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## Future time reference in the Finnic languages: LEE(NE)- verbs<sup>1</sup>

The Finnic languages are often presented as an example of languages that use the present tense for expressing the future. As generalizations about future time reference in the Finnic languages have usually been made on the basis of Finnish and Estonian, this study concentrates on the other Finnic languages/language varieties, mainly on Livonian, Tver Karelian, Veps, and Votic. It examines the verbs that have grammaticalized into future-marking devices at least to some extent. The main focus is on the verbs that are traced back to the Proto-Finnic root *\*lē-* but that have their origin in Proto-Finno-Ugric. As these verbs have been primarily associated with futurate and modal meanings both in the Finnic as well as in other Finno-Ugric languages, they deserve a closer attention. The aim of this study is to see to what extent these verbs function as future-marking devices and what is their distribution in relation to other verbs that can be regarded as possible future-marking devices. The source material has been obtained from text collections, newspapers, language corpora and fieldwork data.

### 1. Introduction

Generally, the Finnic languages are considered to be an example of languages in which future time reference (FTR) is not grammaticalized, or is only grammaticalized weakly. Dahl (2000a) subsumes Finnish and Estonian under the “futureless” area of Northern Europe, as sentences that make a prediction about the future state of affairs typically use the present tense (see also Comrie 1993). For instance, Estonian *Homme ta on kodus* ‘Tomorrow s/he will be at home’ literally translates as ‘Tomorrow s/he **is** at home’. When the present tense is used, the interpretation of future arises from a broader context; adverbials and perfective markers help place the situation in the future (EKG I; ISK 2004). Although periphrastic devices for the expression of FTR can be found in both languages, Estonian and Finnish are considered somewhat extreme examples of future-marking as there does not seem to be any systematic marking of FTR (Dahl 1985). Indeed, both languages contain verbs that have developed additional uses (e.g. Estonian *saada* ‘get, become’; Finnish *tulla* ‘come, become’) and even function as future auxiliaries, but their use is not obligatory (Metslang 1994; ISK 2004). Furthermore, although Estonian *saada* as well as Finnish *tulla* may have had solid grounds for the development into a FTR device, both are said to exhibit foreign influence (see e.g. Tragel & Habicht 2012: 1401; Saukkonen 1965: 151)

Most studies, when discussing FTR in the Finnic languages, base their results on Finnish and Estonian. This article focuses on the following Finnic languages/

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language varieties: Ingrian, Livonian<sup>2</sup>, Central Ludic, Northern Karelian, Olonets Karelian, Tver Karelian, Veps, and Votic. Although there are a few studies that view FTR in different Finnic languages quite thoroughly (e.g. Györke 1936; Mägiste 1936; Saukkonen 1965), there is a need to reconsider this topic by using contemporary research methods in linguistics and to also include recently collected linguistic material. It will be shown that the marking of FTR is more systematic in the abovementioned Finnic languages than in Finnish or Estonian. For example, Livonian requires an obligatory future copula<sup>3</sup> that has developed from the Proto-Finnic *\*lē-* (what is synchronically a present copula goes back to Proto-Finnic *\*ole-*). The Estonian sentence presented above translates into Livonian as *Mūpō ta līb (< \*lē-) kuo'nnō* not *\*Mūpō ta u'm (< \*ole-) kuo'nnō*.

In northern and eastern Finnic languages, the *\*lē-* root is commonly followed by the suffix *-NE-*, which is associated with the potential mood. As a result, *\*lēne-* is regarded as a potential root (Saukkonen 1965: 174). The potential mood is a verbal category that in the case of the Finnic languages is most characteristic to Finnish and Karelian (Laanest 1975: 155). The potentiality interpretation can be subsumed under epistemic modality (see e.g. ISK 2004), or under the epistemic possibility in terms of van der Auwera and Plungian's (1998) *Modality's semantic map* (see more in Section 2.2).

The Finnic potential suffix *-NE-* is traced back to Proto-Finno-Ugric (PFU). It is associated more or less with the same functions as Hungarian and Mansi suffixes nowadays (they function as conditionals that express hypothetical situations) (Hakulinen 2000: 245; see also Forsberg 1998: 353–354). Hakulinen (2000: 245) regards it as a verbal suffix that originally functioned as a frequentative or a continuative suffix. In the Finnic languages, there is another *-NE-* suffix which derives verbs from adjectives; usually such verbs express change (Laakso 1990: 12). This suffix is also thought to go back to PFU. Laakso (1990: 131) claims that probably the two *-NE-* suffixes cannot be connected, or the connection is very deep-rooted.

In different Finnic languages, the verbs that can be associated with the root *\*lē(ne)-* (hereinafter referred to as LEE(NE)- verbs) occur as simple predicates or

2. In this article, Livonian stands for Courland Livonian. Whenever the two varieties of Livonian – Courland Livonian and Salaca Livonian – are considered separately, it is specified.

3. Usually, the term *copula* is used for linguistic elements that are semantically empty and occur with certain lexemes functioning as a predicate nucleus (e.g. Pustet 2003: 5). The verb 'be' is an example of a copular verb (see Payne 1997: 115). Copulas can be regarded separately from semi-copulas (or quasi-copulas) and auxiliaries, as both add meaning to the predicate phrases in which they occur. In such cases, the label *auxiliary* is used for linguistic items which code grammatical categories, whereas the label *semi-copula* is used for elements which convey meanings of a more lexical nature, e.g. English examples for semi-copulas include *become*, *remain* etc. (Pustet 2003: 5–6). For comparison, Geist and Rothstein (2007: 1) use the term *copula* for German *sein* 'be' as well as for *werden* 'become, will be', *bleiben* 'remain'. In this article, *copula* is used as a cover term for copulas and semi-copulas; occasionally, distinction is made between them. Auxiliaries are considered separately from copulas.

auxiliaries in various auxiliary constructions<sup>4</sup>, but they form also complex indefinite pronouns. Again, the Finnic languages other than Estonian and Finnish serve as a better source for studying these verbs as LEE(NE)- appears mainly in one type of auxiliary constructions in standard Finnish, and in standard Estonian, LEE(NE)- does not occur at all (neither as a simple predicate nor as an auxiliary).

The main objectives of this article are as follows: 1) to see to what extent LEE(NE)- verbs have been grammaticalized as FTR devices in different Finnic languages, and 2) to discuss the distribution of LEE(NE)- verbs in relation to other possible FTR devices in the Finnic languages. Finally it will become apparent that if to consider FTR also in other Finnic languages besides Estonian and Finnish, the “futureless” area of Northern Europe is not as “futureless” as often assumed.

This article proceeds as follows. Section 2 introduces the materials and methods used in this study and Section 3 presents an overview of the etymology and previous treatments of LEE(NE)- verbs. Section 4 views the functions and meanings of LEE(NE)- verbs in languages in which LEE(NE)- is used as a main device for expressing FTR and Section 5 discusses LEE(NE)- as a marginal FTR device. Section 6 compares LEE(NE)- with other (FTR) devices.

## 2. Materials and methods

### 2.1. Data collection

In order to give a more elaborate account of the expression of FTR in different Finnic languages with the main focus on LEE(NE)- verbs and Finnic languages other than Estonian and Finnish, I collected data from eight languages / language varieties of the Finnic group: Northern Karelian, Olonets Karelian, Central Ludic, Veps, Tver Karelian, Ingrian, Votic, and Livonian (see Table 1). In the data set, Central Ludic and Tver Karelian are represented because I have been doing fieldwork there (2009 on Tver Karelian, 2012 on Central Ludic). Although the data set does not contain either Estonian or Finnish examples, they have been included in the study on the basis of previous research concerning FTR in these languages (e.g. Metslang 1994; Metslang 2006; Saukkonen 1965; ISK 2004).

Collecting the data involved two phases:

1. The **first task** was to determine in which languages LEE(NE)- verbs occur most frequently when compared to other possible FTR devices. For this purpose, I extracted all the sentences containing LEE(NE)- verbs; whenever any other verb seemed to be

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4. The term *auxiliary* is applied to items that code grammatical categories, e.g. Heine (1993: 35) associates auxiliaries mainly with tense, aspect and modality. *Auxiliary* is an item on the lexical verb–functional affix continuum, which is at least somewhat semantically bleached (Anderson 2009: 4–5). The label *auxiliary construction* is used for cases when an auxiliary verb is combined with a lexical verb to form a construction with at least some degree of (lexical) semantic bleaching, and appears in some more or less definable grammatical function (cf. Andersen *ibid.*).

a candidate for a FTR device, the sentences containing the corresponding verb were extracted as well. The idea of including other verbs besides LEE(NE)- verbs was driven by Bybee et al. (1994: 243–244) who claim that it is not uncommon for a language to have more than one FTR device – each device has its own specialized use. On choosing the “other verbs” I relied on the previous accounts, e.g. Metslang (1996) who gives an overview of Finno-Ugric FTR devices. At the same time, I drew on my own data. The verbs that were finally included in the first phase of the study are presented in Table 1. As shown, these “other verbs” are commonly the ‘begin’ verbs (or an inchoative suffix in the case of Veps). Table 1 also shows areal similarities, cf. Finnish and Northern Karelian; Olonets Karelian and Central Ludic; Estonian and Livonian.

SOURCE LANGUAGE	‘come’	‘become, get’	‘begin’	LEE(NE)-	‘be born’	Material	Occ.-s of LEE(NE)-
Std. Finnish	<i>tulla</i>		<i>ruveta</i>	<i>lienee</i>		6	6
Northern Karelian	<i>tulla</i>		<i>ruveta</i>	<i>lie(nöy)</i>		N, T	37/250
Olonets Karelian			<i>ruveta</i>	<i>lie(nöy)</i>	<i>rotie(kseh)</i>	N, T	15/250
Central Ludic			<i>rubeta/ zavodida</i>	<i>liettä</i>	<i>rodizetta</i>	F, T	19/250
Veps			<i>-škande</i>	<i>lindä</i>		N, T	120/250
Tver Karelian			<i>ruveta</i>	<i>lie(nöy)</i>		F, T	152/250
Ingrian			<i>noissa</i>	<i>leenöö</i>		7	7
Votic			<i>nõisa</i>	<i>leevvä</i>		C, T	98/250
Std. Estonian		<i>saada</i>	<i>hakata</i>	<sup>5</sup>		6	6
Livonian		<i>sõdõ</i>	<i>irgõ/ akkõ</i>	<i>līdõ</i>		T	126/250

Table 1. Data set for the first phase of the study.

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5. In standard Estonian, *leeda* is not used.
  6. Not included in the data set; involved in the study on the basis of previous research findings.
  7. Included in the data set on the basis of dictionary and grammar examples.

