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Future time reference devices in Livonian in a Finnic context

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University of Tartu, Institute of Estonian and General Linguistics

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Supervisors: Professor Karl Pajusalu, University of Tartu
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FOREWORD

In autumn 2004, I came to the University of Tartu with the idea of studying English language and literature as my major and law as my minor. But after I attended the first introductory course in general linguistics taught by Renate Pajusalu, I changed my mind and decided to go deeper into linguistics. So I took Estonian and Finno-Ugric linguistics as my minor.

I became interested in tense, aspect and modality when being a Bachelor's student. In a seminar paper I discussed the use of past tenses; in my Bachelor's thesis I concentrated on the progressive aspect in English and Estonian. Through these papers I also came into contact with Helle Metslang. It was only somewhat later when Karl Pajusalu stopped me in the hallway of the University of Tartu main building and suggested that I focus on Livonian in my Master's thesis. It was then jointly decided that I should continue my research on the expression of future time reference. I took the challenge and I have never regretted it.

For helping to get this thesis between covers I am grateful to many people. First and foremost, I want to express my heartfelt thanks to my supervisors Karl Pajusalu and Helle Metslang for instructing and encouraging me, but also for being and doing much more than I could have ever expected. It has been an inspiring collaboration and I very much appreciate the time and effort they have invested in me and my work.

I am very thankful to my reviewers Riho Grünthal and Marja Leinonen for their insightful comments and suggestions for revision, and to Andra Kalnača for coming to serve as opponent at the defence.

I also want to express my gratitude to my colleagues at the Institute of Estonian and General Linguistics for making it a great place to study and work. I would especially like to thank Külli Habicht, Gerson Klumpp, Liina Lindström, Renate Pajusalu, Külli Prillop and Ilona Tragel, who have always been ready to discuss parts of my dissertation and give advice concerning my studies, but who have been easy to turn to in all kinds of situations. I am grateful to the whole morphosyntax group for reading and commenting on my drafts and giving valuable feedback. I would also like to thank Ellen Niit and Tõnu Seilenthal for their friendly advice and support from the first day on when I started my studies at the University of Tartu.

During my studies I have been able to participate in many conferences, seminars, summer schools; study and do research abroad. Some of the most "exotic" trips however have been the fieldtrips to Finnic speaking areas. Numerous seminars and conferences, road-trips and a summer school in Livonia have been unforgettable experiences and provided me with valuable knowledge on Livonian matters. I have been surrounded by a great company of people who care very much about the Livonian language and culture. Unfortunately I have never had a chance to record the older generation of Livonians, but I have heard their stories and learnt the Livonian language from Tiit-Rein Viitso and Valts

Ernštreits. Their knowledge and understanding of the language has been of great help throughout the writing process. For being able to do fieldwork in Veps, Ludic and Tver Karelian I am thankful to Madis Arukask, Petar Kehayov and Janne Saarikivi respectively; for the chance to visit Votic and Ingrian-speaking areas, I thank Heinike Heinsoo. With gratitude I think of the speakers, who invited us into their homes, told their stories and brought Finnic languages and people into my heart.

In 2012 I spent a semester as a guest doctoral student at the Department of Linguistics of the University of Stockholm. I am grateful to Östen Dahl, Maria Koptjevskaja-Tamm, Matti Miestamo, Bernhard Wälchli and my fellow doctoral students for the interesting seminars and discussions, and to the whole department for making my stay so pleasant. Thanks to Eberhad Winkler, in autumn 2013 I had a chance to do research in the libraries of the University of Göttingen. I am grateful to Riho Grünthal for enabling me to study and finish my Doctoral thesis in Helsinki in 2015. I would also like to thank the participants of the Doctoral seminar in Helsinki for their valuable comments on my work. For several pleasant and useful stays in Budapest and Eötvös Loránd University I am thankful to Péter Pomozi. There are many other colleagues and friends in Finland, Hungary and elsewhere whose names I will not be able to list here, but to whom I am very thankful for their interest in me and my work, their help with the literature, their advice on thesis-related matters and the time spent together.

I received financial support from the Project IUT2-37 "Prosodic structure and language contact in the Finno-Ugric languages" (2013–2018), Project 575RE "Estonian morphosyntax, semantics and pragmatics", Project SF0180084s08 "Morphosyntactic structure and development of Estonian" (2012–2013) and the Graduate School of Linguistics, Philosophy and Semiotics (2010–2014). The semester in Stockholm was financed by the DoRa Programme, a month in Göttingen by DAAD Scholarship and a year in Helsinki by CIMO Scholarship. My stays in Budapest were possible thanks to the Estonian Academy of Sciences joint research grant with Hungarian Academy of Sciences "Sociocultural aspects of linguistic variation in the Estonian and Hungarian language area" (2013–2015).

During my doctoral studies I have been able to count on many friends. I am thankful to my fellow doctoral students Francesca di Garbo, Annika Küngas, Kirsi Laanesoo, Eva Saar, Nele Salveste, Tuuli Tuisk, Yvonne Agbetsoamedo, Benjamin Vorhölter and Ghazaleh Vafeian for their feedback on my writing, but above all, for taking this adventure with me. I am also thankful to Katrin Koorits for being a great teacher of German and discussing German-related issues with me; to Laimute Balode, Ilze Zagorska, Kerttu Kibbermann and Gunta Kļava who brought Latvian into my heart and answered my questions about Latvian. For English-related questions and language editing, I thank Djuddah Leijen, Evan Lezar, Ingrid Lezar, Kristin Lillemäe, Helena Metslang, Mark Norris and David Ogren.

Finally, a big thanks goes to my family, relatives and friends who have supported me along the way, given me reasons to explain what I do and why I do it but once in a while have also shown me ways to forget about all this and enjoy other important things in life. To conclude, I have to end where it all started: I cannot thank my mother and father Piret and Madis Norvik enough for raising me with a curiosity towards languages and their speakers. Although they thought that two linguists would be enough, I know they were proud of my choice to follow their lead. I am also thankful to my brother Ilmar Norvik for putting up with three linguists and adding a different perspective to our discussions. I very much appreciate their interest in my research and my parents' constant contribution by means of proof-reading my texts, helping with the literature, editing the bibliography, and being there for me, whenever it was needed. Unfortunately I will not be able to tell my father how much this all meant to me, but I feel he knew this, the same way that he knew I could make till the end.

CONTENTS

LIST OF ARTICLES

[P1] Norvik, Miina. 2013. Future time reference in the Finnic languages: LEE(NE)- verbs. *Journal de la Société Finno-Ougrienne* 94. 125–164.

[P2] Norvik, Miina. To appear. The past participle constructions LEE(NE)- + PTCP and SAA- + PTCP as future time reference devices: the example of Livonian against a Southern Finnic background. *Journal de la Société Finno-Ougrienne* 95.

[P3] Norvik, Miina. 2014. Change-of-state predicates and their use in expressing the future: the case of Livonian. *Eesti ja soome-ugri keeleteaduse ajakiri / Journal of Estonian and Finno-Ugric Linguistics* 5 (1). 117–148.

[P4] Norvik, Miina. 2012. Periphrastic future devices in Salaca Livonian. *Linguistica Uralica* 48 (1). 27–40.

1. INTRODUCTION

1.1 Overview of the study: focus and premises

The present doctoral thesis concentrates on future time reference (FTR) devices in one of the Finnic languages, namely Livonian. The Finnic languages are a branch of the Finno-Ugric language family spoken on the eastern shores of the Baltic Sea, as well as somewhat inland. The exact number of languages varies depending on what is considered a language. Some researchers regard Finnish, Estonian, Votic, Karelian, Veps and Livonian as separate languages (e.g. Hakulinen 2000: 11); commonly Ingrian (e.g. Laanest 1975: 12) and Ludic (e.g. Laakso 2001: 180–182) are added to the list.

The main areas where Livonian is spoken remain within the territory of present-day Latvia. Historically, Livonian had two main varieties: Courland Livonian and Salaca Livonian. Today *Livonian* typically denotes Courland Livonian as Salaca Livonian became extinct during the 19th century. Courland Livonian is no longer passed on as a mother tongue; there are only about 200 people who consider themselves Livonians and about 20 to 30 people who can speak the language (see Ernštreits 2006). Hence, reference works tend to list Livonian as a severely endangered or nearly extinct language.

The **focus** of this thesis is on the Livonian language and the expression of FTR, but the results are also discussed in the broader Finnic context for several reasons. First, Livonian as Finnic languages in general is known to convey FTR using a verb in the present tense, e.g. *Mūpõ ma tulā-b o'bbõ kuodāj* (tomorrow I come-1SG late home) 'Tomorrow I'll come home late'. In such cases the future interpretation becomes clear from the broader context, in this particular case from the future adverbial *mūpõ* 'tomorrow'. Additionally, every Finnic language has at least one partly grammaticalised periphrastic FTR device (see e.g. Metslang 1996). However, their more profound usage has rarely been explained, especially in the grammars and language descriptions of the Finnic languages other than Estonian and Finnish. For example, the first language description of Livonian (Sjögren & Wiedemann 1861a) introduced *līdõ* 'will be' as a future auxiliary and presented a full paradigm, but not much was written about its actual use and obligatoriness.

The reason why expression of FTR and especially the use of possible periphrastic FTR devices in the minor Finnic languages has received little attention is that the traditional description of these languages has tended to concentrate on phonetics, phonology, morphology and lexicology. Periphrastic FTR devices however belong to the level of (morpho)syntax. Thus second, the aim is to enrich the research on (morpho)syntax, so that at least with FTR conclusions about Finnic languages would not only be made on the basis of Estonian and Finnish. A keen academic interest in Livonian, which dates back to the 19th century, has provided much linguistic material suitable for research on (morpho)syntax. Few studies on syntax but voluminous collections of texts also characterise other minor Finnic languages.

Third, as the expression of FTR has been of much interest from a typological perspective (e.g. Bybee et al. 1994; Dahl 1985) regarding European languages in general (e.g. Dahl 2000b), or with a focus on the Germanic languages (e.g. Hilpert 2008a), the results obtained in this thesis contribute to the general discussion of FTR.

In linguistic studies, the **category of future** has received much attention as one of the most controversial verb categories. Partly the discussion has been brought about by the different status of future with regard to the present and the past. Namely, the fact that we can seldom be sure about what will happen in the future has linguistic consequences – whereas present and past tenses mainly convey temporal meaning, future has also been associated with modal functions (e.g. expressing doubts and hopes with reference to the future) and aspectual functions (e.g. conveying progression from the present to the future) (see Bybee et al. 1994; Comrie 1976, 1993; Dahl 1985, 2000b). A sentence that is interpreted as expressing the future has been claimed to almost always differ modally from corresponding sentences in the present and past tenses (Dahl 1985: 103). The possibility to use what is generally known as *the future tense* for a modal and/or aspectual function has led some researchers to ask whether future is a tense category or (depending on the language) whether it should be subsumed into mood/modality or aspect (e.g. Declerk 2006 introduces the English *will* as a future auxiliary, but Palmer 1990 regards it as a modal verb). Another question is whether only inflectional marking constitutes a grammatical category or whether periphrastic marking should also be counted, e.g. compare the Latvian inflectional future marker *-š-* in *lasī-š-u* (read-FUT-1SG) 'I will read' and the English periphrastic device *will* in its translation. If tense is seen only as an inflectional category, periphrastic devices such as *will* have not been regarded as possible candidates for future tense (e.g. Huddleston & Pullum 2010; Quirk et al. 1974). Periphrastic devices are only taken into account if periphrastic as well as synthetic marking are regarded of equal value (e.g. Bybee et al. 1994; Dahl 1985). This is the approach that I support in the current thesis.

One option is to consider the categories of tense, aspect and mood/modality as basic units of language description that represent structurally significant entities in grammatical systems, which would mean looking for a grammatical form with the sole function of expressing FTR. Another option is to regard the corresponding systems as "wholes" and consider the notions of tense, aspect and modality (TAM) as ways of characterising the semantic content of a grammatical device, or domains from which the meanings of these devices are chosen (Dahl 2000a: 7; Dahl & Velupillai 2013). The latter approach enables one to study the distribution of different meaning elements (temporal, modal and aspectual) in verbs that are regarded as possible FTR devices and determine whether the temporal meaning element that one associates with tense can be the strongest. For this thesis I adopted the latter approach.

I use term ***FTR device*** in this thesis to denote verbs that I regard as at least candidates for FTR devices. An alternative term would be *future gram*. The term *gram* was coined by William Pagliuca to encompass the grammatical

morphemes associated with individual verb categories: affixes, stem changes, reduplication, auxiliaries, particles, and complex constructions (Bybee et al. 1994: 2). The term *FTR device* is preferred in this thesis because it does not presuppose that the device under discussion is a grammaticalised future marker; furthermore, it also enables one to regard the present tense as an FTR device.

In this thesis, I present an analysis of possible cases of future copulas and future auxiliaries. The term ***copula*** designates verbs that have little or no semantic content and occur with certain lexemes functioning as a predicate nucleus, e.g. the verb 'be' (Payne 1997: 115; Pustet 2003: 5). Copula is occasionally used as a cover term for verbs that add some content, e.g. verbs used to express 'becoming' or 'remaining', which are sometimes called semi-copulas, quasi-copulas (Pustet 2003: 5–6) or inchoative copulas (e.g. Bickel 1992). The term ***auxiliary*** stands for linguistic items that are at least somewhat semantically bleached and in combination with a lexical form fulfil a grammatical function associated with a TAM domain (Anderson 2006: 4–5; Heine 1993: 53). Auxiliaries tend to have a fixed position and reduced behaviour (e.g. they cannot be passivized); as auxiliaries are of verbal origin, they may be still marked for person, number, negation etc., whereas the actual main verb appears in an invariable form (Heine 1993: 86–87).

The **empirical data** presented in the articles mainly originated from sources from which it was possible to collect linguistic examples with a broader context. For compiling the data set, I mainly used spoken language data, which I obtained from (transcribed) collections of texts and recordings. Additionally I included written data, such as texts originally written in a Finnic language (e.g. an ABC book or a journal), but also translations (e.g. Bible translations). In the data analysis, I followed a functional-typological approach to language whereby linguistic structures are investigated by considering their functions and making cross-linguistic comparisons. For determining (possible) FTR devices and discussing their development, the well-known linguistic theory of grammaticalisation was used.

1.2 Previous research on FTR devices in the Finnic languages

There are a few studies that have considered FTR devices in the Finnic languages (Mägiste 1936; Saukkonen 1965), viewed them within the larger Finno-Ugric background (Majtinskaja 1973; Metslang 1996; Tauli 1966), or concentrated on the expression of FTR in Estonian and Finnish as part of a more general research question (e.g. Ikola 1949; Metslang 1994). Regarding Livonian, Ulla Ernštreite's (2005) BA thesis examines the expression of FTR in the Gospel of Matthew in Courland Livonian and in my MA thesis (Norvik 2010) I investigated FTR in Salaca Livonian. Grammars and other language descriptions of Finnic languages explain the expression of FTR to varying degrees.

The fact that earlier studies contain examples of periphrastic devices used for the expression of future encouraged me to concentrate on the periphrastic devices. For instance, the verbs denoting 'begin' are common sources for future markers in various Finno-Ugric languages; also, the verbs denoting 'come' and 'become' show development into FTR devices (Majtinskaja 1973, 1979; Mägiste 1936; Metslang 1996). The Livonian *līdõ* 'will be' has cognates in all the Finnic languages and in most of the Finno-Ugric languages, e.g. the Finnish *lienee* and *lie*, Estonian *leeda*, Ingrian *lījjä*, Votic *lē-*, Veps *l'iń'd'ä*, Ludic *l'iettä*, Karelian *lie(nöy)*, Saami *læt*, Hungarian *lesz*, Komi Zyrian *loni̮*, Udmurt *lui̮ni̮*, West Mari *liäm* and East Mari *liam* and *lijam* (SSA II). These verbs are primarily associated with modal and temporal (future) meanings (see Budenz 1966; Majtinskaja 1973; SSA II; UEW). The Finnic verbs that are in the focus in this thesis are referred to as LEE(NE)- verbs (capitalization suggests common origin and shared meanings, e.g. as done by Dahl 2000b). LEE- stands for the Proto-Finnic (PF) **lē-* root and LEENE- for the **lēne-* root that is generally seen as the modal variant (see e.g. Saukkonen 1965: 174). The suffix -NE- marks the potential mood, which is a verbal category expressing epistemic modality, i.e. the potentiality of an action. In the Finnic languages this category is most common to Finnish and Karelian (Laanest 1975: 155).

