POST	2	4.44%	3	3.66%	30	5.94%
total	45	100.00%	82	100.00%	505	100.00%

A closer look at nominal subjects is presented in Table 11, in which they are further divided according to animacy. Since the non-modal *vajadzēt* has only a small number of postpositively-used substantives, Table 11 does not take them into account.

Table 11. Preposed and postposed subjects: nouns

	modal <i>vajadzēt</i>		debitive	
	animate			
PRE	130	96.30%	1038	87.52%
POST	5	3.70%	148	12.48%
total	135	100.00%	1186	100.00%
	inanimate			
PRE	73	65.77%	460	67.35%
POST	38	34.23%	223	32.65%
total	111	100.00%	683	100.00%

	COLLECT			
PRE	63	95.45%	457	85.90%
POST	3	4.55%	75	14.10%
total	66	100.00%	532	100.00%

Inanimate subjects are relatively frequent postpositively, the difference between the modal *vajadzēt* and the debitive being statistically non-significant. Animate and collective subjects are characterized by a sharp drop in frequency when used in postposition, but this general tendency manifests itself differently with each of the two modals. (The difference is significant for animate subjects but only marginally significant for collective subjects, the corresponding values being $p=0.003$ and $p=0.03$.) In the context of the modal *vajadzēt* the share of postposed animate and collective subjects is so low that it reminds us of the percentages shown for substantives in general as they are used with the non-modal *vajadzēt*. In sentences with the debitive, postposed animate and collective subjects, although less frequent than inanimate ones, are still quite common in comparison to the frequencies obtained for the modal *vajadzēt*. To put it otherwise, the modal *vajadzēt* differs from the non-modal counterpart in that it allows for postposed nominal subjects, but only as far as they are inanimate. The restriction on postpositively-used animate and collective subjects unites the modal *vajadzēt* with its non-modal counterpart but sets them both apart from the debitive. From here one may want to seek for other distinctions between the two modals associated with their modal meanings.

7. Subjects in modal expressions

The current section concentrates on the influence that the subject type can have on the type of modal meaning expressed by the modal *vajadzēt* and the debitive. There is more than one way to split the general meaning of necessity into less abstract ones. One popular solution is to differentiate between epistemic and non-epistemic modality, the latter being further divided into deontic and dynamic. This classification, based on Palmer (1986, 2001), is applied to Latvian in Holvoet (2001, 2007).

While distinguishing between epistemic and non-epistemic necessity is relatively clear, the same cannot be said of deontic vs dynamic modality. The problem is not transitional cases but rather the absence of well-established tests that would help to define a real-life sentence as deontic or dynamic. The current ap-

proach, also applied in Daugavet (2017), is based on the observation in Holvoet (2007, 20) that “<r>epresenting the necessity as dynamic involves the pretense that the subject’s free will was cancelled <...>”.⁹ In other words, the subject of a deontic 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 expression, on the contrary, is a statement depicting the only possible way to act in a particular situation or the only possible reaction. Therefore distinguishing between deontic and dynamic necessity is done with respect to the communicative purpose of the sentence. Suggestions, demands, advice, instructions, rules, and formulations of social norms are identified as conveying deontic modality. In the past tense, deontic necessity is associated with counterfactuality, so that it is common for deontic sentences to express criticism in the terms of ‘what should have been done’, see Holvoet (2007, 166–167).

The traditional view going back to Endzelīns (1951, 972) associates *vajadzēt* with deontic and the debitive with dynamic modality, although the reality is known to be more complicated — see Holvoet (2001, 2007) and Kalnača (2013), Kalnača & Lokmane (2014). In Daugavet (2017) the predisposition of *vajadzēt* and the debitive towards a particular meaning is only revealed for uses with negation where differentiation arises due to the different scope of negation, see Holvoet (2007, 144).

In order to analyze the connection between subject types and the type of modal meaning, each sentence with a modal *vajadzēt* or a debitive containing a subject in the dative was marked as belonging to one of the three classes: deontic, dynamic, and epistemic. Sentences ambiguous between deontic and dynamic were counted together with deontic ones. Similarly, those examples that are transitional between epistemic and root modality were counted together with epistemic examples. In turn, subjects were divided in accordance with the principles discussed in previous sections, that is, participation in the speech act, animacy, and position in the sentence. Since the share of collective subjects with the modal *vajadzēt* and the debitive is similar and the frequencies of prepositive vs postpositive uses reflect those obtained for animate subjects, sentences with collective subjects were, for the sake of time and effort, not taken into account.

⁹ See the distinction made by Narrog (2012, 47) between volitive and non-volitive modality, where the former includes deontic and the latter dynamic modality, with the same reference to Jespersen (1924) as in Holvoet (2007).