Compiling the data set was partly manual, partly mechanic. I used text collections (T), fieldwork data (F), online newspapers (N), and language corpora (C) (cf. Table 3 that includes a more thorough overview of sources). My intent was to include 250 example sentences from every language/language variety; as such, I extracted every single sentence until I reached 250. The starting point was chosen randomly.

Text collections were used as a primary source. They contain transcribed oral texts which include narrations about everyday life, fairytales etc. (the corpus material of Votic also represents these kinds of texts). In the case of Northern Karelian, Olonets Karelian, and Veps, half of the data originates from newspapers, half from textbooks. Central Ladic examples mainly come from fieldwork data, as there are not many texts available in this language variety. The Tver Karelian examples primarily involve sentences taken from text collections, although fieldwork data is included for comparison.

2. Considering the occurrences of LEE(NE)- in Table 1, the languages were divided into two groups:

- a) LEE(NE)- as a main FTR device (Livonian, Tver Karelian, Veps, and Votic);
- b) LEE(NE)- as a marginal FTR device (Estonian, Finnish, Northern Karelian, Olonets Karelian, and Central Ladic).  
(As the Ingrian data consists only of dictionary and grammar examples, Ingrian is included in neither of the groups.)

The **second phase** of the study involved collecting additional examples of LEE(NE)-forms from languages in which LEE(NE)- occurs most frequently. When it was possible to decide without a broader context which meaning element arises, the dictionary and grammar examples were included as well. Table 2 represents the final data set for the four languages in which LEE(NE)- occurs as the main FTR device. It distinguishes between LEE(NE)- as a simple predicate, LEE(NE)- as an auxiliary, and LEE(NE)- in complex indefinite pronouns.

OCCURRENCES LANGUAGE	LEE(NE)- as a simple pred.	LEE(NE)- as an auxiliary	LEE(NE)- in compl. indef. pron.-s	Total
Livonian	125	26	–	151
Tver Karelian	143	13	3	159
Veps	106	12	2	120
Votic	79	11	15	105

Table 2. Instances of LEE(NE)- in the final data set.

## 2.2. Analyzing the data

For the purposes of the present study, I tagged all the examples in the data set (represented in Tables 1 and 2).

- First, I made a distinction between simple predicates, auxiliary constructions, and complex indefinite pronouns.
- In the case of simple predicates, I determined the clause type relying on Payne (1997) and Erelt (2005). A further task was to see in which form (present or past) the verb occurs and which time reference it will get (future, present or past).
- In the case of auxiliary constructions, I determined the underlying constructions and the meaning elements (modal, aspectual or temporal) that can be associated with these constructions; the further task was again to see which time reference (present, past or future) they will get.

The discussion of FTR and future-marking devices in this article primarily proceeds from works by Dahl (1985; 2000a); when considering the grammaticalization of FTR devices, it mainly relies on Bybee et al. (1994) and Heine and Kuteva (2002).

It has been argued that one of the major issues in studies that deal with FTR is the distribution of temporal, modal, and aspectual meaning elements in FTR devices, and whether to consider FTR devices under tense, modality or aspect (Dahl 2000a: 313). Regarding this, the present article attempts to determine the distribution of these meaning elements when the Finnic LEE(NE)- is used as a simple predicate and as an auxiliary. For these purposes, notions such as tense, aspect, modality and mood are considered as ways of characterizing the semantic content of FTR devices, or domains from which their meanings are chosen: tense is associated with temporal, aspect with aspectual, and modality and mood with modal meanings (cf. Dahl 2000a). The main objective is to discuss to what extent LEE(NE)- verbs function as FTR devices conveying temporal meaning.

In connection with future, Dahl (2000a) distinguishes between intention-based and prediction-based sentences. The former have to do with intentions that are under the control of the human subject, see example (1). The latter, on the other hand, remain out of the control of the human subject, at least out of the control of the speaker, see example (2). Instances such as (2) serve as examples of sentences in which the temporal interpretation is the strongest, as, above all, they say something about the future state of affairs, leaving modal meanings (desire, will etc.) and aspectual meanings in the background. According to Dahl (2000a: 310), a language is considered to have a grammaticalized FTR device if the FTR is overtly and obligatorily marked in prediction-based sentences. PREDICTION<sup>8</sup> is usually seen as a subsequent stage for INTENTION, namely the case of attributing intention to a third person can, in a proper context, convey prediction of the speaker (e.g. Bybee et al. 1994: 254).

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8. PREDICTION and FUTURE are used interchangeably.

- (1) *“I know SOMETHING interesting is sure to happen,” she said to herself, “whenever I eat or drink anything; so I’ll just see what this bottle does.”*
- (2) *There was nothing else to do, so Alice soon began talking again. “Dinah’ll miss me very much to-night, I should think!”*

However, FUTURE is only rarely a purely temporal concept, thus a FTR device is seldom a true tense. For instance, according to Lyons (1977: 677, 816), it is more common to use future tense in non-factive utterances for conveying supposition, inference, wish, intention and desire (i.e. for expressing modal meanings) than for making statements or predictions, posing or asking factual questions about the future (i.e. for conveying temporal meaning). Similarly, Dahl (1985: 103) admits that “a sentence which refers to the future will almost always differ also modally from a sentence with non-future time reference”.

The discussion of modal meanings in this article relies on Auwera and Plungian’s (1998) *Modality’s semantic map*. They “use the term “modality” for those semantic domains that involve possibility and necessity as paradigmatic variants, that is, as constituting a paradigm with two possible choices, possibility and necessity”; on the following level, they make a distinction between non-epistemic possibility/necessity vs. epistemic possibility/necessity (Auwera and Plungian 1998: 80–81).

The English *be going to* construction is sometimes regarded as an example of a FTR device that, first and foremost, gives rise to aspectual meanings. The reason is that it usually expresses a continuity (progression) from present to future rather than a temporal meaning. (Palmer 1990: 169–161.)

Although the present article is mainly concerned with the various meanings of LEE(NE)- as a simple predicate and as an auxiliary, some attention will be given to their possible grammaticalization path(s) as well.

### 3. Etymology of *\*lē-* and previous treatments

Synchronically, several Finnic languages contain two copulas; their Proto-Finnic (PF) roots are *\*ole-* and *\*lē-*. When used in the present tense, the verbs descending from *\*ole-* get present time reference and a non-modal meaning, while the verbs going back to the root *\*lē-* generally express FTR, and often modal meanings arise (e.g. Majtinskaja 1973; Metslang 1996). Modal meanings are frequently associated with the *\*lēne-* root, which is characteristic to the eastern and northern Finnic languages (Saukkonen 1965; see also Table 3).

The Finnic *\*lē-* has counterparts in other Finno-Ugric languages as well, e.g. in Hungarian, Komi, Mari, Sami, Udmurt (SSA II; UEW). Although Majtinskaja (1973) regards *\*lē-* (or *\*le-*) as a Proto-Finno-Ugric (PFU) form, there is reason to believe that *\*lē-* does not go back that far, but rather only to PF (see Kettunen 1937; Györke 1936). Moreover, Aikio (2012: 231) stresses the fact that Finnic monosyllabic stems of the *\*CVV-* type have “developed secondary long vowels from earlier bisyllabic stems of the type *\*CVCV-* due to loss of intervocalic *\*w*, *\*j*, *\*x* and *\*ŋ*”. He suggests that the long *\*ee* arose through the sound change *\*ä > \*ee*, e.g. PF *\*keeli* ‘tongue’ < *\*käli* (Aikio *ibid.*). Considering this, it is possible that the PFU form for *\*lē-* was *\*läxi-*.

Etymological dictionaries associate Finnic LEE(NE)- verbs with various meanings, most commonly with ‘be’ (in the future), ‘become’, POSSIBILITY, but also with ‘come’, ‘arrive’, ‘emerge’, ‘be enough’ etc. (see SSA II). For comparison, Hungarian *le-* can have the meaning ‘be’, ‘become’, ‘be born’; Komi *lo-* ‘be’, ‘become’, ‘be born’, OBLIGATION; Mari *liä-*, *lia-*, *lija-* ‘be’, ‘become’, POSSIBILITY, ‘calve’ (UEW). Erzya *levks* and Moksha *l’ävks* ‘child; the young of an animal’, have also been associated with the same PFU form, but only with some caution (SSA II; UEW)

Table 3 illustrates the distribution of LEE(NE)- forms in the eleven Finnic languages / language varieties studied in this article. First, it shows a dictionary form (the dictionary that serves as a source for this is indicated in boldface in the column *Main sources*). LEE-, LEENE- and typical 3Sg forms are represented on the basis of the main sources that were used for compiling the whole data set (see *Main sources*). The 3Sg forms were included for two reasons: 1) 3Sg forms are more frequent than other forms (e.g. only 3Sg forms occur in certain auxiliary constructions); 2) this way it becomes apparent that also in Finnish, Tver Karelian, and Veps, the 3Sg forms do not necessarily include the -NE- suffix. As can be seen, Livonian is the only language in which no LEENE- forms can be attested.

FORM LANGUAGE	Dictionary form	LEE-	LEENE-	Typical 3Sg forms	Main sources
Finnish	<i>lienee</i>		<i>liene-</i>	<i>lienee, lie</i>	ISK; KS
Northern Karelian	<i>lie(nöy)</i>		<i>liene-</i>	<i>lienöy</i>	KKS; NKK; VK
Olonets Karelian	<i>lie(nöy)</i>		<i>lien(n)e-</i>	<i>liennou, liännöu</i>	KKS; NKK; OM
Central Ladic	<i>l'iettä</i>		<i>liene-</i>	<i>lienou, lienöw</i>	LmS; NOR (2012)
Veps	<i>lindä</i>		<i>linne-</i>	<i>linneb, l'īnob, lib</i>	KM; NVM, OVR; Zaiceva & Mullonen (2007)
Tver Karelian	<i>lie(nöy)</i>		<i>liene-</i>	<i>lienöy, lien(n)öu, li(e)u, liäy</i>	KKS; NOR (2009); VIR
Ingrian	<i>lē-</i>		<i>lēne-, l'īne-</i>	<i>lēnō, l'īnō, l'ē</i>	JUN; NIR
Votic	<i>leevvä</i>	<i>lee-, lie-</i>	<i>leene-, liene-</i>	<i>leeb, lieb, leeneb, lieneb</i>	ARI; EMK; VKS
Old North Estonian	<i>lēda</i>	<i>lee-</i>	<i>leene-</i>	<i>leeb, leeneb</i>	HEL; HOR; HUP; <b>Wiede- mann</b> (1875)
Insular dialect of Estonian	<i>lēda</i>	<i>lee-, lii-</i>	–	<i>leeb, liib</i>	EMS; <b>Wiede- mann</b> (1875)
Livonian	<i>līdō</i>	<i>lī-</i>	–	<i>līb</i>	KET; SET; <b>LELS</b>

Table 3. Distribution of LEE(NE)- forms in Finnic languages.