Particularly with regard to LEE(NE)- forms, previous research called for a revision of certain questions or further investigation of them. For instance, whereas József Budenz (1966: 698) argued that the Proto-Finno-Ugric (PFU) form may have expressed motion and Saukkonen (1965: 174) considers 'come' as an early meaning, József Györke (1936: 27–29) proposed 'be' as the original meaning. There have been doubts regarding the order of development of the modal and temporal meanings, e.g. EPISTEMIC MODALITY > FUTURE or FUTURE > EPISTEMIC MODALITY (see Györke 1936: 27–29). The various (other) meanings that have been listed in dictionaries and grammars often do not give enough information about in which cases these meanings are expressed, whether they are associated with LEE(NE)- occurring as a simple predicate or in a construction, and to what extent the use of LEE(NE)- verbs is obligatory in the language. LEE(NE)- verbs are sometimes associated with tense and other times with mood (see also subsection 1.1). Lauri Kettunen (1938) for instance introduced the Livonian *līdõ* under the potential category; the Veps cognate *l'iń'd'ä* in Veps grammar (Zaiceva 1981) has been treated likewise. Paul Ariste (1948) regarded the Votic *lē-* as a future auxiliary and presented a full paradigm.

1.3 Aims and hypotheses

Considering the previous research on the Finnic languages (see subsection 1.2), the reasons for the present study and the theoretical framework adopted for this thesis (see subsection 1.1), the following objectives were set for the present study:

(i) focus on possible periphrastic FTR devices in Livonian
   - provide an extensive analysis of the functions of the Livonian *līdõ* 'will be' and determine whether it has been grammaticalised as an FTR device conveying temporal meaning
   - discuss other devices that are used to express FTR and determine whether there are several devices that deserve to be regarded as FTR devices;

(ii) analyse comparative linguistic data from other Finnic languages;

(iii) consider the expression of FTR in the Finnic languages from a typological viewpoint.

It was hypothesised that:

(i) the Livonian *līdõ* is a grammaticalised FTR device in at least some uses, in which case its usage is systematic and obligatory, but it is not a true future auxiliary;

(ii) the Finnic languages other than Estonian and Finnish offer evidence to regard LEE(NE)- as primarily an FTR device;

(iii) although Livonian and other Finnic languages also contain other verbs that to some extent have grammaticalised into FTR devices, at least for Livonian *līdõ* is the most grammaticalised FTR device.

1.4 Structure of the thesis

This thesis is structured as follows: Chapter 2 introduces the material and methods used in the articles upon which this thesis is based; Chapter 3 gives an overview of the Livonian language and previous research on its verb system with a particular reference to the expression of FTR; Chapter 4 provides further insight into the theoretical premises of the present study. First it defines the domains *tense*, *mood/modality* and *aspect.* Then it explains the intertwining and development of the corresponding meaning elements (temporal, modal and aspectual) in the semantics of FTR devices. In order to view Finnic languages in a wider context, examples from several languages are presented; Chapter 5 summarizes the questions explored in the articles and provides some discussion. This is followed by conclusions and suggestions for further research.

2. Materials and methods

2.1 Compiling the data

The empirical material used in the articles originates from various sources: collections of texts, recordings, edited and translated texts, including Bible translations. Table 1 gives an overview of the sources used for obtaining Livonian linguistic data.

Table 1. Overview of the Courland Livonian and Salaca Livonian source materials

	Source materials	**Time of collection/ compilation**	**Text types included in the study**
Courland Livonian	***(Transcribed) oral texts***		
	Collections of texts		
	Setälä (1953)	1888, 1912	Narratives about past events, fairy-tales and other stories, and descriptions of certain activities; collected from different speakers from various villages
	Kettunen (1925)	1917 to 1925	
	Loorits (1922)	1922 to 1924	
	Mägiste (1964)	1943	
	Recordings		
	Recordings of various speakers (audio files retained in AEDKL)	1968 to 2010	Narratives and descriptions, and interviews about everyday life; collected from different speakers from various villages
	Edited and translated texts		
	Stalte (2011)	mid 1930s	Short texts compiled and edited by one individual
	Sjögren & Wiedemann (1861a)	1846, 1852	Example sentences without context, narratives originally told in Livonian, and translated texts
	Bible translations		
	Gospel of Matthew (Mt 1880)	before 1880	Translated texts
	Gospel of Matthew (ŪT 1942)	1931 to 1936	
	Gospel of Mark (ŪT 1942)		
Salaca Livonian	***Edited and translated texts***		
	Sjögren & Wiedemann (1861a)	1846	Example sentences without context and translated texts

The (transcribed) oral texts contained the most authentic material, i.e. representing the best the way people were speaking, although the printed collections have been edited to some extent. However, the introductory parts of these collections indicate that editing mainly concerned phonological features (see e.g. Setälä 1953: 17).

The articles differ somewhat in the use of source materials. For instance, [P1] contains an analysis of materials originating from the text collections. The data collected from other Finnic language varieties for comparative purposes to a large extent also contained spoken language data, which originated from published collections and recordings. [P2] and [P3] that concentrate on Livonian additionally included edited texts and Bible translations. As overall there is only comparatively little data remaining for Salaca Livonian (see subsection 3.2), [P4] included all the data available in Sjögren & Wiedemann (1861a).

Every article contains at least some comparisons of the expressions of FTR in Livonian with other Finnic languages / language varieties. To varying extents, the four articles present examples from Ingrian, Central Ludic, Northern Karelian, Olonets Karelian, Tver Karelian, Standard Finnish, Veps, Votic, Standard Estonian, Old Written North Estonian (OWNE) and the Insular dialect of Estonian (EstIns). The more specific division in the case of Karelian and Ludic is owing to the fact that I have been doing field-work there (in the Tver Karelian and Central Ludic areas during 2009 and 2012 respectively). OWNE and EstIns were included for comparative purposes, as the LEE(NE)- verb that was of primary interest for this thesis was only found in these Estonian varieties.

Comparative data from other Finnic languages was collected from collections of texts, recordings and text corpora. Dictionaries and grammar overviews that contained authentic examples also turned out to be valuable sources. As no context was provided to the sentences in the dictionaries and grammar overviews, only unambiguous examples (in terms of meaning and time reference) were included. In [P1], part of the data on Northern Karelian, Olonets Karelian and Veps originated from electronic newspapers.

The material included in the study was somewhat uneven. This was determined by the availability of materials and that to a large extent the collecting of data was done manually.

2.2 Collecting, coding and presenting of the data

The linguistic examples were collected from the sources presented in Table 1 (subsection 2.1). First, in the case of every language, I determined which verbs deserved a further look regarding FTR. This I decided by considering (i) the results of previous research (see subsection 1.2 and Chapter 3), (ii) the source material, (iii) and crosslinguistically common paths for FTR devices (for more information, see subsection 4.2).

In the case of Courland Livonian the verbs that received a closer look in at least one of the articles were *līdõ* 'will be', *sǭdõ* 'get; become', *irgõ* 'begin', *akkõ* 'catch, grab; begin', *īedõ* 'stay, remain', *tūlda* 'come' and *lādõ* 'go'. The cognate verbs were also included from Salaca Livonian. In the case of other Finnic languages, the verbs considered depended on the language. They were either cognate verbs to the verbs named above or verbs that carry the same meaning (e.g. 'begin'). Only Central Ludic and Olonets Karelian revealed additional FTR devices with the source meaning 'be born' and 'give birth' – Central Ludic *rodi(ze)-* and Olonets Karelian *rotie(kseh)* (< Russian *rodit'* 'give birth' and *rodit'sâ* 'be born'). The linguistic examples containing these verbs were included with a broader context whenever such context was available.

The data sets for all the language varieties were coded as follows:

1) language/language variety; origin of the linguistic example (oral or translated text; example sentence in a grammar/dictionary);
2) simple predicate and auxiliary construction; in the case of a simple predicate, a distinction was made between the underlying construction, whereas in the case of an auxiliary construction the non-finite main verb (hereinafter V2) was determined;
3) formal properties of the finite verb (voice, mood, tense, polarity and person);
4) time reference (past, present or future), primary meaning element (temporal, aspectual or modal).

The type of information used depended on the article. For example, for studying past participle constructions in [P3], the clause type was additionally determined (main or subordinate; in the case of a subordinate clause, the type of the subordinate clause was also coded).

In the current thesis the presentation of the language examples varies somewhat. In [P1], [P3] and – with some exceptions – [P4], the orthography of the original sources was preserved; in [P2] and the introductory part of this thesis, the transcription of linguistic examples was simplified following the conventions of the written standards (modes) of each respective language. Only minor changes were made however, for example in the case of Livonian the changes mainly concerned the place of diacritics (e.g. *d'* > *ḍ* and *um'* > *u'm*), vowel length (e.g. *sie* > *sīe*), and replacing spoken language forms (occurred due to the nature of the spoken language, e.g. assimilation and reduction) by literary forms (e.g. *nānt* > *nā'nd*). To do this I used dictionaries, e.g. Viitso & Ernštreits (2012) for Courland Livonian and Winkler & Pajusalu (2009) for Salaca Livonian. All non-English examples in the thesis I provided with morpheme by morpheme glosses following the Leipzig Glossing Rules. In order not to predefine the functions and meanings of LEE(NE)- verbs, I glossed the verbs as LEE- or LEENE- depending on the root used. If an example was already glossed in the source and the original gloss was retained, this was so indicated in a footnote.

2.3 Method of analysis

The analysis of the possible FTR devices in Livonian and the other Finnic languages in this thesis took a functional-typological approach, explaining linguistic structure in terms of linguistic function. This approach dates back to the 1970s and is mainly associated with linguists such as Östen Dahl, Joseph Greenberg, Talmy Givón, Joan Bybee, Paul Hopper, Sandra Thompson, and others; the approach uses cross-linguistic comparisons and integrates synchronic and diachronic analysis (Croft 1999: 87).

When explaining diachrony and synchrony in this thesis, I relied on the principles of grammaticalisation theory. Grammaticalisation is a universal process typically understood as the development of grammatical marking over time that proceeds "from lexical to grammatical forms and from grammatical to even more grammatical forms" (Heine & Kuteva 2002: 2). The theory seeks to explain how grammatical items emerge and develop, and how to explain their structure (Hopper & Traugott 2003: 1–2).

The way I used the functional-typological approach and grammaticalisation theory to analyse the expression of FTR is explained in greater detail in Chapter 4. However, the main principles followed for this thesis were:

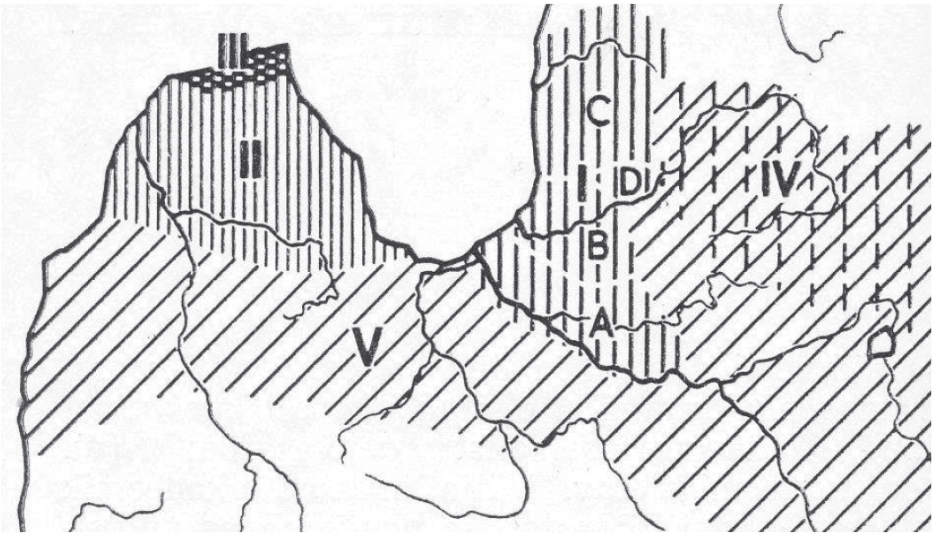
1. Periphrastic and inflectional devices were equally considered to be probable FTR devices, as periphrastic and inflectional marking fulfil similar functions (Dahl & Velupillai 2013).
2. A language can have several FTR devices that have grammaticalised to a different extent and become specialised for different purposes (Bybee et al. 1994).
3. An FTR device does not have to express only FUTURE, but can also appear with a modal or aspectual meaning that often reflects its previous stages of development (see Hopper & Traugott 2003: 97). The decisive factor for determining whether an FTR device is well-grammaticalised is its obligatory use in a prediction-based sentence for the expression of future (Dahl 2000b: 310).

3. Livonian and studies on its verb system with a focus on FTR

3.1 Varieties of the Livonian language

Livonian, together with Votic and Estonian, constitutes the Southern group of the Finnic languages. The main variety of Livonian, Courland Livonian, was originally spoken in 12 coastal villages in Courland, northern Latvia (III on Map 1). Salaca Livonian was once spoken in historical Livonia on the shores of the River Salaca (IC on Map 1). However, Salaca Livonian is said to represent only one variety of Livonian once spoken in Metsepole County, historical Livonia; the other variety was spoken by Livonians who lived on the shores of the Daugava and Gauja rivers (IA and IB on Map 1) (see Winkler 1994: 11–13). Idumea (ID on Map 1) was also probably at least partly inhabited by Livonians or some other Finnic tribe (Koski 1997: 46). It is suggested that Livonians once inhabited the whole coast of the Gulf of Riga, but their areas decreased after the establishment of Riga in 1201 (Winkler & Pajusalu 2009: 9). For more detailed discussion on the division of Livonian tribes; see e.g. Mauno Koski (1997), Urmas Sutrop (2014) and Evald Tõnisson (1970).

Map 1. Finnic territories in Latvia (adapted from Tõnisson 1970: 462)[1]



I – Livonians on the eastern coast of the Gulf of Riga at the beginning of the second millennium CE
(A – Daugava Livonians, B – Gauja Livonians, C – Salaca Livonians, D – Finnic tribes of Idumea)
II – Finnic tribes in Courland until the end of the first millennium CE
III – Coastal Livonians on the northern coast of Courland from the 16th to 20th centuries CE
IV – Finnic tribes in the central and eastern parts of northern Latvia until the 6th and 7th centuries CE
V – Baltic tribes

[1] The map is a reconstruction by Tõnisson based mainly on archeological findings.

Courland Livonian can be divided into two or three dialects. For example, Lauri Kettunen (1938: VIII) and Pētõr Damberg (1978: 73) supported the division into three dialects, whereas Andreas J. Sjögren & Ferdinand J. Wiedemann (1861a: C) and Tiit-Rein Viitso (2008: 232) argued in favour of two dialects. When three dialects have been proposed, distinction is made between East, West and Central Livonian (the last is also regarded as a transitional dialect); if only two, then Central Livonian is subsumed under West Livonian. The dialects are associated with the following villages:

- East Livonian – Ūžkilā (Latvian: Jaunciems), Sīkrõg (Sīkrags), Irē (Mazirbe), Kuoštrõg (Košrags), Sānag (Saunags), Vaid (Vaide), Kūolka (Kolka), Pitrõg (Pitrags) and Mustānum (Melnsils)
- Central Livonian (Īra dialect) – Īra (Lielirbe)
- West Livonian – Lūž (Lūžņa) and Pizā (Miķeļtornis)

As the distinctions between the dialects are made on the basis of phonological, morphological and lexical features, choosing one or another grouping is not of great importance to the current study. To what extent syntactic features play a role in this division is a question for future research.