Table 12. Uses of *vajadzēt* and the debitive according to type of modality

	modal <i>vajadzēt</i>		debitive	
	DEONT+DEONT/DYN	282	56.63%	1906
DYN	152	30.52%	1141	36.50%
EPIST+DYN/EPIST+DEONT/EPIST	64	12.85%	79	2.53%
total	498	100.00%	3126	100.00%

The overall shares of deontic, dynamic, and epistemic uses presented in Table 12 show that the difference between the modal *vajadzēt* and the debitive lies in the field of the epistemic meaning, the modal *vajadzēt* having a much higher percentage of epistemic uses. Without epistemic examples the distribution of frequencies between the deontic and the dynamic meaning becomes the same for both modals. The following subsections concentrate on how this general pattern changes in accordance with the subject type.

7.1. Participation in speech act

With respect to their participation in the speech act, all subjects were divided into three categories, see Section 4. The speaker was taken to be represented by the 1st person singular forms of personal pronouns. The 1st person plural forms, as potentially referring to the addressee, were grouped together with the 2nd person pronouns, both singular and plural. The 3rd person pronouns were counted together with substantives (with the exception of collective nouns).

Table 13. Uses of *vajadzēt* and the debitive according to type of modality and participation in speech act

	modal <i>vajadzēt</i>		debitive	
	1SG			
DEONT+DEONT/DYN	29	43.94%	118	31.30%
DYN	37	56.06%	257	68.17%
EPIST+DYN/EPIST+DEONT/EPIST	0	0.00%	2	0.53%
total	66	100.00%	377	100.00%
1PL+2				
DEONT+DEONT/DYN	73	66.97%	329	57.12%
DYN	30	27.52%	242	42.01%

EPIST+DYN/EPIST+DEONT/EPIST total	6 109	5.50% 100.00%	5 576	0.87% 100.00%
	3+sub			
DEONT+DEONT/DYN	180	55.73%	1459	67.14%
DYN	85	26.32%	642	29.54%
EPIST+DYN/EPIST+DEONT/EPIST total	58 323	17.96% 100.00%	72 2173	3.31% 100.00%

Irrespective of the verb, Table 13 shows dynamic modality to be more frequent in sentences where the subject is the speaker, and deontic modality in those sentences where the subject is either the addressee or does not participate in the speech act. This is only to be expected, as the speaker would naturally be more inclined to express their own needs and circumstances and to ascribe obligations to others, be they the addressee or non-participants of the speech act. It also comes as no surprise that speakers are not likely to make predictions about themselves, hence the lack of epistemic meaning with the 1st person pronouns.

In spite of these common tendencies, the relative frequencies of deontic, dynamic and epistemic uses with respect to the subject type are peculiar to each of the two modals. The verb *vajadzēt* has a higher share of epistemic uses with both the addressee and non-participants of the speech act. (At least with non-participants, the difference seems to be at the expense of deontic examples.) Additionally, the debitive is characterised by a lesser gap between the percentages of deontic vs dynamic uses with the addressee. The 1st person singular forms an exception, however, as the difference in the proportion of dynamic and deontic uses between the modal *vajadzēt* and the debitive is not significant statistically ($p=0.12$).

The fact that the debitive is less uncommon in those dynamic sentences that have the addressee as their subjects may be the reality behind the classical examples containing the 2nd person forms in Endzelīns (1951, 972), see also Holvoet (2001, 28–29 and 2007, 163), where the meaning of the debitive form can be understood as dynamic, and the meaning of the modal *vajadzēt* as deontic.

(42) a. deontic *vajadzēt*

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.’

b. dynamic debitive

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.’

The tendency of the modal *vajadzēt* to be more widely used in the epistemic meaning with subjects other than the speaker will be further discussed in the next two subsections.

7.2. Animacy

The division according to animacy only concerns substantives. With animate subjects the relative frequencies of deontic, dynamic, and epistemic uses of the modal *vajadzēt* vs the debitive are very similar, especially those of dynamic uses, see Table 14. The χ^2 test actually shows the frequencies of dynamic uses to be almost equal to the expected values. The test, however, confirms the difference between the two columns to be significant. The larger share of epistemic examples with the modal *vajadzēt*, again, seems to be at the expense of sentences with deontic meaning as the latter are somewhat more frequent with the debitive. With inanimate subjects this tendency is intensified, as the almost-30-percentage-point difference between the modal *vajadzēt* and the debitive is in favour of the latter when one looks at deontic uses, but it comes to be in favour of the verb *vajadzēt* with respect to epistemic uses.

Table 14. Uses of *vajadzēt* and the debitive according to type of modality and animacy

	modal <i>vajadzēt</i>		debitive	
	animate			
DEONT+DEONT/DYN	84	62.22%	788	66.44%
DYN	45	33.33%	386	32.55%
EPIST+DYN/EPIST+DEONT/EPIST	6	4.44%	12	1.01%
total	135	100.00%	1186	100.00%
inanimate				
DEONT+DEONT/DYN	57	51.35%	545	79.80%
DYN	13	11.71%	87	12.74%
EPIST+DYN/EPIST+DEONT/EPIST	41	36.94%	51	7.47%
total	111	100.00%	683	100.00%

The higher share of epistemic uses with inanimate subjects can be explained by suggesting that what is ascribed to human or other animate beings as obligation or need, is viewed as probability when speaking about inanimate objects and abstract properties. This tendency is found with both modals and thus appears independent of the fact that the modal *vajadzēt* favours epistemic meaning more than the debitive does.