Some researchers associate the source meaning of the PFU form with MOVEMENT, e.g. Budenz (1873: 698) suggests that the verbs of movement such as Finnish *lähte*- ‘leave, depart’, Mordvin *lise*- ‘go out, depart, emerge’, Mari *lekt*- ‘go out, depart’, Komi *lokt*- ‘come, go’ originate from the same proto-form. The Livonian imperative form *li!* ‘go!’ seems to retain something from the original interpretation of movement, as *li* is considered to be a form of *līdâ* (LEE-verb), not of *lā' dâ* ‘to go’ (Kettunen 1937).

Cross-linguistically, constructions of verbs of movement are a common source for FTR devices (see Bybee et al. 1994: 253, 267; Heine 1993: 47). For comparison, Saukkonen (1965: 174) considers verbs with the sense of ‘come’ to be an early meaning element of LEE(NE)- verbs, see (3); he claims that this meaning has given rise to both FUTURE as well as POTENTIALITY (hereinafter EPISTEMIC POSSIBILITY). Györke, on the other hand, regards ‘be’ as the possible source meaning. He proposes two alternative paths for the development of subsequent meanings: EPISTEMIC

POSSIBILITY → FUTURE or FUTURE → EPISTEMIC POSSIBILITY (Györke 1936: 27–29). In cross-linguistic studies, epistemic meaning is shown to derive from FUTURE as in the case of the German *werden* (Hilpert 2008: 146; see also Bybee et al. 1994: 240). Similarly, when discussing the semantic development of the Finnic potential mood (suffix -NE-), Forsberg (2003: 152) views predictive future as an early sense, whereas the sense of possibility “seems to underpin the gradual expansion of use of the mood from future contexts to the present” (cf. Section 4.1.2).

- (3) Ingrian<sup>9</sup> (NIR 1971: 263)  
*H<sup>o</sup>ono kesä i'ē*  
 bad summer LEE.3SG  
 ‘A bad summer is coming.’

Sometimes researchers draw parallels between Finnic OLE- vs. LEE(NE)- and Russian *est'* vs. *bud-*. In Russian, *bud-* has developed into a FTR device and is used for forming the imperfective future (KRG 2002: 319; Dahl 2000a: 324). As both LEE(NE)- as well as *bud-* have peripheral, modal and future meanings, BUD-/LEE(NE)- futures have been regarded as a common feature of the Finno-Ugric–Slavic contact area (Metslang 1996: 138). In the case of Livonian, parallels have been drawn with Latvian (e.g. Wälchli 2010: 338).

Saukkonen (1965), in turn, points to possible foreign influence. He presents examples (4) and (5), suggesting that the Olonets Karelian construction *lie(nöy)* + main verb in the M infinitive illative follows the Russian pattern. In addition, Saukkonen claims that the Salaca Livonian construction *lī-* + main verb in the T infinitive follows the Latvian pattern, cf. examples (6) and (7). (Saukkonen 1965: 176–177) Although one cannot exclude contact-induced grammaticalization, there is no good reason to neglect internal development either, especially in light of the fact that LEE(NE)- verbs have their origin in Proto-Finno-Ugric.

- (4) Olonets Karelian (Kujola 1906, cited in Saukkonen 1965: 176)  
*lienen mina kuundelemah sinuu*  
 LEE.POT.1SG I listen.MINF.ILL you.PART  
 ‘I am going to listen to you.’

- (5) Russian (Saukkonen 1965: 176)  
*on budet čitat'*  
 he be.FUT.3SG read.INF  
 ‘He is going to read.’

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9. Although one would expect long vowels to occur in Ingrian, Nirvi (1971) presents several examples of LEE(NE)- verbs involving diphthongs.

- (6) Salaca Livonian (SjW 314)  
*Tämä äb tieda mis ta līb tied.*  
 s/he NEG know.CNG what s/he LEE.3SG do.TINF  
 ‘S/he does not know what s/he will do.’

- (7) Latvian (Endzelin 1923: 665)  
*es tev bušu palīdzet*  
 I you.DAT be.FUT.1SG help.INF  
 ‘I will help you.’

Thus, a wide range of meanings and functions can be associated with LEE(NE)-verbs. Regarding this, the following sections will show in which clause types/constructions the various meanings arise and how does it differ from language to language. It appears that a) some meanings (e.g. ‘be’, ‘become’) can be associated with LEE(NE)- as a simple predicate in various clause types; b) some meanings with auxiliary constructions (e.g. expressions of OBLIGATION); and c) overlapping is possible as well (e.g. in the case of expressing POSSIBILITY). Furthermore, although one would like to ascribe modal meanings to the LEENE- root, it will be shown in this article that -NE- does not necessarily add a modal meaning. This has also been argued by Saukkonen (1965: 174–176) and Forsberg (2003).

#### 4. LEE(NE)- as a main FTR device

This section discusses the uses of LEE(NE)- in the four languages (Livonian, Tver Karelian, Veps, and Votic) in which LEE(NE)- occurred most frequently when considering the first phase of the study (see Table 1). By drawing on the results of the second phase of the study (see Table 2), it separately studies LEE(NE)- as a simple predicate and as an auxiliary.

##### 4.1. LEE(NE)- as a simple predicate

###### 4.1.1. Future time reference across different clause types

In Livonian (Liv), Tver Karelian (TvKar), Veps, and Votic (Vot), LEE(NE)- seems to be obligatory when used as a **future copula**. It occurs in the five clause types provided in Table 4. Clause types (1) through (4) are presented relying on Payne (1997), who discusses the usage of copulas in different clause types. Clause type (5) originates from Erelt (2005), retaining the distinction he makes: source-marking (5a) vs. goal-marking (5b) clauses. In addition, the left column of Table 4 shows which constructions can be most commonly associated with the corresponding clause types,

and the right column represents the instances of occurrences of different clause types in the data set. Table 4 includes only the instances that are interpreted as future. For instances that receive present or past time reference, see Section 4.1.3 and Table 5.

Clause types & constructions	Instances of occurrences
<b>(1) Locational clauses</b> NP <sub>Nom</sub> V Loc	Liv (20), TvKar (3), Veps (10), Vot (3)
<b>(2) Existential clauses</b> (Loc) V NP <sub>Nom/Part</sub> <sup>10</sup>	Liv (33), TvKar (40), Veps (49), Vot (48)
<b>(3) Predicate nominal clauses</b> a. NP <sub>Nom</sub> V NP <sub>Nom</sub> /Adv b. NP <sub>Nom</sub> V NP <sub>Ess</sub>	Liv (37), TvKar (23), Veps (31), Vot (18) Veps (1), Vot (1)
<b>(4) Possessive clauses</b> a. NP <sub>Dat</sub> V NP <sub>Nom/Part</sub> b. NP <sub>Ade/All</sub> V NP <sub>Nom/Part</sub>	Liv (27) TvKar (13), Veps (10), Vot (6)
<b>(5) Resultative clauses</b> a. NP <sub>Ela</sub> V NP <sub>Nom</sub> b. NP <sub>Nom</sub> V NP <sub>Tra</sub>	TvKar (4), Vot (3) Liv (5), Veps (4)

Table 4. Future time reference across clause types.

#### 4.1.1.1. Locational clauses

Locational clauses serve to locate something (the subject of the clause) somewhere (Payne 1997: 121), as in (8).

- (8) Livonian (SET 146)  
*jē'dlām alā sa andə sie spiegel'sie freilenən, kuhtš*  
*ta sīnda vjtāb ehtš jū'rə ma'ggəm.*  
*un ta līb te'ž sin'nən sāl lābūd pāl vastə*  
 and s/he LEE.3SG here.INE you.DAT there.ADE window.PL.GEN on.ADE meet  
*ku sa lā'd ne sigādaks*  
 'Don't give the mirror to the lady before she lets you sleep in her  
 bed [lit. 'takes you to her bed to sleep']. And she will be here at  
 the window to meet you when you go there with the pigs.'

10. The NP position can also be occupied by a quantity phrase.

In these four languages, the subject position is usually occupied by human referents and the non-subject position by concrete places, as in (8). However, more abstract cases are also possible, e.g. in Veps, *runoeh* ‘poetry evening’ also appears in the subject position and *meiden südämiš* ‘in our hearts’ in the non-subject position (the more abstract examples occur only among sentences collected from newspaper texts).

Typically, locational clauses as well as predicate nominal clauses would be subsumed under unmarked basic clauses as both involve the word order SVX (subject – verb – non-subject, see e.g. Erelt and Metslang 2006). For the purposes of the present article, these clause types are kept apart. This helps to pay separate attention to instances that place the subject of the clause somewhere (locational clauses) and that say something about the subject (see predicate nominal clauses in Section 4.1.1.3).

#### 4.1.1.2. Existential clauses

Existential clauses perform a presentative function, i.e. they introduce participants to the discourse; they usually require a locational or a temporal adjunct (Payne 1997: 123), see *sā'l* ‘there’ in (9). Drawing on ISK (2004: 855), it is possible under existential clauses also to subsume clauses that leave the theme position empty and start with a verb, see example (10).

(9) Livonian (SET 105)

*ārga um' kītān:*

“*ants, sā'l                    līb                    knaššəd                    umārd,*  
Ants    there.ADE            LEE.3SG    beautiful.PL.NOM            apple.PL.NOM

*sinā alā vjttā nēd'i ..*

‘The ox said, “Ants, there will be beautiful apples, don’t you take them!”’

(10) Veps (KM 7, 2012)

*Irdal                    upehtoitab,                    linneb                    jumalansä.*  
street.ADE            close.3SG                    LEE.POT.3SG                    thunder

‘It is close outside (lit. ‘on the street’), there will be thunder.’

The typical word order of existential clauses is XVS. If we compare locational clauses with existential clauses involving a locational adjunct, it appears that their word order is the opposite: SVX vs. XVS correspondingly (cf. also underlying constructions of locational and existential clauses in Table 4).

As becomes clear from Table 4, this clause type is one of the commonest in all four languages. Among existential clauses there are many instances of clauses expressing weather conditions, e.g. (10).

## 4.1.1.3. Predicate nominal clauses

Predicate nominal clauses commonly express

- a) equation** – the subject of the clause and the predicate nominal are identical and can be reversed ('X is Y', e.g. *He is my father*);
- b) proper inclusion** – the subject of a predicate nominal clause indicates a specific referent and the nominal predicate is non-specific ('X is a Y', e.g. *Mary is a teacher*) (Payne 1997: 114).

Predicate adjectives can also be treated under predicate nominals (Payne 1997: 120; EKG II: 55). Considering the Adjective Principle (see Stassen 1997: 30), there is a reason for doing so: predicate adjectives usually side with predicate nominals or with verbs; the former holds true in the Finnic languages. In addition, under predicate nominals, this article also considers instances where an adverb describes a certain property of the subject (cf. Erelt and Metslang 2003).