Unlike Courland Livonian, Salaca Livonian has not been divided into dialects. One reason is that there are not many written records of Salaca Livonian. The most comprehensive data available was collected by Sjögren in 1846, when the Salaca Livonians' homelands had dwindled and the language was spoken by only 22 elderly people. Salaca Livonian became extinct 24 years later, in 1868, when its last speaker died (Vääri 1959: 202–205, 209).

3.2 Previous research on Livonian

The first words, names and a few phrases in Livonian were written down in the 13th century in the Livonian Chronicle by Henry. However, the first full text – *The Lord's Prayer*, translated from Latvian into Salaca Livonian – was not published until 1789. This event was followed by a period of somewhat random and philanthropic collecting of Livonian linguistic data (Vääri 1959: 202). Scientific study of Livonian started during the middle of the 19th century. In 1846, Sjögren visited the Salaca Livonians and Courland Livonians; in 1852 he went on a second fieldtrip to visit the Courland Livonians. But in 1855, Sjögren died and the task of finishing his work was given to Wiedemann. The grammar (Sjögren & Wiedemann 1861a) and dictionary (Sjögren & Wiedemann 1861b) that were published as a result of these scholars' contributions created the basis for further research. The grammar book gives an overview of phonetics, derivation and morphology, but also syntax; there is even information on the expression of FTR (see subsection 3.3). In addition, it includes 185 pages of language examples in both Salaca Livonian and Courland Livonian. For Salaca Livonian these works remain the most comprehensive sources of the language. Recently, interest in Salaca Livonian materials and analysing and systematising them has

grown (Winkler 1994, 1999; Winkler & Pajusalu 2009; Norvik 2010; Pajusalu 2014).

At the end of the 19th century and beginning of the 20th century, several collections of text and general descriptions of Livonian were published. During two fieldtrips, one made in 1888 and another in 1912, Emil N. Setälä collected stories, proverbs, folk songs and other materials. Whilst these were not published until 1953, he used some of the data he collected to describe Livonian phonology and morphology in the historical-comparative study *Yhteissuomalainen äännehistoria* [Finnic sound history] (Setälä 1899). Between 1920 and 1925, Lauri Kettunen and Oskar Loorits made several visits to Livonians. The stories told by these Livonian speakers were published in *Untersuchungen über die Livischen Sprache* [Studies on Livonian] (Kettunen 1925). The texts were accompanied by an introduction to Livonian phonetics. The introductory part was later rewritten and released as the separate study *Hauptzüge der livischen Laut- und Formengeschichte* [Main characteristics of Livonian sound and form history] (Kettunen 1947). Kettunen also published a dictionary on Livonian (Kettunen 1938), which contained an overview of phonetics and morphology. Despite World War II, in 1943 Julius Mägiste managed to visit Livonians and compile the collection of texts *Liiviläisiä tekstejä* [Livonian texts] (Mägiste 1964).

In addition, during the first half of the 20th century two studies closely related to the current thesis were published. Györke (1936) analysed LEE(NE)-verbs in Finnic languages, including Livonian. Kettunen (1937) discussed the Livonian imperative form *li!* 'go!' and its possible relation to *līdõ* 'will be'.

Research carried out during the second half of the 20th century and the beginning of the 21st century has offered further insight into the Livonian language. Viitso's research has concentrated on various topics in phonology and morphology. A selection of his studies were published in *Liivi keel ja läänemeresoome keelemaastikud* [Livonian language and Finnic landscapes] (Viitso 2008). Livonian prosody has been the focus of several studies (Vihman 1971; Lehiste et al. 2008; Tuisk 2014). Research on lexicology has also continued (e.g. Winkler 2011). In addition, the development of literary Livonian has been discussed by Eduard Vääri (1948) and most thoroughly by Valts Ernštreits (2010, 2013). In his PhD thesis, Riho Grünthal (2003) studied adpositions and cases in Finnic languages, including Livonian. This offered insight to Livonian syntax. Recent studies have brought into focus the categories of mood, modality and evidentiality. For instance, expressions of modality in Livonian have been discussed by Viitso (2014). Evidentiality received separate attention from Petar Kehayov et al. (2012). Ērika Krautmane's MA thesis (2010) dealt with moods in Livonian within the background of Estonian and Latvian. Bernhard Wälchli (2000) studied evidentiality and modality in the Baltic region. Kehayov et al. (2011) compared the use of the imperative in Estonian, Latvian and Livonian. A paper on negation has also recently been published by Helle Metslang et al. (2015).

In contrast to earlier times, only a few collections of texts in Livonian have been published within the last 50 years (e.g. Suhonen 1975). The linguistic material collected as a result of fieldtrips made by various researchers is retained in the archives of several research institutions. Part of the material I used was obtained from the audio data included in the Archives of the Estonian Dialects and Kindred Languages (AEDKL) of the University of Tartu. The Livonian recordings in the archives date back to 1968. Work to transcribe the recordings and make them available as comparative material in the internet based Estonian Dialect Corpus (EDC) also began recently.

3.3 Previous treatments of the expression of FTR in Livonian

3.3.1 Expressing FTR by means of simple and compound tenses

In a recent overview of Courland Livonian grammar, Viitso (2008: 318) made a distinction between:

1) five moods (Indicative, Conditional, Imperative, Quotative and Jussive)[2]
2) two simple tenses (Present and Past)
3) polarity (affirmative and negative)
4) three persons (1st, 2nd and 3rd)
5) two numbers (singular and plural)

Non-finite forms were:

1) participles (PTCP) that change in voice, tense and number, and to some extent also in case
2) infinitive (hereinafter T-infinitive)
3) gerund
4) supine (hereinafter M-infinitive), which changes in cases
   (see Appendix 1 for an example of the conjugation of Courland Livonian *sǭdõ* 'get; become').

In this subsection I compare the representation of FTR (i) in three overviews of Courland Livonian grammar: Sjögren & Wiedemann's (1861a), Kettunen's (1938) and Viitso's (2008); and (ii) two treatments of Salaca Livonian: Sjögren & Wiedemann's (1861a) and Pajusalu's (2014). Winkler (1994) also gives an overview of the Salaca Livonian verb conjugation, but as he follows the pattern presented by Sjögren & Wiedemann (1861a), Winkler (1994) is not included for comparison.

In contrast to the five moods presented by Viitso (2008) for **Courland Livonian**, Kettunen (1938) distinguished four moods (Indicative, Conditional,

[2] In this thesis, initial capitalization is used to denote language specific categories (e.g. as done by Comrie 1976 and Dahl 2000).

Imperative and Potential) and Sjögren & Wiedemann (1861a) three (Indicative, Conditional and Imperative). In addition, both latter sources mention that an agent noun (suffix *-ji*) also has a Quotative function (see Kettunen 1938: LXX; Sjögren & Wiedemann 1861a: 143). In Table 2, the cells in dark grey represent the categories that were classed as separate mood categories. The cells are filled with information on the expression of FTR as discussed by the author(s) of the respective source. In Table 2 only the active voice is considered; for the passive voice, see subsection 3.3.2.

Table 2. Courland Livonian tense and mood systems: an example of FTR

Source / Mood	Courland Livonian		
	Sjögren & Wiedemann (1861a)	**Kettunen** (1938)	**Viitso** (2008)
Indicative	Future (present tense forms and *līdõ* + tINF) Future Perfect (*līdõ* + APP and *sǭdõ* + APP)	Present-Future	Present tense *līdõ* *līdõ* + APP
Conditional			
Imperative			
Quotative	(agent noun)	(agent noun)	
Jussive	-	-	
Potential	-	*līdõ* *līdõ* + APP	-

According to Viitso (2008: 319, 323), the Present tense is also used for FTR; the forms of *võlda* 'be' convey present and past time references, but for FTR *līdõ* 'will be' has to be used. Kettunen (1938) called the corresponding tense Present-Future. He regarded the forms of *līdõ* as an expression of Potential mood, making a distinction between simple and perfect forms. Still, his translations into German reveal that both temporal (future) and modal interpretations are possible, e.g. *ma lī-b* (I LEE-3SG) is translated into German as "ich werde; ich bin vielleicht", i.e. 'I will be; maybe I am' (Kettunen 1938: LX, LXIII). This approach can be regarded as a semantic approach, because the Livonian *līdõ* does not combine with the suffix -NE- that has been associated with epistemic modality (see subsection 1.2; for Salaca Livonian, see below).

Sjögren & Wiedemann (1861a) regarded the use of Present tense with a present time reference (called Present) as separate from Present tense with a future time reference (called Future). Additionally, under the category Future they placed the construction *līdõ* + tINF; see example (1). Although the same construction also has a modal function (expressing obligation), it is explained that there are cases where the modal meaning remains in the background, as in example (1) (Sjögren & Wiedemann 1861a: 158, 160; see also subsection 4.1.2.2; for further discussion, see subsection 5.1.2.2).

(1) Courland Livonian (Sjögren & Wiedemann 1861a: 160)

min	***lī-b***	***kuts***
I.DAT	LEE-3SG	call.tINF

'I will call'

Compound tenses in Livonian are formed by *võlda* + PTCP and *līdõ* + PTCP. Future reading can be associated with *līdõ* + APP[3] that is used to express a situation completed before a reference point in the future (Viitso 2008: 323, 325); see example (2). Whereas Kettunen (1938) regarded *līdõ* + APP as Potential Perfect, Sjögren & Wiedemann (1861a: 160) subsumed *līdõ* + APP under Future Perfect (see Table 2). Additionally, they presented a participle construction containing a different verb – *sǭdõ* + APP, e.g. *sǭ-b kuts-õn / kuts-õn-õks* (get-3SG call-APP / call-APP-TRA), both of which mean 'will have called'.

(2) Courland Livonian (Viitso 2008: 323)

Siz	*ta*	***lī-b***	***lopt-õn***	*iļīzskūol.*
then	s/he	LEE-3SG	graduate-APP	university.GEN

'Then s/he will have graduated the university.'

Table 3 contains information on the **Salaca Livonian** *līd* (a cognate of the Courland Livonian *līdõ*). The situation is somewhat different from Courland Livonian. First, in Salaca Livonian FTR is also expressed by means of an M-infinitive Inessive; see example (3a). Although possible in Courland Livonian, the construction was claimed to be characteristic of Salaca Livonian (see Sjögren & Wiedemann 1861a: 139). Second, no counterpart for *sǭdõ* + APP in Courland Livonian has been presented for Salaca Livonian. Third, whereas in Courland Livonian the *līd* + tINF construction contains NP in the Dative case (example 1), the corresponding construction in Salaca Livonian includes NP in the Nominative case (example 3b).

[3] PTCP is used for participles in general; whenever necessary, further distinction is made between active past participles (APP) and passive past participles (PPP).

Table 3. Salaca Livonian tense and mood systems: an example of FTR

Source / Mood	Salaca Livonian	
	Sjögren & Wiedemann (1861a)	**Pajusalu** (2014)
Indicative	Future (present tense forms, NP_{Nom} *līd* + tINF and NP_{Nom} + $mINF_{Ine}$) Future Perfect (*līd* + APP)	Future Indefinite (*līd*) Future Perfect (*līd* + APP)
Conditional		
Imperative		
Quotative	-	Future Indefinite (*lī/ji*)
Jussive	-	
Potential	-	-

(3) Salaca Livonian (Sjögren & Wiedemann 1861a: 160)

a. *ma* ***kutsu-mis***
I call-mINF.INE

b. *ma* ***lī-b*** ***kuts***
I LEE-1SG call.tINF
'I will call'

Whereas Sjögren & Wiedemann (1861a) did not mention the possibility of using an agent noun for the expression of Quotative mood (see Table 1), Pajusalu (2014: 129, 132) found traces of the Quotative mood expressed using the original agent noun (*-ji*) and presented the Quotative form of Salaca Livonian *līd* (see Table 3). Furthermore, in Salaca Livonian an example of Potential was found – *tienes* 'maybe do' (Winkler & Pajusalu 2009: 195), but owing to it being rarely expressed, the Potential mood was not added to the mood system of the language.

3.3.2 Passives and impersonals in connection with FTR

In several Finnic languages a common opposition occurs between the so called *personal* and *impersonal* voices. The personal form is the unmarked form; the impersonal form is a synthetic form starting with a single **t* or geminate **tt*, e.g. the Estonian *kan-ti vett* (carry-IPS.PST water.PART) 'water was carried'. Livonian has not retained the synthetic impersonal form (Kettunen 1938: LX; Laanest 1975: 156–157). Instead, impersonal meanings have been associated with zero person constructions that contain the finite verb in the 3rd person and leave out the subject; see example (4) (Viitso 2008: 321; for Salaca Livonian, see Pajusalu 2014: 124; Sjögren & Wiedemann 1861a: 159). Zero subject constructions are also used in Latvian. For the possibility of a mutual influence of the constructions in Livonian and Latvian, see Holvoet (2001b).

(4) Courland Livonian (Viitso 2008: 321)

vie-tā *kānd-iz*

water-PART carry-PST.3SG

'water was carried'

It is maintained that in Livonian a distinction is rather made between the active and passive voice (Laanest 1975: 156–157). The passive voice is expressed using past participle (PPP) constructions: Viitso (2008: 324) lists *võlda* + PPP and *sǭdõ* + PPP; Sjögren & Wiedemann (1861a: 162) also add *līdõ* + PPP; see examples (5) to (7). When the finite verb is used in the Present tense – as in examples (5) to (7) – *võlda* + PPP constructions express an action completed in the past, whilst *sǭdõ* + PPP and *līdõ* + PPP place a situation in the future. Additionally, *sǭdõ* + PPP can receive a present interpretation (Sjögren & Wiedemann 1861a: 162). The general situation is similar in Salaca Livonian (see Pajusalu 2014: 124–125; Sjögren & Wiedemann 1861a: 162–163).

(5) Courland Livonian (Sjögren & Wiedemann 1861a: 162)

mīn-da ***um*** ***kuts-tõd***

I-PART be.3SG all-PPP

'I have been called'

(6) Courland Livonian (Viitso 2008: 324)

Se *tīe* ***sǭ-b*** ***tī'e-dõt.***

this work get-3SG do-PPP

'This work will be done.'

(7) Courland Livonian (Sjögren & Wiedemann 1861a: 162)

mīn-da ***lī-b*** ***kuts-tõd***

I-PART LEE-3SG call-PPP

'I will be called'

Whereas Sjögren & Wiedemann (1861a) did not comment much on the functions of passive constructions and Kettunen (1938) concentrated on the morphophonology, Viitso (2008: 324) mentioned that *võlda* + PPP primarily conveys a state, while *sǭdõ* + PPP expresses an action (Viitso did not discuss *līdõ* + PPP). In this thesis I show that *līdõ* + PPP also primarily expresses a state; furthermore, I present evidence for the different syntactic behaviours and semantic functions of past participle constructions, including *līdõ* and *sǭdõ*.

3.3.3 Modal constructions and FTR

Previous research has occasionally pointed out the connections between modality and FTR. For instance Viitso (2014) studied the expression of obligation, duty and necessity in Livonian, finding that *līdõ* can be associated with the following constructions: (i) the experiencer + *līb/līks/līij* + M-infinitive Debitive form (see example 8), (ii) the experiencer + *līb/līks*[4]*/līij* + *vajāg* + (object). The use of *līdõ* in these constructions is associated with the expression of future obligations and duties, whereas *võlda* 'be' is used with a present interpretation, cf. examples (8) and (9) (Viitso 2014: 209; but see also subsection 5.1.2.2).

(8) Courland Livonian (Viitso 2014: 209)

Mä'dd-õn kõrd ***lī-b*** ***ānda-mõst*** *vastūks-t i'ļ sīe.*

we-DAT time LEE-3SG give-mINF.DEB liability-PART for this.GEN

'In time, we shall bear liability for this.'