7.3. Information structure

Since, on the one hand, it is only nominal subjects that have a relatively large share of postpositive uses, and, on the other hand, sentences with collective nominal subjects were not marked according to their modal meaning, the division between sentences with preposed vs postposed subjects is only applied to animate and inanimate nominal subjects, as in the previous section. They are given without differentiation in Table 15.

Table 15. Uses of *vajadzēt* and the debitive according to type of modality and information structure

	modal <i>vajadzēt</i>		debitive	
	prepositive uses			
DEONT+DEONT/DYN	127	62.56%	1065	71.09%
DYN	53	26.11%	401	26.77%
EPIST+DYN/EPIST+DEONT/EPIST	23	11.33%	32	2.14%
total	203	100.00%	1498	100.00%
	postpositive uses			
DEONT+DEONT/DYN	14	32.56%	268	72.24%
DYN	5	11.63%	72	19.41%
EPIST+DYN/EPIST+DEONT/EPIST	24	55.81%	31	8.36%
total	43	100.00%	371	100.00%

Not dissimilar to animacy, the position of a subject before or after the modal verb correlates with the increase of epistemic uses in both modal constructions, although the tendency is more clearly observed with the modal *vajadzēt*. Due to the sheer number of epistemic examples found with the latter, the share of epistemic uses reaches 55% of all sentences where the subject is in postposition to the modal *vajadzēt*.

The link between epistemic meaning and the position of subjects after the verb must be the information structure. Since postposed subjects usually present new information, they are used to introduce an essential feature of a new situation that the speaker feels is certain to happen.

- (43) a. *Te vajadzē-tu bŭ-t vairāk-ām pudel-ēm,*
 here VAJADZĒT-SBJ be-INF several-DAT.PL.F bottle-DAT.PL
 [– *sacīja cits.*]
 ‘There must be several bottles here [, said the other person.]’
- b. *Tāpat ir jā-uzlabojas iedzīvotāj-u*
 also be.PRS.3 DEB-improve inhabitant-GEN.PL
dzīv-es līmen-im <...>
 life-GEN.SG level-DAT.SG
 ‘There must also be an increase in the living standards of the population <...>’

8. Conclusion

The modal variant of *vajadzēt* is similar to the debitive in that the majority of their dative subjects are non-participants of the speech act, mostly represented by substantives which can be not only animate but also inanimate. The latter include not only physical objects, actions, events, and qualities attributed to objects and persons, but also more abstract items pertaining to organization of reality and structuring of information, for example, payments and symbols.

Both modals differ from the non-modal *vajadzēt* which is mostly used with pronouns, especially those referring to the speaker. The overwhelming majority of substantives used with the non-modal *vajadzēt* are animate and make reference to such irreversible characteristics of humans as family relationship, age, and name. For comparison, animate subjects found with the modal *vajadzēt* and the debitive most frequently refer to humans according to their occupation or the place they live in.

In the classification that is based on the position of the subject in a sentence the modal *vajadzēt* is placed between the non-modal *vajadzēt* and the debitive. While the modal *vajadzēt* has the same relative frequency of postposed inanimate subjects as the debitive does, the very low share of animate subjects in postposition unites the modal *vajadzēt* with the non-modal counterpart which is only rarely found with postposed subjects, either animate or inanimate.

The influence of the subject type on the type of modal meaning manifests itself identically with the modal *vajadzēt* and the debitive. Sentences that have the speaker as their subjects are more likely to receive dynamic meaning, as it is natural for speakers to describe their own needs and circumstances. If the subject corresponds to the addressee or non-participants of the speech act, the most frequent is a deontic interpretation. The difference between the two modals still expresses itself in the fact that the share of dynamic uses is relatively high in those uses of the debitive where the subject refers to the addressee. This observation is in accordance with the traditional view associating the debitive with dynamic modality, especially as it is usually illustrated with examples containing the 2nd person pronouns.

Epistemic meaning is more frequently found with inanimate subjects than with the animate ones, and with subjects that are used postpositively than with those that are used prepositively. However, the high relative frequency of epistemic uses which distinguishes the modal *vajadzēt* from the debitive appears to be independent of the subject type.

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ABBREVIATIONS

1 – 1st person, 2 – 2nd person, 3 – 3d person, ADV – adverb, ANIM – animate, ACC – accusative, AUX – auxiliary, COLLECT – collective, COMP – comparative, COMPL – complementizer, DAT – dative, DEB – debitive, DEF – definite, DEM – demonstrative, DEONT – deontic, DIM – diminutive, DYN – dynamic, EPIS – epistemic, F – feminine, FUT – future, GEN – genitive, INANIM – inanimate, INF – infinitive, INT – interrogative, LOC – locative, M – masculine, NEG – negation, NOM – nominative, PCL – particle, PL – plural, PERS – personal pronoun, PRE – preposed, POST – postposed, PPP – past passive participle, PRS – present, PST – past, PVB – preverb, RFL – reflexive, SBJ – subjunctive, SG – singular, SUB – substantive

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