There are examples of all the aforementioned cases in the data set. Example (11) is an example of proper inclusion. Example (12) is an example of a predicate adjective, and in example (13), a physical property is encoded by an adverb.

- (11) Veps (NVM 563)  
*Nene af itsęrat soudat* *алę sanuiba,*  
*mišto sinä liñned vanhamban mīl'*  
 that you LEE.POT.2SG chief.ESS we.ADE  
 'These officers said to the soldier  
 that you'll become our superior.'
- (12) Livonian (SET 104)  
*minā līb sin pāl nei' kį'zzi*  
 I LEE.1SG you.GEN on.ADE so mad  
*siest sinā alā kart*  
 'I will get so mad at you, don't be afraid of it.'
- (13) Tver Karelian (VIR 78)  
*Šie muata laškietše*  
*huomnekšella noužet nin kaikki lieu valmiš*  
 morning.ADE wake.up.2SG so everything LEE.3SG ready  
 'You go to sleep, when you wake up in the morning everything will be ready.'

As can be seen from Table 4, the most frequently occurring construction that can be associated with this clause type is NP<sub>Nom</sub> V NP<sub>Nom</sub>, as in (12). Example (11) represents the pattern NP<sub>Nom</sub> V NP<sub>Ess</sub> which occurs in Tver Karelian, Veps, and Votic, but not in Livonian (for Tver Karelian, see Table 5).

## 4.1.1.4. Possessive clauses

Possessive clauses express POSSESSION. They may involve a special verb ‘to have’ but the more common way to convey POSSESSION is to use a copular verb or a particle (Payne 1997: 126). The Finnic languages serve as an example of languages that use a copular verb; the patterns found in these languages can be described in terms of *locational possessive* (Stassen 2009: 296–297) and *location schema* (Heine 1997: 47). For instance, the possessor NP in Estonian occurs as a topical complement in the adessive case, the possessee is encoded as a subject, and the copular verb is the only verbal element in the clause (Erelt & Metslang 2006: 258). This is true also for Tver Karelian, Veps, and Votic, see example (14). In Livonian, the general pattern is the same; the only difference is that the possessor is marked by the dative case, as in (15).

- (14) Tver Karelian (VIR 98)  
*”Tšem miula akka andua, niim mie luttše annan  
 lehmän; lehmiä vielä lienöu” šanou*  
*”a akan kuin šyöu*  
 but wife.GEN when eat.3SG  
*niin akkua miula ei liene.”*  
 then wife.PART I.ADE/ALL NEG LEE.POT.CNG  
 ‘‘Instead of giving the wife, I would rather give you the cow: there will be cows,’’ he says ‘‘if it [wolf] eats the wife, I won’t have a wife anymore.’’

- (15) Livonian (SET 76)  
*ku ta s̄āb ī’d sūr m’e’r pālā, siz tāmā ētab tām’ sīhā si’zzāl*  
*ja tām’mān āb īt nei’ jēn’nā ve’zzā*  
 and s/he.DAT NEG LEE.CNG so much meat.PART  
 ‘When s/he gets to the Baltic Sea, then s/he will throw  
 it into it and s/he won’t have that much meat.’

As encoding of experiential relations often follows the same pattern as described above, sentences like (16) can also be treated under possessive clauses.

- (16) Tver Karelian (NOR 2009)  
*On šiel lienou,*  
*i hänel liu ülen vilu*  
 and s/he.ADE LEE.3SG very cold  
 ‘He will be there and he will get very cold.’

Although sometimes possessive clauses have been subsumed under existential clauses (e.g. ISK 2004: 852), for the purposes of the present study, it is important to keep them apart. Namely, Section 4.2 will show that there is a link between possessive clauses and expressing OBLIGATION.

#### 4.1.1.5. Resultative clauses

This article considers resultative clauses separately. For instance, Estonian is said to have two types of resultative clauses: goal-marking (GM) and source-marking (SM) clauses. The GM clauses involve a translative predicative (represented as NP<sub>Nom</sub> V NP<sub>Tra</sub> in Table 4); in the case of SM clauses, the source is marked by the elative case (NP<sub>Ela</sub> V NP<sub>Nom</sub>) (Erelt 2005). Pajusalu and Trigel (2007) refer to them as change-of-state constructions, distinguishing between NOM change-constructions and ELA change-constructions, correspondingly. Counterparts for these clauses can be found in other Finnic languages as well, e.g. example (17) represents a GM clause and example (18) a SM clause.

- (17) Veps (KM 9, 2011)  
*Nece linneb hüvaks tradicijaks*  
 this LEE.POT.3SG good.TRA tradition.TRA  
*i vedovägeks lapsile, kudambad saba vaiše ”viž”-arvsanan.*  
 ‘This will become a good tradition and motivation  
 for the children who only get A’s.’

- (18) Votic (ARI 104)  
*vęta muna, panę kaññā allā.*  
*i kazess munass leeb mato*  
 and this.ELA egg.ELA LEE.3SG snake  
 ‘Take the egg and put it under the hen. From this egg a snake will be [born].’

As Erelt (2005: 20) explains, whereas the GM clause reveals the presence of the referent of the subject or the object before the beginning of the change, this is not the case for the SM clauses, cf. examples (17) and (18).

Although resultative clauses involving LEE(NE)- are the least frequent clauses in the data set (see Table 4), there are at least some instances in all the languages. Whereas in the case of Veps the data set contains both types of clauses, there are examples only of one type of clause in Livonian, Tver Karelian, and Votic. In Livonian, only GM clauses occur in the data set, and in Tver Karelian and Votic – only SM clauses. It appears that Livonian *līdõ* can be found in SM clauses as well, but only rarely (Viitso 2008: 344).

#### 4.1.2. Meanings arising in the case of FTR

On the one hand, LEE(NE)- in different clause types can be associated with meanings such as ‘become’ (e.g. 17), ‘remain’ (e.g. 14), verbs with the sense of ‘come’ (e.g. 10) (cf. also Section 3), on the other hand, with ‘be’ (e.g. 8). Thus, a distinction can be made between conveying change of state and being in the state. The two

senses, in fact, seem to form a continuum as often both senses are present, but to a different extent. For instance, the ‘become’ meaning is the strongest in the case of resultative clauses like (17) and (18). Moreover, the underlying constructions of resultative clauses can be even regarded as change-of-state constructions (cf. Section 4.1.1.5). The meaning ‘become’ is implicit when no change construction is involved, e.g. patterns NP<sub>Nom</sub> V NP<sub>Nom</sub> /Adv and NP<sub>Nom</sub> V NP<sub>Ess</sub> which can be associated with predicate nominal clauses (11) through (13) are no change constructions. It is due to our real-world knowledge that examples (11) through (13) seem to involve both the meanings ‘become’ (*becoming mad/chief/ready*) as well as ‘be’ (*being mad/chief/ready*). As Dahl (2000b: 351) puts it, “it is natural that the distinction between being and becoming should blur with respect to the future, since prototypical situations involve both the state itself and the event that marks its beginning”. Considering the fact that LEE(NE)- is not usually semantically empty, it could be best regarded as a semi-copula. For further comments, see Section 6.1.1.

In connection with FTR, **modal meanings** especially are claimed to arise, which does not, however, mean that expressing PREDICTION is impossible (cf. Section 2.2). Examples (8), (9), (12), (13), (15) and (18) primarily seem to make a prediction about future. Moreover, they originate from fairytales and are spoken by creatures that can predict the future. As can be seen, the unmarked LEE- root in these sentences is used (including in Votic and Tver Karelian, in which both the LEE- as well as LEENE- roots are available). Regardless of that, LEENE- is not to be associated only with modal meanings. For example, in (14) (repeated here in 19), *lienöy*, first and foremost, expresses FUTURE rather than EPISTEMIC POSSIBILITY. Forsberg (2003: 148) presents a similar sentence (20), arguing that the future meaning of -NE- typically emerges in such threatening predictions. Although example (19) does not involve that much of a threat, it still conveys a prediction about a future situation: what will follow if the condition is fulfilled. Still, instances such as (20) can easily give rise to the sense of epistemic possibility as the fulfillment of the condition makes the proposition possible (Forsberg 2003: 152). Veps *lindä* can also be free of a primary modal meaning even though the LEENE- root is used, see examples (10), (11), (17) (cf. Zaiceva 1981: 249–250; Saukkonen 1965: 175–176).

(19) Tver Karelian (VIR 98)

*”Tšem miula akka andua,  
niim mie luttše annan lehmän; lehmiä viel’ä lienöu” šanou*

<i>”a</i>	<i>akan</i>	<i>kuin</i>	<i>šyöu</i>	
but	wife.GEN	when	eat.3SG	
<i>niin</i>	<i>akkua</i>	<i>miula</i>	<i>ei</i>	<i>liene.”</i>
then	wife.PART	I.ADE/ALL	neg	LEE.POT.CNG

“‘Instead of giving the wife I would rather give you the cow: there will be cows,” he says “if it [wolf] eats the wife I won’t have a wife anymore.””

- (20) Finnish (Forsberg 2003: 148)
- |             |                   |                   |               |
|-------------|-------------------|-------------------|---------------|
| <i>Jos</i>  | <i>sieltä</i>     | <i>piäs</i>       | <i>nostat</i> |
| if          | there.ABL         | head.ACC.POSS.2SG | raise.2SG     |
| <i>ukko</i> | <i>piäs</i>       | <i>särkenee.</i>  |               |
| old_man     | head.ACC.POSS.2SG | break.POT.3SG     |               |
- ‘If you raise your head, the old man will crush it.’

Considering the nature of future (i.e. the fact that one cannot ever be entirely sure in the future), there always remains the possibility that at least some kind of a modal element is involved in a future construction (cf. Section 2.2) but not necessarily evoked by the -NE- suffix. Still, one can decide which of the two meaning elements is the strongest, the modal or the temporal.

#### 4.1.3. Present and past time reference across different clause types

In addition to the interpretation of future, LEE(NE)- as a simple predicate can also receive an **interpretation of present** or **past**. The present interpretation arises in the case of the present tense form of LEE(NE)- used in the proper context; the interpretation of past is most typically evoked by past inflection. As can be seen from Table 5, whereas there are only a few examples that carry a present meaning (three instances in Livonian, seven in Tver Karelian, and two in Veps), there are several instances of past time reference, but only in one of the four languages – Tver Karelian.