(9) Courland Livonian (Viitso 2014: 207)

Seļļiz-t mõtkõ-d ***u'm*** ***pa'n-mõst*** *a'ig-õl.*

such-PL thought-PL be.3SG put-mINF.DEB side-ALL

'Such thoughts are to be put aside.'

The debitive that expresses obligation or duty has been treated differently. Overviews of Livonian grammar tend to regard it in its own right. For instance, Viitso (2008: 318) views the Debitive as a form of M-infinitive together with the Illative, Inessive, Elative, Abessive and Instrumental forms (see also Appendix 1); he also distinguishes between various Debitive clause types. The Latvian Debitive is commonly listed as a mood category (e.g. Kalnača 2014; Paegle 2003). However there are different approaches and also objections for regarding Latvian Debitive as a mood category, see e.g. Holvoet (2001a: 426).

With respect to modality and FTR, subsection 3.3.1 introduced a link between obligation and future in the case of *līdõ* + tINF; Kettunen's (1938) decision to include *līdõ* under Potential mood suggests a connection between FTR and epistemic modality (for more information on the connections between modality and FTR, see subsection 4.1.2.2).

[4] Although the conditional form *lī/ks* is presented as an option, corresponding examples have not been found (Viitso 2014: 209). Sjögren & Wiedemann (1861a: 161) also only presented indicative and quotative forms for the corresponding constructions in Courland and Salaca Livonian.

4. Future as a TAM category: its functions and development

4.1 Temporal, modal and aspectual meanings in the semantics of FTR devices

Tense, **aspect** and **modality** (TAM categories) are typically verbal categories marked within the verbal complex (Palmer 2001: 1; Velupillai 2012: 193). Tense locates the situation on a timeline, aspect specifies the perspective taken to it (Comrie 1976: 3) and modality is concerned with the factual status of a proposition (Narrog 2012: 6; Palmer 2001: 1). As in this thesis I discuss the distribution of the corresponding meaning elements (temporal, aspectual and modal) in the meanings of FTR devices, in subsections 4.1.1 to 4.1.3 I define the domains and show in what cases one or other meaning elements are present. In section 4.2 I present the development of FTR devices.

4.1.1 Tense and temporal meaning

Tense is usually defined as "a grammaticalised expression of location in time" (Comrie 1993: 9). For locating situations in time, tense needs a reference point, making it a deictic category[5]. Usually the present moment is taken as that reference point and tenses locate situations at the same moment (present), prior (past) or subsequent (future) to it (Comrie 1993: 14; Lyons 1977: 677). In languages that have tense, the time of a situation cannot remain unspecified, for example instead of **John be ill* in Standard English, one must place the situation into the past (example 10a), present (10b) or future (10c) using the grammatical means available (Klein 2009: 5).

(10) a. *John **was** ill.*
b. *John **is** ill.*
c. *John **will be** ill.*

Statements about time, such as examples (10a–c), can be viewed diagrammatically. In Figure 1, time is represented by a straight line; the point labelled "0" stands for the present moment; the past is situated on the left and the future on the right of the present moment (Comrie 1993: 2).

[5] Perceiving tense as a deictic category originates from Reichenbach's (1947) seminal work where he described a system of tenses by means of three parameters: S (point of speech), E (point of event) and R (point of reference).

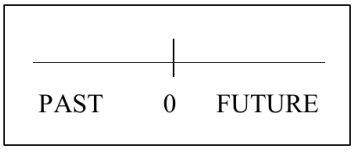


Figure 1. "Representation of time" (adapted from Comrie 1993: 2)

Researchers have proposed different diagrammatical representations of time. For this study I relied on the figures used by Renaat Declerck in *The Grammar of the English Verb Phrase* (2006). He distinguishes between two time-spheres, past and present, which have a break between them (marked by a dotted line). Past constitutes the past-time sphere; the present time-sphere is made up of the pre-present, present (temporal zero-point or t_0) and post-present (or future zone). Considering Figure 2, example (10a) places to the past, example (10b) at t_0 and example (10c) to the post-present. The choice between past and pre-present depends on the speaker's 'temporal focus': whether it is on the present (=pre-present) or on the past (=past); the pre-present is associated with perfect forms (e.g. *has been*) (Declerck 2006: 150–151).

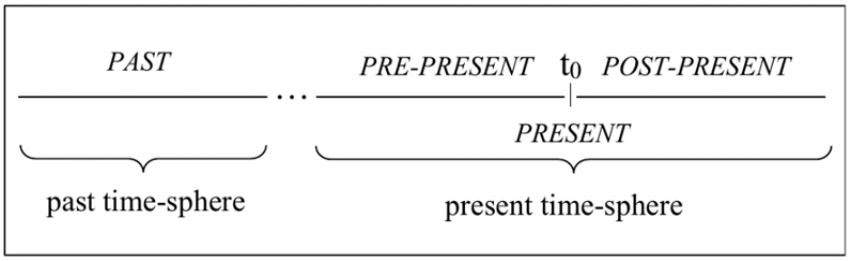


Figure 2. "Linguistic conceptualization of the time line" (adapted from Declerck 2006: 149)

The question of interest for this research was whether the devices studied had been grammaticalised as FTR devices. Partly this question was answered by considering to what extent expressing an FTR is their primary and obligatory use. Semantically, a well-grammaticalised FTR device should first and foremost express **temporal meaning**. This meaning element is argued to be strongest when an FTR devices is used for making statements, predictions or asking factual questions about the future (Comrie 1993: 44; Lyons 1977: 677). According to Declerk (2006: 101), instances such as example (11), where the speaker locates the time of a situation in the future without there being a clear implication that it is his own expectation or volition, count as 'pure future'. Examples of FTR devices used to express a temporal meaning were found in Livonian and other Finnic languages, but their usage differed in terms of obligatoriness (see more in Chapter 5, e.g. in 5.1.2.1). However, overt and

obligatory marking of FTR in prediction-based sentences is said to signal a well-grammaticalised FTR device (Dahl 2000b: 310; see also subsection 4.2).

(11) *The seventh annual European Biotech Crossroads – "Biotech Nantes 2003" –* ***will be held*** *at the Cité des Congrès conference centre, Nantes, France, on September 25–26.* (Declerck 2006: 101)

It is common for a language to have more than one FTR device that has future as a use. This is an outcome of the independent development of FTR devices from distinct sources or similar sources during different periods. Typically, the presence of several FTR devices is conditioned by the different range of uses that each may have, e.g. there might be a separate device for expressing immediate future (Bybee et al. 1994: 243–244).

FTR devices are not used solely for making statements and predictions in connection with the future, which is why the distinction between past, present and future is not only for time (see also subsection 1.1). Regarding this, subsection 4.1.2 contains an explanation of cases where temporal (future) and modal meanings intertwine (including the cases where the modal meaning is primary). Subsection 4.1.3 does the same for aspectual meaning.

4.1.2 Modality, mood and modal meaning

The notion *modality* can be used in different ways. In a very broad sense it can even encompass the dimensions tense and aspect. If used in a narrower sense, modality constitutes a subfield of the wider domain of TAM categories, i.e. being complementary to tense and aspect (Nuyts 2006: 1), which is how it was understood for this thesis.

4.1.2.1 Modality and mood

A well-known distinction in the field of **modality** is between epistemic, deontic and dynamic modalities (de Haan 2006: 29). Epistemic modality is associated with the degree of certainty (necessarily true vs. possibly true) and typically has to do with the speaker's world knowledge; see example (12). Deontic modality is related to "the degree of force exerted on the subject of the sentence to perform an action" (ibid.). The force emanates from the speaker or a third source (de Haan 2006: 29; Narrog 2012: 8). This division has led to the proposing of a separate modality, typically referred to as dynamic. In the case of deontic modality, conditioning factors are external to the individual concerned and mainly relate to obligation or permission originating from an external source; see example (13). In the case of dynamic modality these factors are internal and have to do with person's ability or willingness (or volition and desire) (Palmer 2001: 9–10); see example (14).

(12) *John **must** have been at home.* (epistemic modality)
(13) *John **must** go to school.* (deontic modality)
(14) *John **can** swim.* (dynamic modality)

It has been shown that various treatments of modality typically leave the field of epistemic modality untouched, but reorganise the fields of dynamic and deontic modality (Nuyts 2006: 6). Further distinction often depends on the semantic detail of the analysis, e.g. see the multitude of subtypes introduced by Heiko Narrog (2012: 8–10). An influential work in the field of modality is the semantic map proposed by Johan van der Auwera & Vladimir Plungian (1998) (elaborated further by Auwera 2008). The semantic map presents synchronic and diachronic connections between pre-modal, modal and post-modal meanings. The term *modality* is used "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" (van der Auwera & Plungian 1998: 80–81).

Modality is closely connected with **mood**, the latter expressing the modal value of the sentence by morphological means. Typically modality has morphological marking in the imperative, optative, conditional and subordinate verb forms (Bybee et al. 1994: 176; de Haan 2006: 33). In Finnish for instance, in addition to Indicative, a distinction is made between Imperative, Conditional and Potential moods. ISK (2004: 1510) associates Potential mood (and with some reservations also Conditional mood) with epistemic modality, and Imperative mood with deontic modality. In a language that has mood, a borderline runs between indicative and non-indicative moods, as the indicative is usually the more "real" or "asserted" member of the opposition (Dahl 1985: 26). Both a system of mood and modal verbs (but also e.g. modal adverbs, modal adjectives) can be attested in a single language (Nuyts 2006; Palmer 2001: 4); see examples (15a) and (15b) that both receive an epistemic reading.

(15) Finnish (ISK 2004: 1515, 1522)

a. *Talo* ***valmistu-nee*** *aikataulu-ssa.*
house be_ready-POT.3SG timetable-INE
'The house should be ready in time.'

b. *Muu-ta* *yhteis-tä* *ei* *sitten* ***liene*** *ole-kaan.*
else-PART common-PART NEG.3SG then maybe be-PTCL
'Maybe then there is nothing else in common.'

Unlike Finnish and other Finnic languages, Estonian and Livonian have a grammaticalised way to express evidentiality (for Livonian, see subsection 3.3.1). Language descriptions of Estonian and Livonian call it the quotative mood (EKG I; Viitso 2008). An additional way to treat evidentiality is to view it

as an indirect mode of reporting (together with jussive), as opposed to a direct mode of reporting (i.e. indicative, conditional, potential and imperative). This approach was taken by Kehayov et al. (2012) for discussing evidentiality in Livonian. Crosslinguistically, the question of whether evidentials should be regarded under mood/modality or viewed in their own right has received much attention (for different treatments, see de Haan & Hansen 2009; Palmer 2001; Thieroff 2010).

4.1.2.2 Modality, mood and future

As future events have not (yet) occurred, a certain degree of uncertainty surrounding them can always be expected, hence future can be associated with epistemic modality (de Haan 2006: 48; see also subsection 1.2). In addition, FTR devices may reveal cases where modal meanings such as wish, desire or intention are present (Comrie 1993: 44; Lyons 1977: 677). For instance, the English *will* in example (16) is said to express willingness (Bybee et al. 1994: 255).

(16) *I'm sure he'**ll help** you if you ask.* (Bybee et al. 1994: 255)

An FTR device can also have a modal function and even express a different time reference. The German constructions *werden* + INF and *werden* + PTCP + *haben/sein* have a temporal (FUTURE) and modal variant (EPISTEMIC); see examples (17) and (18) (Duden-Grammatik 2009: 508–511; Weinrich 1993: 232, 234). Example (18) illustrates a case where the temporal and modal meaning not only intertwine but the modal meaning element is in the foreground and the time reference is that of the present. In the same way the Russian *bud-* and Latvian *būt* show both uses (see Kalnača 2014: 120; RG 1980: 639–636). The epistemic usage in the case of FTR devices is usually shown to be a later development (e.g. Heine & Kuteva 2002: 142; Hilpert 2008a). I will argue in this thesis that the FUTURE and EPISTEMIC use are the two main uses of the Finnic LEE(NE)- verbs as well (see Chapter 5).

(17) German (Duden-Grammatik 2009: 508)

Der	*Tunnel*	***wird***		*in*	*wenigen*	*Monaten*
DEF.ART	tunnel	FUT.AUX.PRS.3SG		in	few	month.DAT.PL
fertig	***sein.***					
ready	be.INF					

'The tunnel will be ready in a few months.'

(18) German (Weinrich 1993: 234)

Wo ist denn der Dolmetscher –				
der	*Dolmetscher*	***wird***	*wohl*	*schon*
DEF.ART	translator	FUT.AUX.PRS.3SG	well	already
im	*Kontzertraum*	***sein.***		
in.DEF.ART.DAT	concert_hall	be.INF		

'So where is the translator – he is probably already in the concert hall.'

Context can be regarded as an important factor when deciding whether a sentence gets a future (primarily temporal) or epistemic (primarily modal) interpretation. In example (18), the epistemic meaning and present time reference are supported by the adverbs *wohl* 'probably' and *schon* 'already'. However, the difference is not always clear-cut, and there are instances that remain ambiguous (see e.g. Zifonun & Strecker 1997: 1700).

There is also a connection between obligation and future, as one can only oblige someone to do something in the future. In example (13), the action of going to school can only be subsequent to the present moment (de Haan 2006: 50). As the imperative mood was associated with expressing obligation (deontic modality) (see subsection 4.1.2.1), it has a connection to FTR. In this thesis however, only the devices that show at least some kind of development into an FTR device are of interest, i.e. the cases that leave the obligation reading in the background. The grammaticalisation path OBLIGATION > FUTURE is well-known also crosslinguistically (see Heine & Kuteva 2002). Sjögren & Wiedemann (1861a) regarded such development possible in the case of Courland Livonian *līdõ* + T-infinitive (see subsection 3.3.1). Even if in the 19th century there could have been possibility for such a development, the sources from the 20th century contain only a few examples of this construction and only in the obligative reading (see subsection 5.1.2.2). Furthermore, modal sources of FTR devices are generally uncommon in the Finno-Ugric languages and could be rather associated with foreign influence (Majtinskaja 1979: 68; Metslang 1996: 136).

4.1.3 Aspect and aspectual meaning

4.1.3.1 Perfective : imperfective

A well known distinction is that between **perfective aspect** (PFV) and **imperfective aspect** (IPFV), which enable us to assess "the internal temporal constituency of a situation" (Comrie 1976: 3). The imperfective aspect is used to view the situation from the inside, opening the situation up, and placing the speaker or hearer in the middle of the situation; see the first verb of example (19a). The perfective aspect is used to view the situation from the outside, in its totality,

with a beginning, middle and end that make up a whole; see the second verb of example (19a) (Comrie 1976: 3–5). Characterisation of aspect cannot be taken in isolation from time, as aspect is connected with time, just in a different way, e.g. in example (19a) the time of the first situation is included in the time of the second, and in (19b) the time of the first situation precedes the time of the second (Comrie 1976: 5; Dahl 1985: 24–25).

(19) a. *John **was reading** when I **entered**.* (Comrie 1976: 5)
b. *When I **got** your postcard, I **wrote** a letter to you.* (Dahl 1985: 24)

Among the European languages, a distinction between PFV and IPFV is regarded as characteristic of the Slavic languages. However, crosslinguistically these languages appear to be atypical examples of PFV : IPFV, because the so-called bounders (e.g. *up* in *eat up*) have tended to grammaticalise and the process is derivational in nature (Dahl 1985: 84–85). The term *bounder*, which designates "the effect of making the process denoted by the verb 'bounded' ('telic')" (Bybee & Dahl 1989: 85–86), can be used as a cover term for verb particles and prefixes that represent different degrees of bounders (see Wälchli 2001: 419).

With respect to FTR and aspectual distinctions, Russian is an example of the intertwining of aspect (Perfective aspect) and tense (Present tense), or more precisely of a conflict between them. Consequently a different meaning emerges, the future meaning; cf. examples (20a) and (20b) (Comrie 1976: 66–67; Malchukov 2011: 235–236).

(20) Russian (personal knowledge)

a. *On* ***piš-et***.
he write.IPFV.PRS-3SG
'He is writing.'

b. *On* ***na-piš-et***.
he PFV-write.PRS-3SG
'He will write.'

In the case of other European languages the tendency for bounders to become grammaticalised has been observed in Lithuanian, Latvian, Hungarian and Georgian (Bybee & Dahl 1989: 85–87). Despite some objections, Rolf Thieroff (2000: 292, 297) considers a mere tendency enough to regard a language as representing the distinction between PFV : IPFV. In Latvian this distinction is accepted to apply to a large part of the verbs; this distinction is made morphologically (by using prefixes and suffixes), syntactically (by using verb particles) and contextually (Kalnača 2014: 89–92; Wälchli 2001). Unlike the

Russian example (20b), the Latvian example (21) contains – in addition to a bounder (*aiz-* ‘away’) – a future inflection.

(21) Latvian (Paegle 2003: 102)

viņa	***aiz-nes-īs***	*āboliņ-u*
she	away-carry-FUT.3SG	clover-ACC

‘she will carry the clover away’

A further way to express the distinction between PFV and IPFV is described in Finnish and Estonian grammars (see EKG II: 24–26; ISK 2004: 1430): the aspectual relations are manifested at the clause level, both in the case of object and verb particles. In the case of imperfective reading, the object is in the partitive case (partial object), see example (22a); in the case of perfective reading however, the object occurs in the genitive or nominative case (also referred as the total object), see example (22b) (EKG II: 25; ISK 2004: 1430). In example (22b), the verb particle *ära* ‘off, away’ is used, which is argued to be the most regular verb particle in Estonian (see Metslang 2001: 445–446). However, in Estonian and Finnish aspectual distinctions may also remain vague, which shows that aspectual distinctions are weakly grammaticalised. For instance, in the case of the partitive object in example (23), both an imperfective as well as a perfective reading are possible (Erelt 2013: 73). This illustrates the very general picture of aspectual distinctions in Estonian and Finnish. For a thorough discussion on several limitations/conditions to marking an object, see the overview by Helena Sulkala (1996).

(22) Estonian (personal knowledge)

a. *Homme korista-n oma tuba.* FTR (IPFV)

tomorrow clean-1SG own.GEN room.PART

‘Tomorrow I’ll be cleaning my room’

b. *Homme korista-n oma toa ära.* FTR (PFV)

tomorrow clean-1SG own.GEN room.GEN PP

‘Tomorrow I’ll clean my room.’

(23) Estonian (Erelt 2013: 73) FTR (PFV/IPFV)

Jüri	*tõ-i*	*Mare-le*	*torti.*
Jüri	bring-PST.3SG	Mare-ALL	cake.PART

’Jüri brought Mare some cake.’ / ’Jüri was bringing Mare some cake.’

Examples (22a–b) place the situation in the future. The future reference point is established by the adverbial *homme* 'tomorrow'. Omitting the adverbial from example (22a) would result in a present interpretation; in the case of example (22b) however the sentence would still convey FTR. Examples such as (20b) and (22b), which show incompatibility with the present tense, have led researchers to draw parallels between the Finnic and Russian systems, whilst at the same time acknowledging that they differ greatly. Andrej Malchukov (2011: 236) has pointed out that in such cases aspect is dominant and tense recessive.

The system that involves a verb in the present tense, but also takes into account object marking and bounders, is what in this thesis is referred to as using the present tense for FTR. As this possibility is the commonest in Livonian but did not receive closer consideration in this thesis, a few comments are needed. Namely, studies on Livonian also make a distinction between total and partial objects. However, the use of cases to distinguish between the two differs somewhat from the systems in Estonian and Finnish (see Tveite 2004; Viitso 2008: 341). Whereas Estonian and Finnish additionally use only verb particles, Livonian uses verb particles and exploits all Latvian prefixes (Vaba 2010: 226–227). This makes Livonian appear similar to Latvian; one difference however is that in Latvian the use of prefixes is more frequent (Wälchli 2001: 420).

4.1.3.2 Progressive and other distinctions of the phasal aspect

Progressive (PROG) regards "an action as ongoing at reference time" and is typically associated with dynamic predicates (Bybee et al. 1994: 126); see example (24). Dynamic predicates involve change and consist of successive phases; they need a constant input of energy to continue (Comrie 1976: 49).

(24) *Susan **is writing** a poem.*

Whereas Bernard Comrie (1976: 25) placed progressives under imperfective, Östen Dahl (1985: 69, 92–93) regarded the progressive aspect of equal value to perfective and imperfective. In Finnish and Estonian, the construction that can be attested in the progressive function is comprised of *olla* 'be' + M-infinitive Inessive; see example (25).

(25) Estonian (Metslang 2006: 718)

Rootsi	*valitsus*	***on***	***võt-mas***
Swedish.GEN	government	be.3SG	take-mINF.INE
krooni	*tugevnemis-t*	*väga*	*tõsiselt.*
crown.GEN	strengthening-PART	very	seriously

'The Swedish government is taking the strengthening of the crown very seriously.'

Thieroff (2000: 294) lists Finnish and Estonian among those European languages that mark PROG optionally (as opposed to languages like English and Icelandic, where PROG is obligatory). The construction however appears to be more common in a locative and imminential (or proximative)[6] function (Tommola 2000: 657); see examples (26) and (27) respectively. For instance, example (26) answers the question *Where was s/he?*, rather than *What was s/he doing?* (EKG II: 225; ISK 2004: 1446–1448); it also can have an absentive reading, i.e. the agent carrying out the action is remote from the deictic centre (de Groot 2000: 698). The locative interpretation is regarded as the original meaning of the construction (Metslang 1993: 472). Crosslinguistically the locative meaning is shown to be the commonest source meaning of progressives (Bybee et al. 1994: 129). The imminential reading tends to arise with predicates expressing achievement or accomplishment[7] (Tommola 2000: 657); e.g. *lahkuma* 'leave' in example (27) expresses achievement.

(26) Estonian (EKG II: 255)

Ta ***ol-i*** *marju* ***korja-mas***

s/he be-PST.3SG berry.PL.PART pick-mINF.INE

'S/he was [in the forest] picking berries.'

(27) Estonian (CELL)

Tõenäoliselt jä-i see ka viimase-ks korra-ks,

apparently remain-PST.3SG this also last-TRA time-TRA

sest mees ***on*** *tippklubi-st* ***lahku-mas.***

because man be.3SG top_club-ELA leave-mINF.INE

'Apparently this was the last time, because the man is about to leave the top club'

The construction 'be' + M-infinitive Inessive in Estonian also has more specific uses: e.g. it conveys gradual change and creates the so called "background" in narrations and complex sentences (see Metslang 2006). Thorough discussions on the different uses of the progressive in Estonian and Finnish and on other

[6] In the literature the terms *imminential* and *prospective* have been used synonymously. They both denote that a situation described by the main verb is about to begin (see Comrie 1976: 64; Kuteva 2001: 92). In connection with FTR, Bybee et al. (1994) also use the term term *immediate future*.

[7] This distinction follows Zeno Vendler (1967), who divided verbs into the verb classes: *activities*, *accomplishments*, *achievements* and *states*. Accomplishments and achievements are regarded as dynamic and having a logical end-point; however, whereas accomplishments are durative, achievements are punctual.

possibilities to convey related meanings have been provided by Metslang (1993a–b) and Tommola (2000).

Less is known about other Finnic languages. Boris Serebrennikov (1963: 502–511) discussed the use of 'be' + M-infinitive inessive constructions in various Finnic languages and concluded that they are more typically used in Finnish, Estonian and Karelian; only to a lesser extent did they appear in Votic, Livonian and Veps. He analysed the examples as an "emphatic conjugation", which was meant to denote that the one who is speaking or writing wants to stress the fact that a situation takes place at a particular moment (Serebrennikov 1963: 502). If considering for instance the "emphatic present" more carefully, the examples are simply the cases of locative, imminential, and progressive uses; see examples (28) and (27) for an imminential reading.

(28) Karelian (Serebrennikov 1963: 503)

No ka ***ol-lah*** ***loppiečo-massa*** *patrona-t*

PTCL already be-PASS.PRS end-MINF.INE cartridge-PL

'Well, we are about to run out of cartridges.'

Progressives as well as proximatives can be viewed together with **ingressives**, **egressives** and **retrospectives** (sometimes also called "resultatives"), constituting the main distinctions of the phasal aspect (for more information, see Bhat 1999: 44; Dik 1987: 61; Erelt 2013: 77). With respect to FTR devices, it has been noticed that Finno-Ugric languages show the development of INGRESSIVE (verbs with the sense 'begin') > FUTURE. A future interpretation is claimed to be possible when the sense 'begin' and the exact location in time remain in the background, with the primary function being to place an action in the future (Metslang 1994: 167). Depending on the language, such a path can be attested to a greater or lesser extent (Majtinskaja 1979: 65; Metslang 1996: 133; Tauli 1966: 80). For instance, the Votic example (29) allows a FUTURE interpretation. Ingrian and Votic grammars (see Junus 1936: 121; Ariste 1948: 79) respectively present the Ingrian *noissa* and Votic *nõisa* ('begin'; originally 'to rise') as future auxiliaries. In the case of the Livonian data no clear instances of 'begin' > FUTURE were found (see subsection 5.2.3).

(29) Votic (EDC)

Meijee äijä aina pajatti, ko leeb aikõ

što ***nõizõ-ttõ*** *vaa tširja-ss* ***nätše-mää*** *kalaa kuvaa*

that begin-2PL only book-ELA see-MINF fish.GEN picture.PART

'Our father was all the time telling us that there will be a time, when you will see a picture of fish only in a book.'

4.2 Grammaticalisation of FTR devices

In this thesis the focus was on FTR devices that at least to some extent have developed into future auxiliaries or future copulas (*auxiliary* and *copula* were defined in subsection 1.1). **Auxiliation** can be regarded as "process of complex lexical verb structures developing over time into auxiliary grammatical structures, with all its accompanying semantic, morphosyntactic, and phonological changes" (Kuteva 2001: 2). On the verb-to-affix cline, auxiliaries are placed on the middle stage: full verb > auxiliary > verbal clitic > verbal affix (Hopper & Traugott 2003:111). Anderson (2009: 5, 8) claims that as auxiliaries are not easily definable, dynamic and in constant emergence and development, there is reason to speak about a continuum rather than a chain with clear-cut borderlines. The development of copulas is called **copularization**; copulas typically develop out of verbs or pronouns (Pustet 2003: 54).

4.2.1 Sources of FTR devices

TAM categories, including FTR devices, have a restricted number of lexical sources and developmental paths (Heine 1993: 31). Only verbs with a more general meaning and wider usage context (e.g. *come*, *go*) tend to grammaticalise; this is why we find *go* in the English *be going to* construction (not e.g. *walk* or *swim*) (Bybee et al. 1994: 5–6).

A distinction can be made between primary and secondary sources of future. In the case of **primary sources**, the future is explained to arise "as an evolutionary endpoint in the unfolding development of originally lexical material" (Bybee et al. 1994: 275). Crosslinguistically, the most common sources are: (i) movement verb constructions; (ii) constructions containing 'be, become' and related meanings; and (iii) sources expressing e.g. desire or obligation (Bybee et al. 1994: 253). European languages contain examples of all these types (see Dahl 2000b, though he uses somewhat different terminology). Although not crosslinguistically common sources, FTR devices in Western Romance languages go back to a possessive construction[8] (Heine 1993: 35, 37) and Finno-Ugric languages show the development 'begin' > FUTURE, which however depends on the language (see subsection 4.1.3.2).

The sources introduced in (i) and (ii) can also lead to the development of **inchoative** and **future copulas** (for the use of the term, see subsection 1.1). Christian Lehmann (2002: 23) mentions 'be' -verbs as a common source for copulas. According to Leon Stassen (2004: 92–95), possible sources are also dynamic verbs that cover "the whole or parts of the semantic domain which includes notations such as 'do/make/build', 'go/turn into/come/become', and 'act(like)'". In this thesis, the verbs that received special attention fall into the group 'go/turn into/come/become'. In Northern European languages (Germanic languages other than English and in Finnic languages) in general, the verbs with

[8] Heine uses the term *event schema.*

the meaning 'become' are argued to be common sources for future copulas (Bickel 1992; Dahl 2000c). The Swiss dialect Züritüütsch contains several inchoative and future copulas that derive from different change expressions (CHANGE is associated with change in orientation, place, position and possession) (see Bickel 1992: 7–8, 10). In the Swedish example (30), the verb *bli* 'become' (originally 'remain') is argued to express FUTURE (i.e. that if the party will take place it will be pleasant) not CHANGE[9] (i.e. that the party turns pleasant) (for more information, see Dahl 2000c). In this thesis I present further evidence from the Finnic languages conforming the development 'become' > FUTURE typical to Northern Europe (see Chapter 5).

(30) Swedish (Dahl 2000c: 351)[10]

Den här festen ***blir*** *nog trevlig.*
this here party become:3SG surely pleasant
'The party will be pleasant.'

As opposed to primary sources, in the case of **secondary sources** future is a contextually determined use. Secondary sources involve markers of present tense and perfective or imperfective aspect (referred to as aspectual future) (see subsection 4.1.3.1); future tenses can also originate from subjunctives (Bybee et al. 1994: 244, 253; Palmer 2001: 105).

For this thesis I focused on primary futures in the Finnic languages, while considering secondary sources for background information.

4.2.2 Development of the future meaning

Tania Kuteva (2001: 27) lists two main conceptual-semantic mechanisms responsible for the development of FTR devices: (i) metaphor – development involves MOVEMENT IN SPACE > MOVEMENT IN TIME; and (ii) metonymy – the beginning of a situation opens the situation up and leads to the fulfilment of the situation in the future. The development of the Finnish *tulla* 'come' > *tulee olemaan* 'will be' is an example of metaphor; the Estonian *hakkama* 'begin' > *hakkab olema* 'will be' illustrates metonymy.

The process of grammaticalisation concerns constructions and even larger discourse segments. For example, the development MOVEMENT > FUTURE in the case of the *be going to* construction involved only the progressive forms and no other tense-aspect forms (Heine 1993: 47; Hopper & Traugott 2003: 92). Usually dynamic entities (mostly infinitives) develop into modal categories, which in turn can give rise to future categories (Heine 1993: 46). In the case of Finnic

[9] CHANGE is used synonymously with INCHOATIVITY and 'become'.
[10] Original gloss preserved.

languages, one would expect the M-infinitive as V2 (but see subsection 5.1.2 for the use of T-infinitive in Livonian).

In the course of grammaticalisation, the grammatical devices that develop into future-markers are claimed to move towards conveying intention and prediction. Dahl (2000b) distinguishes between intention-based FTR (example 31) and prediction-based FTR (example 32). Expressing PREDICTION obligatorily and explicitly constitutes a well-grammaticalised future marker, thus PREDICTION = FUTURE (Dahl 2000b: 321–322).

(31) *"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."*
(32) *There was nothing else to do, so Alice soon began talking again. "Dinah****'ll miss*** *me very much to-night, I should think!"*

Bybee et al. (1994: 270) have suggested that "all futures go through a stage of functioning to express the intention, first of the speaker, and later of the agent of the main verb[11]"; see the grammaticalisation path (a) on Figure 3 proposed for the English *will*. Dahl (2000b: 322) however does not claim that INTENTION is an essential stage, but rather that the Swedish FTR device *komma att V* (*komma* 'come') never involved the intermediate stage INTENTION. Hilpert (2008b: 126) showed on the basis of a corpus study that the intermediate stage is CHANGE (path b on Figure 3); intentional human agents only recently became associated with *komma att V* (see also Hilpert 2008a). The meaning change COME > BECOME has also been proposed for the Finnish *tulla*-future (e.g. Metslang 1996: 133). In Estonian, *saada* 'get; become' (originally 'come') + M-infinitive can express FUTURE (ibid.). The grammaticalisation path proposed for *saada* by Tragel & Habicht (2012) does not include the stage INTENTION either (path c on Figure 3). Although the original source for 'begin' verbs developing into FTR devices in different Finno-Ugric languages was shown to vary (see subsection 4.1.3.2), again no intermediate stage of INTENTION has been proposed (see path d on Figure 3).