Clause types & constructions	Instances of occur.-s (present time reference)	Instances of occur.-s (past time reference)
<b>(1) Locational clauses</b> NP <sub>Nom</sub> V Loc		TvKar (1)
<b>(2) Existential clauses</b> (Loc) V NP <sub>Nom/Part</sub>	Liv (1), TvKar (2), Veps (1)	TvKar (26)
<b>(3) Predicate nominal clauses</b> a. NP <sub>Nom</sub> V NP <sub>Nom</sub> /Adv b. NP <sub>Nom</sub> V NP <sub>Ess</sub>	Liv (2), TvKar (4), Veps (1)	TvKar (6) TvKar (1)
<b>(4) Possessive clauses</b> a. NP <sub>Dat</sub> V NP <sub>Nom/Part</sub> b. NP <sub>Ade/All</sub> V NP <sub>Nom/Part</sub>	TvKar (1)	TvKar (16)
<b>(5) Resultative clauses</b> a. NP <sub>Ela</sub> V NP <sub>Nom</sub> b. NP <sub>Nom</sub> V NP <sub>Tra</sub>		TvKar (1)

Table 5. Present and past time reference across clause types.

When LEE(NE)- expresses a **present situation**<sup>11</sup>, it tends to give rise to a modal meaning – epistemic possibility, as in Livonian example (21). For comparison, in the case of the present copula (< \*ole-root), no additional modal meaning emerges, see example (22).

- (21) Livonian (SET 142)  
*kis s'edā um' tiend?*  
*se    **līb**            se    mul'ki    vel'            tāsā            jūs            vend*  
 this   LEE.3SG    this   fool       brother    here.INE    near.INE    be.ACT.PST.PTCP  
*kis um' laskān tām' ulz*  
 'Who did it? – Supposedly it was the fool who was here and let it [a fish] out.'

- (22) Livonian (SET 148)  
*un ta nāb, ku tām' tidār suormāks līb sin suormsə ..*  
*siz se vanā tūlīn mītlāb*  
*ku            sa                            **uod**            se*  
 that        you                            be.2SG        this  
*kis sāl suodā pāl vėl'*  
 'And he will see that his daughter's ring is on your finger .. then the old [man] will right away think that you are the one who was in the war.'

The Tver Karelian examples (23) and (24) express uncertainty about a present situation. Here it is possible to draw parallels with Russian as Russian *bud-* can also convey uncertainty about a present situation (KRG 2002: 320), cf. examples (23), (25) and (24), (26), correspondingly.

- (23) Tver Karelian (VIR 1990: 240)  
*Nu                            Kaškīpuusalda            hiän            **l'ienöu**            naverno*  
 PTCL                            Kaškīpuusa.ELA            s/he            LEE.POT.3SG            supposedly  
*virštua                            puolentoista            al'i            kakši*  
 verst.PART                            one\_and\_a\_half            or            two  
 'Well, it will be about one and a half or two kilometres from Kaškīpuusa.'

- (24) Tver Karelian (NOR 2009)  
*t'älä vielä vosemdesjat naverno devjat*  
*88    godu            **liu**                            t'otja    Ligada    ne            znaju.*  
 88    year.DAT            LEE.3SG            aunt    Ligada    NEG    know.1SG  
 'She is 89, supposedly, aunty Ligada should be 88, I don't know.'

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11. Relying on Comrie (1993: 5), the term *situation* is used as a cover term for events, processes etc.

- (25) Russian (KRG 2002: 320)  
*"Do menâ verst pät' budet,"*  
 till I.GEN verst five be.FUT.3SG  
*pribavil on* (Turgenev)  
 "‘It is about five kilometers to my place,’ he added.’"
- (26) Russian (KRG 2002: 320)  
*Emu let sorok budet.*  
 he.DAT year forty be.FUT.3SG  
 ‘He should be 40.’

Considering examples (23) and (24), it appears that both roots can be associated with modal meanings, cf. *lienöu* in (23) and *liu* in (24). In the corresponding sentences, uncertainty is also expressed by the modal adverb *naverno* (← Russian *naverno*) and example (24) contains *ne znaju* ‘I don’t know’. Regarding this, Tver Karelian *lie(nöy)* can be said to carry a weak epistemic meaning as it needs support by a modal adverb; Russian *bud-*, on the other hand, expresses a strong epistemic meaning as *bud-* is the only indicator of the epistemic meaning (cf. Traugott 1989: 43). Traugott (ibid.) argues for the following development: weak epistemic meaning → strong epistemic meaning. The epistemic meaning is subsequent to the future meaning (cf. Section 3).

In Tver Karelian, among 143 instances of *lie(nöy)* as a simple predicate, there are 51 examples of *lie(nöy)* that appear in the past tense form and get a **past interpretation**. The past tense forms of *lie(nöy)* are formed on the basis of LEENE- root. In the data set, the following forms occur: *lieñiin* (1Sg), *lieñi* (3Sg), *lieñimä* (1Pl); the 3Pl form *liet't'ih* uses the LEE- root, but it originates from the impersonal paradigm. The distribution across clause types is shown in Table 5. As can be seen, all the clause types are represented.

When used in the past tense form, *lie(nöy)* typically expresses different meanings that can be subsumed under the concept CHANGE (the meaning ‘become’ is most commonly present); the verbs going back to the root *\*ole-* convey BEING (cf. Majtinskaja 1973: 88–89), see examples (27) and (28). The same kind of difference in stems appears in Hungarian in the case of past time reference of *le-* vs. *vol-* (Kenesei et al. 1998: 63; Dahl 2000b: 358).

- (27) Tver Karelian (VIR 60)  
*Hiän šielä istuu,*  
*i lieñi vilu*  
 and LEE.POT.PST.3SG cold  
 ‘He was sitting there and it got cold.’
- (28) Tver Karelian (VIR 104)  
*Vet šiul oli kukkoñe!*  
 PTCL you.ADE/ALL be.PST.3SG rooster  
 ‘But you had a rooster!’

The past tense forms do not seem to carry any modal meaning although the LEENE-root is used. This, once more, shows that -NE- does not necessarily add a modal meaning. In addition, the fact that the LEENE- root can be considered as a derivation of LEE- and the past inflection makes use of LEENE- speaks for the later development of past forms. As past forms primarily express ‘become’, there is reason to think that meanings that can be associated with CHANGE are earlier than the meaning ‘be’. The subsequent development has led to ‘become’ → ‘be’, but only in the case of future forms.

Whereas occasionally one can draw parallels between Russian *bud-* and Finnic LEE(NE)-, this is not the case here: to express CHANGE in connection with past time reference, Russian uses another verb – *stat’* ‘become’.

#### 4.2. LEE(NE)- as an auxiliary

In Livonian, Tver Karelian, Veps, and Votic, LEE(NE)- occurs in auxiliary constructions that express temporal, aspectual, or modal meanings. Table 6 shows in which constructions the corresponding meanings emerge (the distinction is made on the basis of their primary meaning).

MEANING LANGUAGE	Temporal	Aspectual	Modal
Veps	–	<i>linne-/lino-</i> + PTCP (9)	<i>linneb/linnob</i> + tINF (3)
Tver Karelian	–	<i>liene-</i> + PTCP (1)	<i>lien(n)öu/li(e)u</i> + tINF (12)
Votic	<i>lee-</i> + mINF (2)	<i>lee-/lie-</i> + PTCP (5)	<i>leeb/lieb</i> + tINF (4)
Livonian	<i>lī-</i> + tINF <sup>12</sup>	<i>lī-</i> + PTCP (11)	<i>lī-</i> + mINF <sub>Deb</sub> (9) <i>lī-</i> + tINF (4) <i>lī-</i> + PTCP (2)

Table 6. LEE(NE)- constructions.

As it becomes clear from Table 6, an **aspectual** meaning can be the strongest in all four languages. Typically, LEE(NE)- + PTCP expresses FUTURE-RESULT – a realization of an action with reference to the future, as in (29) and (30).

12. No clear instances in Courland Livonian in the data set; the construction presented here is based on Salaca Livonian (see Norvik 2012).

- (29) Livonian (SET 243)
- |            |            |              |                 |             |              |                 |
|------------|------------|--------------|-----------------|-------------|--------------|-----------------|
| <i>un</i>  | <i>siz</i> | <i>ku</i>    | <i>ta</i>       | <i>līb</i>  | <i>sie</i>   | <i>ti'end</i>   |
| and        | then       | when         | s/he            | LEE.3SG     | this         | do.ACT.PST.PTCP |
| <i>siz</i> | <i>ne</i>  | <i>lībəd</i> | <i>kj'zzist</i> | <i>täm'</i> | <i>pālə.</i> |                 |
| then       | they       | LEE.3PL      | mad.PL          | s/he.GEN    | on.ALL       |                 |
- ‘And when s/he has done it, they will be mad at him/her.’
- (30) Veps (KM 10, 2009)
- Planuitas praznuita jubilejad redukun 20. päiväl, tožnargen.*  
*Praznikeht linneb tehtud Petroskoin*  
 party\_evening LEE.POT.3SG do.PASS.PST.PTCP Petroskoi.GEN  
*rahvahaližes teatras.*  
 national.INE theatre.INE
- ‘The jubilee is planned to be celebrated on Tuesday, October 20th. The party evening will be organized in the national theatre of Petroskoi.’

Whereas all eleven examples of *līdō* + PTCP in Livonian include *līd* (2Sg) or *līb* (3Sg) + an active past participle and receive an active interpretation, as in (29), the nine Veps examples contain *linneb/līnob* (3Sg) + a passive past participle and get a passive interpretation, see (30). In example (29), the time reference is specified by *ku* ‘then’, and the situation expressed by *linneb/līnob* + PTCP is finished prior to that reference point. The reference point for example (30) is established by the adverbials (*redukun 20. päiväl, tožnaargen* ‘October 20th, on Tuesday’) in the previous sentence. For further comments, see Section 6.1.2.

In the data set, Votic *lee-/lie-* occurs in three different persons (1Sg, 3Sg and 3Pl) and is combined with both active as well as passive past participles of the main verb. Whereas in the case of simple predicates, the root *leene-/liene-* also appears; when used in auxiliary constructions, only the root *lee-/lie* is used (see Table 6). Considering the main verbs in the participial constructions, there is an example of every situation type presented by Vendler (1967): *olla* ‘be’ expresses state, *piinata* ‘torture’ – activity, *panna* ‘put’ – achievement, and *prostida* ‘forgive’ – accomplishment.

Another meaning that emerges as primary is a **modal** meaning. In most cases, LEE(NE)- is combined with a T infinitive and conveys NON-EPISTEMIC NECESSITY; in Livonian, it is usually expressed by *līdō* + mINF<sub>Deb</sub> (see Table 6). The necessity rests on the semantic subject that, in Livonian, is encoded by the dative case, as in (31), and in Tver Karelian by the adessive/allative case, as in (32). Among Tver Karelian examples, there are also two instances of expressions of past OBLIGATION, e.g. (33).