[11] As explained, there is only a short link to expressing PREDICTION: when intention is attributed to a third person, in a proper context, it can convey prediction by the speaker (Bybee et al. 1994: 254).

(a) English *will*:
DESIRE > WILLINGNESS > INTENTION > PREDICTION (Bybee et al. 1994: 254)

(b) Swedish *komma att V*:
MOTION > CHANGE > PREDICTION (Hilpert 2008b: 126)

(c) Estonian *saada*:
COME > SUCCEED > POSSESS > BECOME > POSSIBILITY > NECESSITY > PROBABILITY > PASSIVE > FUTURE (Tragel & Habicht 2012: 1404)

(d) Ingrian *noissa* and Votic *nõisa*:
RISE > BEGIN > FUTURE (Metslang 1996: 134)

Figure 3. Examples of grammaticalisation paths

The grammaticalisation paths represented in Figure 3 offer an explanation to the question: Why are FTR devices not only found in the temporal meaning? The examples are meant to show that intertwining of modal, aspectual and temporal meanings is also historically determined (see also Palmer 2001: 105). As earlier stages are not necessarily lost from the language (called *persistence*), multifunctionality of a grammatical device can be regarded as a natural consequence of the diachronic development (Hopper & Traugott 2003: 97). Thus, the possibility of finding an FTR device in some earlier meaning is not enough – if it is well-grammaticalised in prediction-based sentences – to reject future as a tense category.

4.2.3 Syntactic contexts of FTR devices

A general principle is that a new grammatical device starts to spread in unmarked forms (active, present and affirmative), only then does it reach into marked forms. A characteristic of a grammatical device is its obligatory use in certain semantically or syntactically defined contexts. However, it is said that we should not look for absolute obligatoriness (Dahl 2000a: 9). In the majority of European languages, even past tense markers are not always obligatory, e.g. present tense can be used for a past time reference, as in example (33). However, when a past tense marker is used for a past time reference it may well duplicate the information expressed already by some other element (e.g. temporal adverbial), but omitting it signals a deviation from the norm (e.g. *yesterday* + present tense marker) (ibid.).

(33) *There was I playing so well even I couldn't believe it and along* ***comes*** *this kid and* ***keeps*** *me off the table for three frames!* (Huddleston & Pullum 2010: 131)

FTR devices (either inflectional or periphrastic) are expected to occur in main clauses (Bybee et al. 1994: 274). The reason for this is that the primary function of an FTR device is to make a prediction (i.e. an assertion about an FTR), but

the necessary inference for INTENTION > PREDICTION is associated with main clauses (ibid.). In subordinate clauses, e.g. temporal clauses, futures do not commonly occur; see example (34). The reason for this is that subordinate clauses are more typically associated with non-assertiveness/non-factuality and using an FTR device would result in a modal interpretation (Comrie 1993: 118; Huddleston & Pullum 2010: 174, 191; see also subsection 4.1.2). If an FTR is used in a subordinate clause expressing temporal meaning, an inflectional marker is considered to be more likely to occur as inflections tend to be associated with a higher extent of grammaticalisation than periphrastic devices (Dahl 2000b: 314; Hedin 2000: 329). There are examples however of languages in which using an FTR device in a subordinate temporal or conditional clause can express a greater extent of assertion than choosing some other device, e.g. see Eva Hedin (2000: 346–347) for evidence from Greek. Furthermore, Greek uses a periphrastic device in the corresponding cases, which shows that it is not necessarily the case that PREDICTION = an inflectional affix. The possibility of using an FTR device in a subordinate clause with a temporal meaning will receive further support from my analysis of Livonian (see subsections 5.1.2.3 and 5.2.1)

(34) *I'll buy one when the price* ***comes down****.* (Huddleston & Pullum 2010: 191)

Declerck (2006) showed that there may also be other reasons for not using an FTR device in a subordinate clause. He introduced the case of a *pseudo-absolute tense*, which is intended to mean that a tense is used as an absolute tense but fulfils the function of a relative tense. For instance, in Figure 4 the speaker treats the post-present central orientation time (*will find out*) as if it were t_0 and uses a pseudo-absolute tense form (*are*) to relate the situation time to the 'pseudo-t_0'. This enables one to show that the two situations expressed by *will find out* and *are* are overlapping.

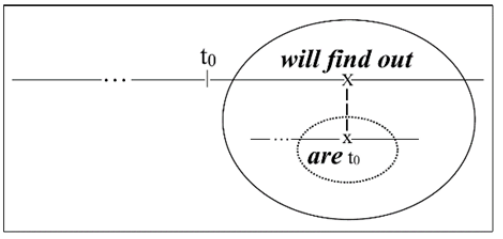


Figure 4. "The tense structure of *The police will never find out where you are*" (adapted from Declerck 2006: 495)

In the case of grammaticalisation there always remains the question: Is something a result of language-internal grammaticalisation or an influence of another language? The issue of whether, or to what extent, a certain

development results from language-internal as opposed to language-external factors is often hard to answer. Recent studies suggest that both are often simultaneously involved (see Heine & Kuteva 2002: 9). Since in this thesis I concentrate on determining the FTR devices in Livonian and other Finnic languages, explaining similarities and differences in their usage, and parallels with the neighbouring Indo-European languages are drawn only occasionally, viewing the results in the light of contacts remains a task for further research.

5. The questions dealt with in the articles: results and discussion

In the four articles I concentrated on verbs that I regarded as possible FTR devices (either future copulas or future auxiliaries). [P1] gives a broader background to the expression of FTR in the Finnic languages with a focus on the LEE(NE)- verbs; other possible FTR devices in Finnic are discussed for comparison. [P2] provides an analysis of the Livonian *līdõ* 'will be' + PTCP constructions and draws parallels with *sǭdõ* 'get; become' + PTCP constructions. Their usage is viewed in the larger (Southern) Finnic context. [P3] concentrates on five verbs that were associated with CHANGE-OF-STATE: *sǭdõ* 'get; become', *īedõ* 'stay; remain', *tūlda* 'come', *lädõ* 'go', and *līdõ* 'will be'. In addition [P3] contains a discussion on the development of CHANGE > FUTURE. [P4] presents comparative data from Salaca Livonian analysing the verbs *tulla* 'come', *ürg* 'begin', *sād* 'get; become', and *līd* 'will be' in order to determine whether they have developed into an FTR device. The main outcomes concerning the LEE(NE)- verbs and the expression of FTR in Livonian in general are introduced in subsections 5.1 and 5.2 respectively.

5.1 Functions and development of LEE(NE)- in Finnic

The aim with the articles was to solve some controversies concerning the use and development of LEE(NE)- in the Finnic languages (see subsection 1.2). Table 4 illustrates the distribution of LEE(NE)- forms in the eleven language varieties studied for [P1]. It gives a dictionary form (the source for the dictionary form is indicated in boldface), distinguishes between LEE- and LEENE- forms, and additionally presents 3Sg forms. The columns LEE- and LEENE- are meant to indicate which form is used throughout the personal paradigm. Table 4 shows that certain language varieties use both LEE- and LEENE- forms (e.g. Votic), whereas others use only one of them (e.g. Livonian). As 3Sg forms were the most common in the data set, they are also presented separately. Furthermore, languages like Tver Karelian and Veps revealed that in the case of 3Sg forms both LEE- and LEENE- are possible (e.g. Veps *linneb, l'īnob*, *lib*), although the personal paradigm is based on LEENE- (e.g. Veps *linne-*). The main sources for compiling the table are given in the rightmost column. As follows, I consider LEE(NE)- separately in copular and auxiliary uses (in subsections 5.1.1 and 5.1.2 respectively). For an example of the forms and constructions of Coulrand Livonian *līdõ* discussed in the article, see Appendix 2.

Table 4. Distribution of LEE(NE)- forms in Finnic (adapted from Norvik 2013: 133)

FORM / LANGUAGE	Dictionary form	LEE-	LEENE-	Typical 3Sg forms	Main sources
Standard Finnish	*lienee*		*liene-*	*lienee, lie*	**KS**; ISK
Northern Karelian	*lie(nöy)*		*liene-*	*lienöy*	**KKS**; NKK; VK
Olonets Karelian	*lie(nöy)*		*lien(n)e-*	*liennou, liännöu*	**KKS**; NKK; OM
Central Ludic	*l'iettä*		*liene-*	*lienou, lienöw*	**Kujola (1944)**; Norvik (2012b)
Veps	*lindä*		*linne-*	*linneb, l'īnob, lib*	**Zaiceva & Mullonen (2007)**; KM; NVM, OVR
Tver Karelian	*lie(nöy)*		*l'iene-*	*l'ienöy, l'ien(n)öu, l'i(e)u, l'iäy*	**KKS**; Norvik (2009); Virtaranta & Virtaranta (1990)
Ingrian	*lę̄-*		*lēne-, l'īne-*	*lēnō̄, l'īnō̄,l'ᵉē*	**Nirvi (1971)**; Junus (1936)
Votic	*leevvä*	*lee-, lie-*	*leene-, liene-*	*leeb, lieb, leeneb, lieneb*	**VKS**; Ariste (1977); EDC
Old Written North Estonian	*lēda*	*lee-*	*leene-*	*leeb, leeneb*	**Wiedemann (2011)**; Helle (2006); Hornung (1693); Hupel (1870)
Insular dialect of Estonian	*lēda*	*lee-, lii-*	-	*leeb, liib*	**Wiedemann (2011)**; EDC
Livonian	*līdõ*	*lī-*	-	*līb*	**Viitso & Ernštreits (2012)**; Kettunen (1925); Setälä (1953)

5.1.1 Copular uses of LEE(NE)-

Functions of LEE(NE)- as a simple predicate were discussed in greater detail in [P1]. The focus was on LEE(NE)- verbs in Courland Livonian, Tver Karelian, Veps and Votic (these languages contained the greatest amount of cases per 250 examples).

The instances containing LEE(NE)- as a simple predicate were distributed between five clause types, each associated with one or more underlying constructions. A further distinction was made between the instances expressing (i) future time reference & (primarily) temporal meaning, (ii) present time reference & epistemic modality, and (iii) past time reference & 'become'. Table 5 combines three tables presented in [P1] that were used for describing cases (i) to (iii) separately.

Table 5. Copular uses of LEE(NE)- in Livonian, Veps, Tver Karelian and Votic

Formal properties \ Function				**Future (FTR)** (temporal meaning)			**Present** (epistemic modality)			**Past** ('become')		
Clause type	**Constructions**			**Liv**	**Vep**	**TvKrl**	**Vot**	**Liv**	**Vep**	**TvKrl**	**Liv**	**TvKrl**
Locative	NP_{Nom}	V	Loc									
Existential	(Loc)	V	$NP_{Nom/Part}$[12]									
Predicate nominal	a. NP_{Nom}	V	NP_{Nom}/Adv									
	b. NP_{Nom}	V	NP_{Ess}									
Possessive	a. NP_{Dat}	V	$NP_{Nom/Part}$		-	-	-		-	-		-
	b. $NP_{Ade/All}$	V	$NP_{Nom/Part}$	-				-			-	
Resultative	a. NP_{Ela}	V	NP_{Nom}									
	b. NP_{Nom}	V	NP_{Tra}									

5 or less occurrences 6 or more occurrences – impossible possible, but no occurrences

[12] The NP position can also be filled by a quantity phrase.

5.1.1.1 Future copula: 'will be' and 'become' as a continuum

The results of the analysis made it possible to associate LEE(NE)- with FTR and temporal meaning and call it a future copula. For instance, example (35) was used to make a prediction about the future state of affairs (PREDICTION was explained to be the most grammaticalised function in the case of an FTR device, see subsection 4.2.2).

(35) Courland Livonian (Setälä 1953: 105)

ārga u'm kītõn:

"ants,	*sā'l*	***lī-b***	*knašš-õd*	*umār-d,*
Ants	there	LEE-3SG	beautiful-PL	apple-PL

sinā alā võttõ nēḑi …

'The ox said, "Ants, there will be beautiful apples, don't you take them!"'

At the same time it was maintained that LEE(NE)- does not appear only in the meaning 'will be', but can intertwine with the meaning 'become', or the meaning 'become' can even be strongest. These meanings were seen to form a continuum. In agreement with Dahl (2000c: 351), it was argued that in expressions of FTR, 'be' and 'become' naturally intertwine. For instance, due to our real-world knowledge, example (36) conveys both becoming angry as well as being angry in the future. The meaning 'become' was maintained to be the strongest in the case of resultative constructions that support regarding 'become'; see example (37) (for more information, see subsections 5.1.1.3 and 5.2.2).

(36) Courland Livonian (Setälä 1953: 104)

minā	***lī-b***	*si'n*	*pāl*	*ne'i*	*kõ'zzi*
I	LEE-1SG	you.GEN	on	so	angry

sīest sinā alā kart

'I will get so angry at you, don't be afraid of it.'

(37) Veps (KM 9, 2011)

Nece	***linne-b***	*hüvä-ks*	*tradicija-ks*
this	LEENE-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.'

A distinction between being and becoming was also made when analysing the Salaca Livonian examples in [P4][13]. The examples considered gave further support for viewing these meanings as a continuum. For instance, example (38) was analysed in [P4] as a case of CHANGE, but it also represents the claim made above that 'be' and 'become' intertwine.

(38) Salaca Livonian (Sjögren & Wiedemann 1861a: 328)

Sie	*om*	*iga-s*	*k'äŋanika*	***ab***	*lī.*
this	own.GEN	life-INE	shoemaker	NEG.3SG	LEE.CNG

'S/he will not become a shoemaker in his/her life.'

The term *future copula* was used regardless of the fact that LEE(NE)- verbs not only expressed 'being' (in the future) but also 'becoming' and related meanings could be at least in the background. However, a comparison of the Courland Livonian *līdõ* 'will be' with *sǭdõ* 'get; become' in the case of clause types similar to those presented in Table 5 revealed that *sǭdõ* expresses CHANGE more strongly than *līdõ* and *sǭdõ* prefers constructions where CHANGE is marked overtly (by a change-of-state construction). This called for the further study of the expression of CHANGE-OF-STATE and its relation to FUTURE in [P3] (the results are presented in subsection 5.2.2).

5.1.1.2 LEE(NE)- and its connections to modal meanings

It was argued in [P1] that a modal meaning element tends to intertwine with temporal meaning in FTR devices, but that the use of an FTR does not automatically call for a modal interpretation. One can claim that in examples (35) to (38) a modal meaning is present as a statement about future always differs modally from present and past. However, at least primarily they do not convey, e.g. doubt, hope or wish, but rather express a temporal reference and regard the statement as being certain as possible (see subsections 4.1.1 and 4.1.2). Considering this, the cases in which the temporal and modal meaning element intertwined or where the modal meaning element clearly remained in the background were regarded as conveying FTR.

Although in the literature LEENE- is often regarded as a modal version of LEE- (see subsection 1.2), it was maintained in [P1] that the distinction between LEE- and LEENE- is not always so clear-cut. It was shown that the LEENE- form does not necessarily call for a modal interpretation; see example (37). In the same way LEE- forms are not only used in a temporal meaning; see

[13] In [P4], the meaning 'being' was included under 'being somewhere'. A revision of the Salaca Livonian data set showed that there were examples of all the clause types included in Table 5, except resultative clauses.

examples (39) and (40), which illustrate that LEE- can be associated with an epistemic meaning.

(39) Courland Livonian (Setälä 1953: 142)

kis siedā u'm tī'end?

se	***lī-b***	*se*	*mu'ļki*	*ve'ļ*	*täsā*	*jūs*	*vȯnd*
this	LEE-3SG	this	fool	brother	here	near	be.APP

kis u'm laskõn tä'm ulz

'Who did it? – It was probably the fool brother who was here and let it [a fish] out.'

(40) Salaca Livonian (Sjögren & Wiedemann 1861a: 330)

Ab	***lī-ms***	*Karl,*	*mū*	*k'is*	*iepan-ub.*
NEG.3SG	LEE-mINF.INE	Karl	other	who	seem-3SG

This is probably not Karl, [he] seems like someone else.'

LEE(NE)- had the epistemic use in Livonian, Veps and Tver Karelian (see Table 5). A revision of the Salaca Livonian data set also gave corresponding examples from Salaca Livonian; see example (40) (in [P4] the focus was on auxiliary constructions, thus the epistemic sense of *līd* was introduced only in connection with an auxiliary construction). Examples (39) and (40) are different from the cases presented in subsection 5.1.1.1: in addition to revealing the modal meaning, examples (39) and (40) also receive a different temporal interpretation, i.e. a present relevance.

As in the language varieties considered LEE(NE)- primarily appeared as a future copula, FUTURE was seen as its primary function and EPISTEMIC MODALITY, as a secondary function. Crosslinguistic diachronic evidence suggests that the epistemic usage is a later development (see subsection 4.1.2.2). With respect to example (41) it was additionally argued that LEE(NE)- conveys a weak epistemic meaning as it occurs together with the epistemic modal adverb *naverno* 'maybe'. A weak epistemic meaning is claimed to precede a strong epistemic meaning (Traugott 1989: 43); see the Livonian examples (39) and (40) where *līdõ* is the only means to express epistemicity.

(41) Tver Karelian (Virtaranta & Virtaranta 1990: 240)

Nu	*Kaškipuusa-lda*	*hiän*	***l'ienöu***	*naverno*
PTCL	Kaškipuusa-ABL	s/he	LEENE.3SG	probably
virštu-a	*puolentois-ta*	*al'i*	*kakši*	
verst-PART	one_and_a_half-PART	or	two	

'Well, it is probably about one and a half or two kilometres from Kaškipuusa.'

5.1.1.3 Past time reference: 'become' as persistence of an earlier meaning?

In [P1] separate attention was devoted to Tver Karelian examples containing LEE(NE)- in the past form; see example (42) (see also Table 5). Whereas LEE(NE)- in the past form occurred in the same clause types as LEE(NE)- in the present form, the cases containing past form mainly conveyed the meaning 'become'. Majtinskaja (1973: 88–89) also associated the past forms of LEE(NE)- verbs in Karelian with CHANGE. Although *līdõ* did not reveal Simple Past forms, a few examples of *līdõ* in the Perfect form were found in the Courland Livonian data; see example (43). They were discussed only in [P3], but are now also represented in Table 5. Courland Livonian examples denoted 'become' just like Tver Karelian examples.

(42) Tver Karelian (Virtaranta & Virtaranta 1990: 60)

Hiän šiel'ä istuu,

i	***l'ieńi***	*vilu*
and	LEENE.PST.3SG	cold

'He was sitting there and it got cold.'

(43) Courland Livonian (Setälä 1953: 166)

tämā	*u'm*	*kīt-õn,*	*ko**ks***	*ta*	***lī-nd***	*ī'dõks*
s/he	be.3SG	say-APP	when_be.CND.3SG	s/he	LEE-APP	nine
kõrd-õ		*jo*	*knaš*	*äb*	*ku*	*se*	*tsā̄'rõm*
time-PART		more	beautiful	NEG	as	this	ermine

's/he said, that s/he would become nine times as beautiful as this ermine'

The meaning 'become' was seen as the persistence of an older meaning. Considering the LEE(NE) -verbs, regarding 'become' as an earlier meaning would correspond with the claim put forward by Budenz (1966) and Saukkonen

(1965) that originally the LEE(NE)- verbs were used to express motion or at least some kind of change (see subsection 1.2). Expressions of motion were also shown to be common sources for FTR devices crosslinguistically (see subsection 4.2.1).

The possibility of an earlier meaning 'become' received further support in [P3] from Olonets Karelian and Ludic in which *rotie(kseh)* and *rodi(ze)-* respectively (< Russian *rodit'sâ* 'be born', *rodit'* 'give birth') show development into an inchoative and future copula. Whereas in the case of FTR the primary meaning can even be 'will be' (example 44), the instances with a past time reference tended to convey 'become' (example 45). Although in [P3] it was stated that *rodit'/rodit'sâ* does not show a similar development in Russian; a closer look at North Russian dialects revealed that the verb *rodit'/rodit'sâ* has also been attested to mean 'appear', 'take place', 'begin' and 'become' (see SRNG), which points to an areal phenomenon.

(44) Central Ludic (Norvik 2012b)

Huomei minä ***rodi-mmos*** *kodi-s.*

tomorrow I be_born-REFL.1SG home-INE

'Tomorrow I'll be at home.'

(45) Olonets Karelian (OM 45, 2010)

Mei-s ***roi-ttih*** *hyvä-t dovariša-t.*

I-ELA be_born-PASS.PST good-PL friend-PL

'We became good friends.'

Thus, the Finnic languages studied in this thesis and their neighbouring Russian dilactes provided further evidence in support of the grammaticalisation path 'become' > FUTURE considered common to Northern European languages in general (see subsection 4.2.1).

5.1.2 Auxiliary uses of LEE(NE)-

Subsections 5.1.2.1 to 5.1.2.3 present the cases when LEE(NE)- is combined with a T-infinitive, M-infinitive (including different forms of M-infinitive) or past participle (APP or PPP). These uses of LEE(NE)- were regarded as auxiliary uses. As follows, conclusions will be drawn on the basis of [P1], [P2] and [P4]. The results presented in the three articles are illustrated in Table 6. T stands for primarily temporal meaning (FUTURE) and M designates a modal meaning (index M_{Deon} stands for DEONTIC MODALITY and M_{Epist} for EPISTEMIC MODALITY).

Table 6. Auxiliary uses of LEE(NE)-

V2 & Function / Language	Infinitives					Past participles			
	tINF		**mINF**	**mINF Ine**	**mINF Deb**	**APP**		**PPP**	
	T	M_{Deon}	T	T	M_{Deon}	T	M_{Epist}	T	M_{Epist}
Courland Liv									
Salaca Liv									
OWNE					-				
EstIns					-				
Votic					-				
Tver Karelian					-				
Veps					-				

5 or less occurrences | 6 or more occurrences | – impossible | possible, but no occurrences

5.1.2.1 Temporal function of infinitives

In the case of the Finnic languages, one would expect a FUTURE reading to be associated with LEE(NE)- + mINF, cf. the Estonian *saa-b ole-ma* (get-3SG be-mINF) 'will be' or Finnish *tule-e ole-maan* (come-3SG be-mINF) 'will be' (see also subsection 4.2.2). The data set collected for [P1] revealed a few cases of LEE- + mINF in Votic; see example (46). As the auxiliary construction did not appear to be obligatory or systematic, the Votic LEE- was not regarded as a grammaticalised future auxiliary.

(46) Votic (Ariste 1977: 105)

kana avvob, seness munass tuõb mato.

mitä	*siä*	*taho-d*	*sitä*	*tämä*	***lee-b***
what.PART	you	want-2SG	this.PART	s/he	LEE-3SG
si-llõõ	***kanta-maa***				
you-ALL	carry-mINF				

'The hen broods, from this egg a snake will come. It will bring you whatever you wish.'

In [P1] it was pointed out that the Insular dialect of Estonian and Old Written North Estonian contain instances of LEE- + mINF inessives expressing FTR, e.g. Wiedemann (2011: 531) translates example (47) as *dann werdet ihr finden* 'then you will find'. In [P1], parallels were drawn with *m(V)s* -constructions in Salaca Livonia, but as is shown in subsection 5.2.3, their formation and usage actually differs. A better parallel would be example (48) originally presented by Sjögren & Wiedemann (1861a: 139). They translated the sentence as *er wird halten* 'he will hold'. If we trust the German translations, examples (47) and

(48) express FUTURE. However it is hard to say anything decisive, as no context was provided to example (48), no other examples occurred in the Courland or Salaca Livonian data set, and in subsection 4.1.3.2 the present copula + mINF inessive construction was also associated with locative, progressive and imminential meanings.

(47) Insular dialect of Estonian (Wiedemann 2011: 531)

sis	*teie*	***lē-te***	***leid-mas***
then	you.PL	LEE-2PL	find-mINF.INE

'then you will find'

(48) Courland Livonian (Sjögren & Wiedemann 1861a: 139)

Ta	***lī-b***	***pidā-mõs.***
s/he	LEE-3SG	hold-mINF.INE

's/he will hold'

In [P4] it was shown that the Salaca Livonian *līd* + tINF can function as a future auxiliary primarily expressing temporal meaning; see example (49). As pointed out in [P1], Saukkonen (1965: 177) regarded *līd* + tINF as an old parallel with the Latvian *būt* + infinitive; see example (50). In [P1], I maintained that "one cannot exclude contact-induced change, [but] there is no good reason to neglect internal development either" (Norvik 2013: 134). A further look at the Latvian seems to confirm this. The cited sentence (50) originates from a *daina* (a Latvian folksong in verse form). Whereas currently usage of *būt* + infinitive is rare, *dainas* contain several examples of *būt* + infinitive, mainly in connection with 1st and 2nd person forms; the instances are associated with modal meanings, especially volition (Gāters 1993: 303–304). As PREDICTION, which constitutes the most grammaticalised form of FTR, is typically associated with 3rd person forms (see subsection 4.2.2), and the Salaca Livonian data set contained several examples (e.g. 49), Salaca Livonian forms show a greater extent of grammaticalisation. Thus even if Latvian initiated the development of the Salaca Livonian *līd* + tINF, the Latvian *būt* + infinitive ultimately lagged behind.

(49) Salaca Livonian (Sjögren & Wiedemann 1861a: 338)

Mina uskub un ūde lug uskub, ku

jumal	*luo-b*	*om*	*luo-n*	*un*	***lī-b***	***luo-d.***
god	create-3SG	be.3SG	create-APP	and	LEE-3SG	create-tINF

'I believe and will keep believing that God creates, has created and will create.'

(50) Latvian (Endzelīns 1951: 860)

es tev ***bū-šu*** ***palīdzē-t***

I you.DAT be-FUT.1SG help-INF

'I will help you'

A revision of the Salaca Livonian data set showed that some examples of *līd* + tINF could be additionally associated with deontic modality; see example (51). This can be regarded as further evidence for the grammaticalisation path of OBLIGATION > FUTURE (cf. subsections 3.3.1, 4.1.2.2 and 5.1.2.2).

(51) Salaca Livonian (Sjögren & Wiedemann 1861a: 327)

Pēter polg-ub, ku täma om karn ***lī-b*** ***papidd.***

Peter ask-3SG that s/he own.GEN farmstead.GEN LEE-3SG keep.tINF

'Peter is asking that he be allowed to keep the farm.'

In any case, in [P1] and [P4] it was demonstrated that although LEE(NE)- can function as a future auxiliary, it is neither obligatory nor systematic in any of the languages investigated; furthermore, the temporal interpretation is not always the only interpretation.

5.1.2.2 Deontic modality expressed using infinitives

As Table 6 illustrates, modal functions can be associated with T-infinitive and PTCP constructions; and in the case of Livonian also with the Debitive construction. Concerning the modal meaning, the study revealed that whereas LEE(NE)- + T-infinitive and the Livonian *līdõ* + M-infinitive Debitive are primarily used to express deontic modality (see examples 52 and 53), constructions containing APP or PPP appeared with the epistemic function (for participle constructions, see more in subsection 5.1.2.3 and 5.2.1).

(52) Courland Livonian (Setälä 1953: 168–169)

ni tam' ki'zzõn sīe naiz kä'dst,

kus sīe võtīm ***lī-b*** ***pān-da***

where this.GEN key.GEN LEE-3SG put-tINF

'Now s/he asked the lady, where this key should be put'

(53) Courland Livonian (Setälä 1953: 104)

aš sinā mūdõ võtād

siz	*si'n*	***lī-b***	***kuolõ-mõst***
then	you.DAT	LEE-3SG	die-mINF.DEB

'If you take something else, then you have to die.'

Although in the case of Courland Livonian both the T-infinitive and M-infinitive Debitive construction containing *līdõ* were used to express DEONTIC MODALITY, the former construction occurred less frequently (see Table 6). For comparison, Viitso (2014) did not mention the possibility of using *līdõ* + tINF for DEONTIC MODALITY in his study on the expression of modality in Livonian. With respect to the Debitive construction, Viitso (2014) claimed that the use of *līdõ* can be associated with future obligations and duties (see also subsection 3.3.3), however in [P1] examples (53) and (54) were used to argue that the distinction is not that clear-cut: *võlda* 'be' can be used instead; see example (54). Furthermore, as shown in subsection 4.1.2, deontic modality is always connected with FTR.

(54) Courland Livonian (Setälä 1953: 105)

ku sa nēšti võtād

siz	*si'n*	***u'm***	***kuolõ-mõst***
then	you.DAT	be.3SG	die-mINF.DEB

'If you take from these, then you have to die.'

T-infinitive constructions in Courland Livonian received closer attention only in [P1], for which I analysed linguistic material originating from (transcribed) oral texts (see Table 1 in Chapter 2). Reviewing edited and translated texts revealed several instances of the *līdõ* + T-infinitive construction in the Gospel of Matthew (Mt 1880) and also in examples from Sjögren & Wiedemann (1861a). Unlike in Salaca Livonian, the corresponding examples in Courland Livonian included the experiencer in a Dative case (cf. examples 49, 51 and 55). There were a few examples where the primary reading could also be FUTURE, with the obligative reading in the background (as pointed out by Sjögren & Wiedemann 1861a; see subsection 3.3.1), still, majority of examples were used to express deontic modality; see example (55). At any case, it was of interest that the (transcribed) oral texts, mainly originating from the 20th century, contained less than 5 examples of *līdõ* + tINF (see Table 6[14]). Furthermore, on the occasions in Mt 1880 where *līdõ* + tINF occurred, in the later translation of the Gospel of Matthew (ŪT 1942) different grammatical devices were used (one such being

[14] Table 6 is based on [P1], for which the material originating from transcribed collections of texts was analysed (see subsection 2.2).

the Debitive construction). Further study is needed, which would consider also possible contact-induced change and/or translational influence.

(55) Courland Livonian (Mt 1880, 06:05)

un	*ku*	*sa*	*pāla-d*	*sis*	***äb***	***lih***
and	when	you	pary-2SG	then	NEG.3SG	LEE.CNG
sinn-õn	***lih-dõ***	*kui*	*ne*	*kādkielis-t*	*rous*	be.3PL
you-DAT	LEE-tINF	like	these	double_tongue-PL	people	*umahtõ*

"And when you pray, you must not be like the hypocrites." (ESV)

5.1.2.3 Participle constructions: temporal/aspectual compared to modal

In [P1] aspectual meanings were associated with LEE(NE)- + PTCP constructions occurring in all four languages; see example (56). As the Livonian data set contained a few examples of the construction used for an epistemic function (example 57), a more detailed study of PTCP constructions was done for [P2].

(56) Courland Livonian (Setälä 1953: 243)

un	*siz*	*ku*	*ta*	***lī-b***	*sīe*	***tī'e-nd***
and	then	when	s/he	LEE-3SG	this.GEN	do-APP
siz	*ne*	*lī-bõd*	*kõ'zziz-t*	*tä'm*	*pālõ.*	
then	they	LEE-3PL	angry-PL	s/he.GEN	on	

'And when s/he has done it, they will be angry with him/her.'

(57) Courland Livonian (Kettunen 1938)

sudū-d	***lī-bõd***	*mi'n*	*nī'em-õ*	***mǭ'zõ***	***mūrda-nõd***
wolf-PL	LEE-3PL	I.GEN	cow-PART	down	kill-APP

'Wolves seem to have killed my cow.'

In [P2], examples such as (56) were associated primarily with a **temporal meaning** (represented by T in Table 6). The reason was that the aspectual meaning (completeness/perfectivity) seemed to be relevant in all cases. A crucial difference however, appeared to be between the temporal and modal (epistemic) reading. The examples with temporal meaning were argued to convey FUTURE ANTERIORITY. Following Comrie (1976: 53) and Declerck (2006: 155), future anteriority was defined as the completion of an action by a certain future orientation point or before another situation in the future. First

and foremost, the anteriority reading could be associated with the construction LEE(NE)- + APP occurring in subordinate clauses; see example (56) and the corresponding temporal relation on Figure 5. The data set contained examples from Livonian, Insular dialect of Estonian and Votic (see Table 6).