- (31) Livonian (SET 192)

*un nei' ni ta s'edā mītlāb*  
*ku min'nən sie kūž āigast ni līb tāsā ve'l'məst*  
 that I.DAT this six year.PART now LEE.3SG here.INE being.MINF.DEB  
 'And so now s/he will think that I now have to be here for six years.'

- (32) Tver Karelian (VIR 80)

*No nuorim poiga i šanou:*  
*"Mid'ä vielä tuatto liennou miula luad'ie štobi...?"*  
 what else dad LEE.POT.3SG I.ADE/ALL do.TINF in\_order  
 'The youngest son says, "Dad, what else do I have to do in order to ...?"

- (33) Tver Karelian (VIR 70)

*i hänell'ä lieñi männa jogeh pežietšömäh*  
 and s/he.ADE LEE.POT.PST.3SG go.TINF river.ILL wash.MINF.ILL  
 'And s/he had to go to the river to wash himself/herself.'

In the case of modal meanings, researchers draw parallels with contact languages or stress foreign influence (cf. Section 3). However, it is hard to say to what extent something is contact-induced grammaticalization and to what extent language-internal grammaticalization. For example, the underlying constructions of possessive clauses and necessitive constructions give reasons to support language-internal development, see examples (34a–b) and (35a–b) (the examples have been coined on the basis of examples (14), (32) and (15), (31)). In addition, they also exhibit semantic similarities: (34a) and (35a) contain a possessor of a concrete entity, while examples (34b) and (35b) involve a “possessor” of OBLIGATION. The grammaticalization path POSSESSION → OBLIGATION is included in Heine and Kuteva (2002) as well.

- (34) Tver Karelian

a. possessive clause	<i>akkua</i>	<i>miula</i>	<i>ei</i>	<i>lie-ne</i>
	wife.PART	I.ADE/ALL	NEG	LEE.POT.CNG
	'I won't have a wife anymore.'			
b. OBLIGATION	<i>Mid'ä</i>	<i>liennou</i>	<i>miula</i>	<i>luad'ie?</i>
	what	LEE.POT.3SG	I.ADE/ALL	do.TINF
	'What do I have to do?'			

- (35) Livonian

a. possessive clause	<i>täm'mən</i>	<i>üb</i>	<i>lī</i>	<i>ve'zzə</i>
	s/he.DAT	NEG	LEE.CNG	meat.PART
	'S/he won't have meat.'			
b. OBLIGATION	<i>min'nən</i>	<i>līb</i>	<i>tāsā</i>	<i>ve'l'məst</i>
	I.DAT	LEE.3SG	here.INE	being.MINF.DEB
	'I have to be here.'			

In Livonian, a modal meaning can even be associated with *līdō* + PTCP. In such instances, typically, an epistemic reading emerges: the past participle indicates a completed action and *līdō* adds an epistemic meaning. As a result, the sentence receives an interpretation of either present or a past; the former tends to emerge in the case of bounded, the latter in the case of unbounded situations (cf. EKG I: 77 for Estonian). Example (36) gets a present interpretation, as the situation is bounded. There are corresponding examples in the other variety of Livonian (Salaca Livonian) as well (see Norvik 2012). The fact that replacing *līdō* with *vōlda* (< \*ole-) results in a non-modal meaning indicates that the function of *līdō* is indeed to add a modal meaning, cf. examples (36) and (37).

- (36) Livonian (KET 1938)  
*sudūd lībād mi'n ni'emā mōzō mūrdanād*  
 wolf.PL LEE.3PL I.GEN COW.PART PFV slaughter.ACT.PST.PTCP  
 'Wolves seem to have slaughtered my cow.'

- (37) Livonian (Viitso 2008: 323)  
*Mēg ūomō sīenōd lōinagiži.*  
 we be.1PL eat.ACT.PST.PTCP lunch.PART  
 'We have eaten lunch.'

Thus, in Livonian, *līdō* + PTCP carries either an aspectual or modal meaning, cf. examples (27) vs. (34). The modal meaning can be associated with the present or past time reference, the aspectual meaning with future time reference. As claimed earlier, the epistemic sense is apparently a later development.

In Livonian and Votic, even a **temporal** meaning can be the strongest, i.e. there are a few examples that say something about the future state of affairs without conveying (at least not primarily) modal or aspectual meanings. For example, (38) and (39) make a prediction about the future, and neither of the situations (neither *creating* nor *carrying the water*) is under the control of the subject. Example (39), however, represents Salaca Livonian (see also Norvik 2012), as there are no corresponding examples of Courland Livonian in the data set.

- (38) Votic (ARI 105)  
*kana avvov, senēs munaš tuleb mato.*  
*mitä siä tahoD sitä tāmā leep sillōd kantamaa*  
 what you want.2SG this s/he LEE.3SG you.ALL carry.MINF  
 'The hen broods, from this egg, a snake will come.  
 It will bring you whatever you wish.'

- (39) Salaca Livonian (SjW 338)  
*Mina uskub un ūde lug uskub,*  
*ku jumal luob om luon un*  
 that God create.3SG be.3SG create.ACT.PST.PTCP and  
**līb luod.**  
 LEE.3SG create.tINF  
 ‘I believe and will keep believing that God  
 creates, has created and will create.’

For comparison, the Salaca Livonian construction involves a T infinitive, in Votic it contains an M infinitive; both constructions use the LEE- root. Considering the fact that the temporal meaning in Votic can be associated with the M infinitive (*leevvä* + mINF), which is also true in the case of Finnish and Estonian periphrastic future constructions (Fin. *tulla* ‘come’ + mINF<sub>III</sub>, Est. *saada* ‘get, become’ + mINF; cf. Section 5), it seems possible to maintain that the temporal meaning emerges primarily in M infinitive constructions. The Salaca Livonian infinitival construction is claimed to show Latvian influence (cf. Section 3).

In examples (38) and (39), LEE- functions as a true future auxiliary expressing a temporal meaning. If using a FTR device in such instances were obligatory, it would signal a well-grammaticalized future auxiliary (cf. Section 2). As this is not the case in the Finnic languages, it only leaves us the opportunity to state that temporal meaning is possible and LEE- can appear as a future auxiliary, but not that there is a future tense.

## 5. LEE(NE)- as a marginal FTR device

There are other devices which function as future copulas and/or as auxiliaries in the languages that do not use LEE(NE)- as the main device of expressing FTR (Finnish, Northern Karelian, Olonets Karelian, Central Ladic) or not use it at all (Estonian). For example, in **Olonets Karelian**, *rotie(kseh)* ‘be born’<sup>13</sup> is used as a future copula, see example (40). In addition, it can appear in auxiliary constructions, e.g. in example (41), *rotie(kseh)* + PTCP conveys FUTURE-RESULT; in example (42), *rotie(kseh)* + tINF expresses OBLIGATION. The data set contains 156 instances of *rotie(kseh)* as a copula and nine occurring in auxiliary constructions (of 250). As *lie(nöy)* in Tver Karelian, *rotie(kseh)* can be found in the past form as well; typically, the ‘become’ meaning arises, as in (43).

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13. The verb *rotie(kseh)* is originally a loan from Russian *rodit'sâ* ‘be born’.

- (40) Olonets Karelian (OM 22, 2010)  
*sygyzyl heile roih kuldaine svuad'bu*  
 autumn.ADE month.ALL be\_born.3SG golden wedding  
 ‘In autumn, they will have a golden anniversary.’
- (41) Olonets Karelian (OM 47, 2010)  
*Festivuali algavuu 4. talvikuudu. Ezmäine filmu “Miesten vuoro” ..*  
*Tämä fil'mu roih ozutettu suomen kielel*  
 this film be\_born.3SG show.PASS.PST.PTCP Finnish.GEN language.ADE  
 ‘The festival starts on December 4th. The first movie will be  
 “Steam of Life” .. This film will be shown in Finnish.’
- (42) Olonets Karelian (OM 24, 2010)  
*Mennü rodieu kunne*  
 go.TINF be\_born.3SG where  
*erinäzien muuzikkoloin pajuo kuundelemah libo teatruezityksih.*  
 ‘Where should one go: to listen to the songs of  
 different musicians or to see plays.’
- (43) Olonets Karelian (OM 45, 2010)  
*Meis roittih hyvät dovarišat.*  
 we.ELA be\_born.PASS.PST good.PL friend.PL  
 ‘We became good friends.’

On the basis of examples (40) through (43), it can be claimed that *rotie(kseh)* occurs where one would expect LEE(NE)- to occur. For comparison, the dictionary of Karelian (KKS III) presents altogether 16 examples of *lie(nöy)* in Olonets Karelian (including several examples of *lien(n)e-* + mINF<sub>III</sub>). The data set, in turn, only contains examples of complex indefinite pronouns (e.g. *ken lienne* ‘somebody’)<sup>14</sup>; a few participial constructions are represented as well.

The situation is similar in **Central Ludic** in the case of *rodizetta* and *liettä*: in Central Ludic, there are counterparts to examples (40), (41), and (43). In addition, the data set even contains an example of *rodizetta* expressing an epistemic meaning, see (44) (cf. Section 4.1.3). The verb *liettä*, in turn, is only used seldomly and typically it forms complex indefinite pronouns (e.g. *midä lienne* ‘something’ – Russian *chto-nibud'*, *konzlienne* ‘sometime’ – Russian *kogda-nibud'*). Only 2 speakers of Central Ludic (among 16 informants) use *liettä* in a more varied way<sup>15</sup>.

14. Cf. Russian *kto-nibud'* (< *bud-*) ‘somebody’.

15. This could be directed to the influence of Northern Ludic, as both speakers live in the areas where the influence of Northern Ludic has been the strongest. Furthermore, in Northern Ludic, *liettä* seems to have been used more extensively in earlier times as well: most of the examples in LmS (1944) represent Northern Ludic.

- (44) Central Ludic (NOR 2012)  
*Kui rodī lūdikse? – „Nadu“!*  
 how be\_born.3SG Ludic.TRA sister\_in\_law  
 ‘How would it be in Ludic? – ”Nadu” [sister\_in\_law]!’

The discussion above indicates that a new device (*rotie(kseh)/rodizetta*) in Olonets Karelian and in Central Ludic is slowly taking over the usages of an older one (*lie(nöy)/liettä*) (see also Kehayov et al. 2013). Such competition is regarded as highly probable if two devices follow the same kind of a grammaticalization path (Dahl 2000a: 315). This indeed seems to be the case in Olonets Karelian and in Central Ludic.

In standard literary **Finnish**, *lienee* mainly expresses epistemic possibility, e.g. in (45), it conveys doubt about a past event (Tommola 2010: 522). In addition to usages such as (45), *lienee* can get an epistemic interpretation when used as a simple predicate; it conveys modal meanings in questions as well, as in (46) (ISK 2004: 1515). In Finnish dialects, the situation is much more varied (see Forsberg 1998).

- (45) Finnish (Tommola 2010: 523)  
*Työntekijöiden elinympäristön kannalta*  
*negatiivinen sopeutuminen lienee ollut tahatonta*  
 negative adaptation LEE.POT.3SG be.ACT.PST.PTCP unintentional.PART  
 ‘In regard to the habitat of employees, a negative adaptation (to it) may have been unintentional.’

- (46) Finnish (ISK 2004: 1517)  
*Taruako lienee vai totta?*  
 story.PART.Q LEE.POT.3SG or truth.PART  
 ‘Is it just a story or is it the truth?’

A better candidate for a FTR device in standard literary Finnish is *tulla* ‘come’, which, in combination with a main verb in the M infinitive illative, can even get a temporal interpretation, as in (47) (ISK 2004: 1468). *tulla* + mINF<sub>III</sub> is considered an option if using the present tense would result in a present and not in a future interpretation (KS).

- (47) Finnish (ISK 2004: 1468)  
*Juna tulee lähtemään raiteelta 19.*  
 train come.3SG depart.MINF.ILL track.ABL 19  
 ‘The train will be departing from track 19.’

In **Northern Karelian**, there are altogether 37 examples of *lie(nöy)* in the data set. Only one example originates from a newspaper text. This particular example involves *lienöy* as a complex indefinite pronoun (*mi lienöy* ‘something’ – Russian *chto-nibud*). The rest of the examples containing *lie(nöy)* come from the text collection samples of Karelian (NKK). They represent either complex indefinite pronouns or participial

constructions that add a modal meaning to the sentence, e.g. example (48) expresses epistemic possibility and gets a past interpretation, (cf. also similar examples in Olonets Karelian, Finnish, and Livonian).

- (48) Northern Karelian (NKK 59)  
*mie en t'ïä kui hü- /*  
*kui hüö l'ienou i čislat t'ijettü*  
 how they LEE.POT.3SG also date.PL know.PASS.PST.PTCP  
*kun ei t'ijettü kirjua*  
 'I don't know how they, how they could have known  
 the dates if they couldn't even write.'

Like in Finnish, the Northern Karelian *tulla* 'come' has become developed for additional uses, but most often it expresses CHANGE (in connection with future or past). While in the data set, there are no examples of auxiliary constructions involving *tulla*, KKS VI presents a few such examples. However, the general impression is that there is no good candidate for an FTR device in Northern Karelian.

**Estonian** is the sole language in which *leeda* is not used in the present-day language at all. In 1875, Wiedemann wrote that *leeda* can be found in the insular dialect although earlier, its usage was probably more widespread. The old literary sources (see Table 3) contain examples only from Old North Estonian; there are examples of the *leene-* root as well as the *lee-* root, often in combination with a participle or a T infinitive. Insular dialects, on the other hand, use the *lee-* or *lii-* root, which is generally followed by a main verb in the M infinitive inessive<sup>16</sup>, as in (49). In old literary sources, *leeda* is even combined with a main verb in the active present participle, as in (50) (see also Wiedemann 1875: 488).

- (49) Estonian (Wiedemann 1875: 488)  
*sa lēd kurb olemas*  
 you LEE.2SG sad be.MINF.INE  
 'You will be sad.'

- (50) Estonian (HOR 1693: 109)  
*ehk meie leneme sawa*  
 maybe we LEE.POT.1PL get.ACT.PRS.PTCP  
 'Maybe we will get.'

Nowadays, *saada* and *hakata* are considered to be more likely candidates for FTR devices. For instance, in combination with the M infinitive, they can also express

16. Parallels can be drawn between Livonian and the insular dialect of Estonia (mainly between subdialects of Saaremaa and Kihnu). Like in Livonian, only the LEE- forms in the Kihnu and Saaremaa subdialects have been attested (see Wiedemann 1875; EMS). Moreover, LEE- + M infinitive inessive forms occur only in insular dialects and Salaca Livonian (cf. Norvik 2012).

temporal meaning, i.e. FUTURE (Metslang 1994, 2006). However, *saada* mainly takes *olla* ‘be’ as the main verb, as in (51) (Metslang 2006: 719).

- (51) Estonian (EKKK)  
*Ruumi saab olema 2000 inimesele.*  
 space.PART get.3SG be.MINF 2,000 people.ALL  
 ‘There will be space for 2,000 people.’

As a more fine-grained analysis would deserve an article on its own, the aim of this section was only to show that in languages where LEE(NE)- is not the main device of expressing FTR, there is usually some other device that is developing into a future copula and/or even occurs in auxiliary constructions.

## 6. LEE(NE)- versus other (FTR) devices

### 6.1.1. Use of simple predicates for FTR: the example of Livonian

In Livonian, Tver Karelian, Veps, and Votic, LEE(NE)- synchronically functions as a **future** copula in predicate nominal, locational, possessive, existential, and relative clauses (cf. Section 4.1). As LEE(NE)- tends to be used when a copula is needed for FTR, and it does not seem to be easily interchangeable with the present copula (without change in the time reference), it can be regarded as an obligatory future copula.

The data set contains only a few examples of sentences in which LEE(NE)- expresses an epistemic meaning about a **present** situation. As often this sense is supported by modal adverbs that translate as ‘supposedly’, ‘might be’ etc., LEE(NE)- conveys a weak epistemic meaning. For comparison, it is claimed that Finnish *lienee* once started to lose ground as it can easily be replaced by other epistemic expressions (Tommola 2010: 522).

In the data set, LEE(NE)- has **past** forms in Tver Karelian only.

LEE(NE)- can be claimed to express CHANGE and BEING. The two senses form a continuum as often both are present, but to a different extent (cf. Section 4.1.2.). As already claimed, especially when LEE(NE)- conveys various meanings that can be subsumed under the concept CHANGE, *semi-copula* seems to be a more accurate term than *copula*.

When comparing the usage of Livonian *līdō* with Livonian *sōdō* ‘get, become’ in future contexts, it has to be stated that *līdō* expresses CHANGE less frequently than *sōdō*. Example (54) can be compared with the locational clause in example (10) (presented here again in 55). In addition to conveying MOVEMENT (reaching somewhere), *sōdō* in example (54) gives an additional modal meaning – it expresses NON-EPISTEMIC POSSIBILITY. Example (56) can be associated with the possessive clause in example (17) (presented here again in 57). Whereas *sōdō* in Example (56) expresses ‘getting something into one’s possession’, *līdō* in example (57) rather stresses ‘having something in one’s possession’.

- (54) Livonian (SET 76)  
*ku ta s̄āb ī'd sūr m'e'r pālā ..*  
 when s/he get.3SG one.GEN big.GEN sea.GEN on.ALL  
 'When s/he gets to the Baltic Sea ..'
- (55) Livonian (SET 146)  
*je'dlām alā sa andā sie spiegel' sie freilenān, kuht's*  
*ta sīnda vjītāb eht's jū'rā ma'ggām.*  
*un ta līb te'ž sin'nān s̄ā'l lābūd pāl vastā*  
 and s/he LEE.3SG here.INE you.DAT there.ADE window.PL.GEN on.ADE meet  
*ku sa lā'd ne sigādaks*  
 'Don't give the mirror to the lady before she lets you sleep in her bed [lit. 'takes you to her bed to sleep']. And she will be here at the window to meet you when you go there with the pigs.'
- (56) Livonian (SET 284)  
*un se kēhig um kītān:*  
*"ku sa jērā kuolād kust ma mūdā s̄āb."*  
 when you PFV die.2SG where.ELA I other.PART get.1SG  
 'And this king said, "When you die, where will I get another one?"'
- (57) Livonian (SET 76)  
*ku ta s̄āb ī'd sūr m'e'r pālā, siz tāmā ētab tām' sīhā si'zzal*  
*ja tām'mān āb lī nei' jēn'nā ve'zzā*  
 and s/he.DAT NEG LEE.CNG so much meat.PART  
 'When s/he gets to the Baltic Sea, then s/he will throw it into it and s/he won't have that much meat.'

Comparing predicate nominal clauses and relative clauses in the case of Livonian *līdō* and *sōdō*, it appears that *sōdō* occurs only in overt change-of-state constructions, see example (58) which is a GM clause.

- (58) Livonian (SET 278)  
*aš ta ī'dāks āigast vjīb bāz rjkt un bāz na'grāmēt nu'opī'lā*  
*siz tām' vēl'id s̄ābād pa rištingāks*  
 then s/he.GEN brother.PL get.3PL PTCL human.TRA  
 'If s/he can go without talking and laughing for nine years, then his/her brothers will turn into human beings.'

If the time reference of examples (54), (56) and (58) were changed from future to past, the verb *sōdō* would still convey CHANGE. Considering this and the discussion above, at least Livonian *līdō* is more likely to express stative relations.

## 6.1.2. Use of auxiliary constructions for FTR

Although LEE(NE)- can appear in auxiliary constructions and, as a result, give rise to aspectual, modal, and temporal meanings, it is more often used as a simple predicate than as an auxiliary (see figures in Table 2). This section examines some devices that can be used in place of LEE(NE)- constructions.

**Aspectual meanings and FTR.** LEE(NE)- + PTCP is present in all four languages (Livonian, Tver Karelian, Veps, and Votic) to express realization of an action with reference to the future. In Livonian, for instance, FUTURE-RESULT can also be expressed by means of *sõdõ* + PTCP, as in (59). Livonian exhibits the following kind of specialization of uses: *līdõ* + PTCP is mainly used in sentences that receive an active interpretation, *sõdõ* + PTCP in sentences with a passive interpretation, cf. examples (59) and (31) (presented here again in 60). (In Veps, on the other hand, all the instances of LEE(NE)- + PTCP in the data set get a passive interpretation, cf. Section 4.2.) It seems that in Livonian, the FUTURE-RESULT constructions involve either *līdõ* or *sõdõ*, and *võlda* (< \*ole-) does not occur.

(59) Livonian (SET 199)

.. *un kītiz sie übīzān:*  
*”mūp uonđžal sa sād mā’ taptəd.”*  
 tomorrow morning you get.2SG PFV kill.PASS.PST.PTCP  
 ‘.. and told the horse, “Tomorrow morning you will be killed.”’

(60) Livonian (SET 243)

*un siz ku ta līb sie ti’end*  
 and then when s/he LEE.3SG this do.ACT.PST.PTCP  
*siz ne lībəd kī’zzist tām’ pālə*  
 then they LEE.3PL mad.PL s/he.GEN on.ALL  
 ‘And when s/he has done it, they will be mad at him/her.’

**Modal meanings and FTR.** In combination with tINF or mINF<sub>Deb</sub>, LEE(NE)- primarily expresses NON-EPISTEMIC NECESSITY (cf. Section 3.2). However, it is hard to say whether in such instances, LEE(NE)- adds something to the meaning (e.g. stresses FTR or gives an additional epistemic meaning) or not, cf. similar sentences in (61) and (62). Regardless of this, it is possible to maintain that examples (61) and (62) primarily convey NON-EPISTEMIC NECESSITY (this also applies to examples (33) through (35)).

(61) Livonian (SET 104)

*aš sinā mūdə vītād*  
*siz sin’ līb kuoləmāst*  
 then you.DAT LEE.3SG die.mINF.DEB  
 ‘If you take something else, then you have to die.’

- (62) Livonian (SET 105)  
*ku sa nēšti vjād*  
*siz sin' um' kuoləmāst*  
 then you.DAT be.3SG die.MINF.DEB  
 'If you take from these, then you have to die.'

In addition to using OLE- or a LEE(NE)- as an auxiliary in a modal construction, it is possible to convey necessity with modal verbs as well, e.g. see *piteä* 'have to' in Tver Karelian (63). Thus, in Tver Karelian both *lie(nöy)* + tINF as well as *piteä* + tINF express NON-EPISTEMIC NECESSITY, cf. examples (63) and (34) (presented here in 64). For comparison, the modal verb *pidīks* 'has to, should' in Livonian has a defective paradigm and it only seldom occurs (Viitso 2008: 344).

- (63) Tver Karelian (VIR 176)  
*Meilä pidäu jo kopituta kodih!*  
 we.ADE/ALL have already rush.tINF home.ILL  
 'We have to rush home already.'

- (64) Tver Karelian (VIR 80)  
*No nuorim poiga i šanou:*  
*"Midä vielä tuatto liennou miula luadie štobi...?"*  
 what else dad LEE.POT.3SG I.ADE/ALL do.tINF in\_order  
 'The youngest son says, "Dad, what else do I have to do in order to ...?"'

There are a few instances of participial constructions (*līdō* + PTCP) in Livonian, that, first and foremost, express EPISTEMIC POSSIBILITY giving rise to a present or a past interpretation. Apparently the primary epistemic meaning in the case of auxiliary constructions is rare for the same reason as in the case of simple predicates (cf. Section 4.1.3) – there are other means available (e.g. modal adverbs, modal particles) for expressing possibility about a situation with present or past relevance.

**Temporal meanings and FTR.** Although LEE- in Livonian and Votic can even function as a future auxiliary in prediction-based sentences, it is obligatory in neither of these languages. The more common way to convey intentions and predictions about the future is to use the present tense, as in (65). The Veps suffix *-škande-* seems to be the most grammaticalized device that quite often expresses FUTURE (rather than its original inchoative meaning). For example, (66) states that a situation will hold in the future (i.e. *the village life will persist*) rather than its beginning (*\*the village life will start to persist*).

- (65) Livonian (SET 112)  
*sinā uod se kis mīnda nā'vāst ä'bt'ist*  
*minā kītāb eñtš tātən*  
 I say.1SG own.GEN dad.DAT  
 'You are the one who helped me, I'll tell my dad.'

- (66) Veps (KM 2, 2011)  
*I škol neciš azjas om ezmäine abunik.*  
*Ved' kuni eläb škol ka eläškandeb*  
 namely until live.3SG school also live.INCH.3SG  
 'And the school is the first resource in these things [maintaining traditions].  
 Namely, as long as the school lives, the village will live as well.'

Mainly for the reason that LEE(NE)- is not an obligatory future marker either in intention-based or prediction-based sentences in any of these four languages, one cannot regard it as a well-grammaticalized future auxiliary, even though there are a few instances when it appears as one.

As this section has shown, there are other means that can be used for conveying modal, aspectual and temporal meanings in connection with FTR. This could also be the reason why LEE(NE)- does not occur very frequently in these cases.

## 6.2. The general picture in the four languages

This section illustrates the discussion in the previous sections by providing Figure 1 and, in addition, it makes some concluding remarks concerning the general picture of the use of LEE(NE)- in Livonian, Tver Karelian, Veps, and Votic.

In Figure 1, it appears that the situation is the most diverse in the case of **future time reference**: when FTR is intended, aspectual, modal, as well as temporal meaning elements can emerge as primary. There is a difference between simple predicates and auxiliary constructions:

- In connection with LEE(NE)- as a simple predicate, either a modal or a temporal meaning arises. Although future contains almost always some kind of a modal element, it is still possible to find instances that, first of all, express prediction about the future state of affairs (i.e. convey temporal meaning) (cf. Section 2.2). Moreover, even in the case of the LEENE- root, the temporal meaning can be the strongest (cf. Section 4.1.2).
- In the case of auxiliary constructions, aspectual meanings can be associated mainly with participial constructions; LEE(NE)- + tINF (in Livonian also *lī* - + mINF<sub>Deb</sub>) gives rise to modal meanings; and the temporal meaning emerges in the case of LEE-followed by an M infinitive (in Votic) or by a T infinitive (in Salaca Livonian).

Both LEE(NE)- as a simple predicate as well as LEE(NE)- as an auxiliary can get **present time reference**. But whereas LEE(NE)- as a simple predicate and LEE(NE)- + PTCP generally convey EPISTEMIC POSSIBILITY about a completed situation in the past, LEE(NE)- + tINF, LEE- + mINF<sub>Deb</sub> usually express NON-EPISTEMIC NECESSITY. In Figure 1, the instances of non-epistemic necessity are also associated with FTR, as the borderline between present and future NECESSITY is often quite fuzzy (cf. Section 6.1.2).

There are instances of **past time reference** in Tver Karelian only. When Tver Karelian *lie(nöy)* occurs in the past tense form and is used as a simple predicate, it usually expresses CHANGE; the instances of the constructions *lienöy* + tINF that occur in the data set convey NON-EPISTEMIC NECESSITY.

On the basis of the discussion in the previous sections and Figure 1 below, it can be said that LEE(NE)- is a good example of a future-marking device in which modal, aspectual, and temporal meaning elements intertwine. Which of the three meaning elements is the strongest depends on the predicate type (whether LEE(NE)- occurs as a simple predicate or occurs in auxiliary constructions) and on the more specific underlying construction. In addition, a broader context is important as well, e.g. *līdō* + PTCP in Livonian can give rise to FTR and aspectual meaning or present time reference and modal meaning.

Time reference	FUT	PRS	PST
Predicate type			
SIMPLE PRED.	Liv TvKar Veps Vot	Liv TvKar Veps	TvKar
AUX. CONSTR. <i>LEE-</i> + PTCP (ACT)	Liv Vot	Liv	
<i>LEE(NE)-</i> + PTCP (PASS)	TvKar Veps Vot	Veps	
<i>LEE(NE)-</i> + tINF	Liv TvKar Veps Vot	Liv TvKar Veps Vot	TvKar
<i>LEE-</i> + mINF	Vot		
<i>LEE-</i> + mINF <sub>Deb</sub>	Liv	Liv	

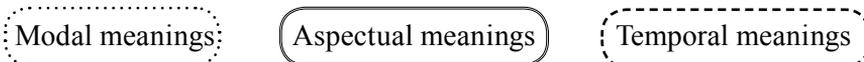


Figure 1. Functions and meanings of LEE(NE)- in Livonian, Tver Karelian, Veps, and Votic.

## 7. Conclusions

This article has discussed the usage of LEE(NE)- verbs mainly in four Finnic languages/language varieties: Livonian, Tver Karelian, Veps, and Votic.

The paper set out to determine the functions and meanings of LEE(NE)- in order to see to what extent LEE(NE)- can be regarded as a future-marking device in the Finnic languages. For a more fine-grained analysis, a distinction was made between LEE(NE)- as a simple predicate and LEE(NE)- as an auxiliary. The analysis was based on a data set that was created by the author for the purposes of the present study.

This study has shown that in the abovementioned languages, LEE(NE)- can be regarded as an obligatory future copula in nominal predicate, locational, possessive, existential, and relative clauses when FTR is intended. However, LEE(NE)- is not always a true future copula (which is semantically empty), as it often expresses both CHANGE as well as BEING. For example, in resultative clauses, it, first and foremost, appears in the meaning of ‘become’. Particularly in such instances, LEE(NE)- could be best described as a semi-copula.

It became apparent that LEE(NE)- can also receive a present interpretation (although there are only a few such occurrences), in such cases it usually conveys epistemic possibility. As modal adverbs or particles are often involved, we are dealing with a weak epistemic meaning. Tver Karelian is the only language among these four languages in which LEE(NE)- occurs in the past tense form; typically it occurs in the meaning ‘become’.

The second major finding concerns LEE(NE)- in auxiliary constructions. Namely in auxiliary constructions, LEE(NE)- can give rise to aspectual, modal, or temporal meanings. Which of the three meaning elements emerges as primary depends on the constructions, i.e. on their underlying constructions that somewhat vary from language to language. For example, the temporal meaning in Votic can emerge in connection with the M infinitive, in Salaca Livonian with the T infinitive. Sometimes, the time reference appears to be decisive, e.g. in connection with future, Livonian *līdō* + PTCP gives rise to an aspectual meaning, with reference to the present time, the same construction conveys a modal meaning.

Although even a temporal meaning is possible, and in such cases LEE- functions as a future auxiliary, it cannot be regarded as a well-grammaticalized FTR device. The main reason is that its usage is neither obligatory nor systematic. For instance, there are only two examples in Votic in which *lee-* functions as a future auxiliary, expressing PREDICTION without primarily giving rise to modal or aspectual meanings. Thus, using LEE(NE)- for FTR is systematic and obligatory only when used as a simple predicate.

It was also shown that the distinction between LEE- and LEENE- is not as clear-cut as sometimes suggested. Namely, the -NE- suffix that is usually connected with potentiality (epistemic possibility) does not necessarily add a modal meaning, and vice versa – LEE- can primarily be modal without involving -NE-. The future meaning in Votic and Livonian was associated only with the LEE- root, but there are too

few examples to draw substantial conclusions; moreover, the LEENE- root does not appear at all in Livonian.

This article commented only briefly on the languages in which LEE(NE)- is not the main device of expressing FTR, as this would require a study in its own right. Similarly, the different devices that can be used instead of or parallel to auxiliary constructions containing LEE(NE)- deserve closer attention. One further task is to also propose a more fine-grained analysis of the possible grammaticalization path(s) of forms and functions of LEE(NE)-.

## Abbreviations

1,2,3 numbers	MINF M infinitive
ABL ablative	NEG negative
ACC accusative	SG singular
ACT active	PART partitive
ADE adessive	PASS passive
ALL allative	PFV perfective
CNG connegative	PL plural
DAT dative	POSS possessive
DEB debitive	POT potential
ELA elative	PRS present
ESS essive	PST past
FUT future	PTCL particle
GEN genitive	PTCP participle
ILL illative	Q question particle
INCH inchoativity	TINF T infinitive
INE inessive	TRA translative

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