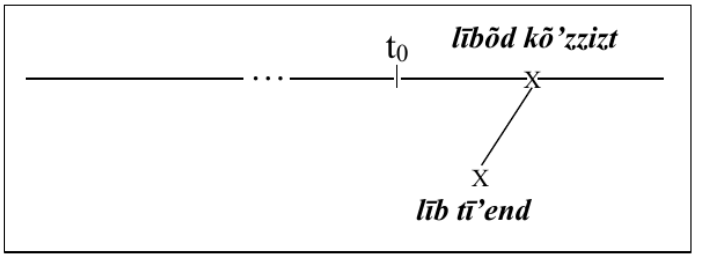


Figure 5. A graphical representation of example (56)

The investigation of PTCP constructions presented in [P2] showed that in addition to an anteriority reading, the constructions were also used to convey resultativity. In the case of anteriority, the focus is on an anterior action and in the case of resultativity, on the resulting state (Bybee et al. 1994: 63). For this thesis I considered anteriority and resultativity as forming a continuum, besides it was not always easy to tell them apart (thus T in the case of PTCP constructions in Table 6 stands for both readings).

The **epistemic function** (M_{Epist} in Table 6) was primarily associated with main clauses containing LEE(NE)- + PTCP; see example (57). For the temporal relations, see Figure 6. As Table 6 illustrates, all the examples collected from OWNE received epistemic reading. Although common to Livonian, the epistemic function of *līdõ* + PTCP was argued to be a secondary function (see the similar result for the case of the simple predicate in subsection 5.1.1.2).

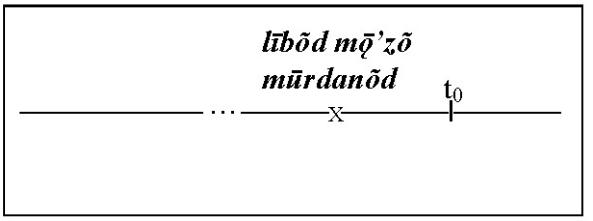


Figure 6. A graphical representation of example (57)

The examples of LEE(NE)- + PPP subsumed under T in Table 6 showed the greatest differences in their usage. Whereas in [P2] the few cases of Livonian *līdõ* + PPP were attested to primarily convey resultativity in connection with

FTR (for further information, see subsection 5.2.1), the corresponding examples from Votic and Veps expressed action-like uses; see example (58) and Figure 7. In [P2], these were regarded as instances of *an actional passive* (for use of this term, see e.g. Nedjalkov 1988) and parallels were drawn with the Russian *bud-* + perfective construction that is claimed to be the least resultative of all tense-aspect forms (Nedjalkov 1988: 47).

(58) Veps (Tunkelo 1946: 310)

homen	***lino-b***	*pät's-he*	***lykai-tud***
tomorrow	LEENE-3SG	oven-ILL	push-PPP

'Tomorrow [it] will be put into the oven.'

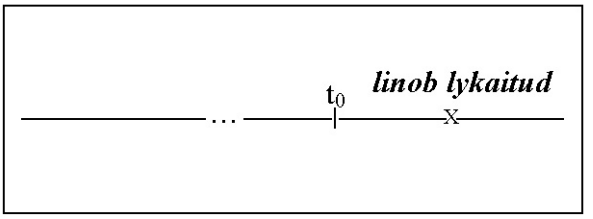


Figure 7. A graphical representation of example (58)

5.2 The expression of FTR in Courland Livonian and Salaca Livonian in a broader context

5.2.1 Future perfect and Passive future

The analysis presented in [P2] indicated that expression of future anteriority (and resultativity) by means of *līdõ* + APP is especially characteristic of Livonian. Another common construction in the Livonian material was *sǭdõ* 'get; become' + PPP that appeared in passive relations; see example (59). Considering this, in [P2] it was analysed to what extent *līdõ* + APP and *sǭdõ* + PPP can be considered as active and passive counterparts.

(59) Courland Livonian (Kettunen 1925: 53)

un li jālgab-õz […]

un	*sinā*	***sǭ-d***	***võtt-õt***	*pa*	*pūoš-õks*
and	you	get-2SG	take-PPP	PREP	servant-TRA

'and go to town […] you'll be taken as a servant.'

With respect to passive constructions, a distinction was made between constructions with passive and impersonal meanings. In the case of the former, the semantic patient behaved as a grammatical subject, in the latter case the valency of the verb in the personal voice remained unaffected (for more information on passivisation and impersonalisation, see e.g. Erelt 2013; Torn-Leesik 2009). The vast majority of instances in the Livonian data belonged to the first type. Unlike *līdõ* + APP, the construction *sǭdõ* + PPP was common in action-like cases that instead of conveying anteriority were used to express an action taking place at a certain future orientation point. For instance, example (59) could be regarded in terms of Figure 7 and not Figure 5. Furthermore, whereas *līdõ* + APP tended to occur in subordinate temporal clauses, *sǭdõ* + PPP was uncommon in corresponding cases. These different temporal relations were reflected by Sjögren & Wiedemann (1861a) by the use of the term *future perfect* for *līdõ* + APP, but *passive future* for *sǭdõ* + PPP.

Although infrequent, *līdõ* + PPP turned out to be a better passive counterpart to *līdõ* + APP (than *sǭdõ* + PPP): it occurred in the subordinate temporal clause to express anteriority (and resultativity), and in the main clause to express epistemic meaning about a past event. Unlike *sǭdõ* + PPP, *līdõ* + PPP was used to express resulting state; see example (60). Thus, the distinction between action and state as pointed out by Viitso (2008) for *sǭdõ* + PPP vs. *võlda* 'be' + PPP (see subsection 3.3.2) held for *sǭdõ* + PPP vs. *līdõ* + PPP as well.

(60) Courland Livonian (ŪT 1942, Mt. 16:19)

Ma āndab sinnõn touvõd vald võţmõd;

ja	*mis*	*sa*	*mā*	*pā̆l*	*sidā-d,*
and	what	you	earth.GEN	on	bind-2SG
lī-b	*touvi-s*	***sid-tõt***			
LEE-3SG	heaven-PL.INE	bind-PPP			

'I will give you the keys of the kingdom of heaven, and whatever you bind on earth shall be bound in heaven.' (ESV)

The data set also contained one instance of *sǭdõ* + APP; see example (65). In [P2] it was suggested that the construction was infrequent because its functions (conveying future anteriority/resultativity) overlapped with those of *līdõ* + APP.

(61) Courland Livonian (Loorits 1922)

Ta	***sǭ-b***	*sā̆l*	*seļļiz*	*strēk*	***spēļ-õn,***	*ne'i*	*nūz-õb*
s/he	get-3SG	there	such.GEN	while.GEN	play-APP	so	rise-3SG
lǭja	*kilg-st*	*ikš*	*nai*	*i'lz*			
boat.GEN	side-ELA	one	woman	up			

'[When] s/he has played a while, so a women will rise from a boat's side'

The results obtained in [P2] need further investigation in the light of language contacts. For example, in the same way as shown for Livonian *līdõ* + APP in this thesis, the Latvian *būt* 'will be' + APP conveys FUTURE and EPISTEMIC MODALITY (see Kalnača 2014: 120; Paegle 2003: 103). Latvian *tikt* 'get' (also *tapt/kļūt* 'get; become') + PPP is used for conveying passive relations, whereas *tikt* + APP seems to be uncommon (for a similar usage of Livonian *sǭdõ* + PPP and APP respectively, see above). Furthermore, Holvoet (2001a: 164) proposed the distinction between stative passive (expressed by constructions with *būt*) and dynamic passive (constructions with *tikt*). A similar distinction was introduced for Livonian *līdõ* + PPP vs. *sǭdõ* + PPP in this subsection.

5.2.2 Change-of-state predicates and future copula

In [P3] separate attention was devoted to the Livonian *sǭdõ* 'get; become', *īedõ* 'stay; remain', *līdõ* 'will be', *lā̆dõ* 'go' and *tūlda* 'come' appearing in analytic constructions that could be associated with change-of-state. The aim was to see in which constructions they appeared, to what extent expressing change was central to them, and to what extent they showed the development CHANGE > FUTURE (cf. also subsections 5.1.1 and 4.2).

The final data set analysed for [P3] consisted of 450 examples of *sǭdõ*, *īedõ* and *līdõ* (each represented by 150 examples). As *lā̆dõ* and *tūlda* were found for 'become' infrequently (the vast majority of examples appeared in the original meaning, i.e. conveying motion), these few occurrences were only included for comparative purposes. In [P3] CHANGE was associated with three constructions: the goal-marking (GM) construction; the source-marking (SM) construction; and with some reservations, the predicate nominal construction[15]; see Table 7 and examples (62) to (64) respectively. All five verbs analysed for [P3] occurred in the GM construction, three of five verbs were found in the SM construction, and two of five verbs in the predicate nominal construction (Table 7).

[15] In [P3], in addition to predicate nominal constructions also predicate adjective constructions were presented separately. Here, however, they are referred to as predicate nominal constructions (as done also in [A1]).

Table 7. Explicit and implicit change constructions in Courland Livonian

Construction / Verb	GM construction	SM construction	Predicate nominal construction	
	NP_{Nom} V $AdjP_{Tra}$ /NP_{Tra}	NP_{Ela} V NP_{Nom}	NP_{Nom}V AdvP /NP_{Loc}/PP	NP_{Nom} V $AdjP_{Nom}$ /NP_{Nom}
īedõ 'stay; remain'				
sǭdõ 'get; become'				
līdõ 'will be'				
lā̆dõ 'go'				
tūlda 'come'				
explicit change 'become' ----------'will be'			implicit change	

5 or less occurrences | 6 or more occurrences | 50 or more occurrencees | possible, but no occurrences

(62) Courland Livonian (Mägiste 1964: 32)

na'ggõr-d ***īe-bõd*** *pū'dõ-ks* *un* *sield-õks*
turnip-PL remain-3PL clean-TRA and clear-TRA
'Turnips will become clean and clear.'

(63) Courland Livonian (Stalte 2011: 63)

Vanātōṭi *kīt-iz,* *ku* *pȯis-õst* ***sō-b*** *vist* *miermīez.*
old_man say-PST.3SG that boy-ELA get-3SG probably seaman
'The old man said that the boy will probably become a seaman.'

(64) Courland Livonian (Setälä 1953: 207)

sīe-n *vanā* *saṇt-õn* […] *lī-b* *piški* *pūoga*
this-DAT old.GEN cripple-DAT LEE-3SG small son
un *siz* *se* ***lī-b*** *tä'm* *tidār* *mīez*
and then this LEE-3SG s/he.GEN dauther.GEN husband
'And then this old cripple will have a son and this will be his daughter's husband.'

The study conducted for [P3] revealed that the most common change-of-state predicate in Livonian is *īedõ* 'stay; remain' (with 89 instances) and the most typical change construction the **GM construction**; see example (62). The verb *sǭdõ* 'get; become' also conveyed the meaning 'become', but in comparison with *īedõ* it was less common (38 instances). The GM construction containing *īedõ* often (in 1/3 of the cases) contained the preposition *pa*. The preposition is

of Latvian origin; it has been shown to appear with the translative marker to double the sense 'become' (Grünthal 2003: 179; Wiemer et al. 2012: 38). For comparison, *sǭdõ* was rarely coupled with *pa*. The other predicates (*līdõ* 'will be', *lādõ* 'go' and *tūlda* 'come') occurred less than six times in this construction (see Table 7).

Whereas Pajusalu & Tragel (2007) showed that the cognate verbs in Estonian (*jääda* and *saada*) can be distinguished in terms of positivity and negativity (*jääda* is typically used to express negative/passive change or continuation), no such distinction was possible with Livonian *īedõ* and *sǭdõ*. The difference in their use however could be made in terms of spoken vs. written language. The verb *sǭdõ* was more typically used in edited texts and Bible translations, whereas *īedõ* appeared as the most general change-of-state verb in the spoken language. For example, 20 of 38 examples of *sǭdõ* (in the GM construction), but only five of 89 examples of *īedõ* originated from Bible translations. The use of *īedõ* for REMAINING and BECOMING reveals a parallel with colloquial Latvian, where the verb with the meaning 'remain; stay' (*palikt*) can also be attested to mean 'become'.

The predicates *sǭdõ*, *līdõ* and *tūlda* were also used in the **SM construction**; see examples (63) and (65) but instances were few and came almost exclusively from Bible translations and edited sources. Example (65) however originated from Viitso (2008: 344); there were no other examples of *līdõ* in an SM construction in the entire data set. I suggested that this infrequency of the SM construction could point to a later development, as shown for instance in the the case of the Estonian SM construction containing *saada* (Tragel & Habicht 2012: 1386). However, as Livonian data does not go as far back, there is not sufficient evidence for this claim.

(65) Courland Livonian (Viitso 2008: 344)

Pūoga-st	***lī-b***	*kalāmīez.*
son-ELA	LEE-3SG	fisherman

'The son will become a fisherman.'

The **predicate nominal construction**, where the change experiencer as well as the resulting state are marked using the nominative case, primarily contained *līdõ*; see example (64). The verb *sǭdõ* only occurred a few times; see example (66). In addition, instances that marked the resulting state using an adverb phrase, prepositional phrase or some locative element, were subsumed into this type (see Table 7). In example (67), the resulting state is expressed using an adverb phrase.

(66) Courland Livonian (Mt 1880, 24:13)

Kis lopahndõkst sānist pihl-õb se ***sā-b*** *vȯndzi.*

who end until stand-3SG this get-3SG happy

'But the one who endures to the end will be saved.' (ESV)

(67) Courland Livonian (Setälä 1953: 160)

ku se kēv kuolmõz kõrd pīerslõb,

siz sa ***lī-d*** *pa galam*

then you LEE-3SG PREP finished

'When this mare farts for the third time, you'll be finished.'

In [P3] a distinction was made between what was called *implicit* and *explicit* change. Examples such as (64) were regarded as instances of implicit change. In the corresponding cases, the primary sense was 'will be' (the sense 'become' remained in the background) and the reading 'become' was neither supported by a change-of-state construction nor the preposition *pa*. Examples such as (62), (63) and (65) were considered as instances of explicit change. These cases were used to express the meaning 'become', which was additionally supported by an underlying GM or SM construction. It was admitted however that the verbs themselves also contribute to the one or other reading: *lādõ*, *īedõ*, *sǭdõ* and *tūlda* were more strongly connected with CHANGE than *līdõ*. For instance, the use of *sǭdõ* in example (66) creates an additional sense of dynamicity, even though no change-of-state construction is involved.

As a result, it was argued in [P3] that *sǭdõ* and *īedõ* can be regarded as inchoative copulas (i.e. they primarily express CHANGE) and only *līdõ* shows the further development **CHANGE > FUTURE** (i.e. it can leave the sense 'become' in the background; see also subsection 5.1.1.1). Proposing the grammaticalisation path CHANGE > FUTURE does not however presuppose that CHANGE has to be expressed by a GM or SM construction, but the sense 'become' can be implicitly present. For instance, the data set collected for [P3] contained only three instances of *līdõ* in the GM construction. Furthermore, for examples (72) the instrumental case[16] marked a temporary state rather than CHANGE, which can be regarded as an extension of the original functions of the copula (see e.g. Kont 1963: 168).

[16] Viitso (2008: 329) regarded the suffixes *-kõks*, *-õks* and *-ks* as markers of the Instrumental case. He noted that it is occasionally possible to associate *-kõks* with comitative functions and *-ks* with translative functions. Whether we are dealing with two distinct cases is a matter of debate. For comparison, Grünthal (2003: 177) did not support the viewpoint that the two cases have merged, arguing that the Latvian Instrumental case was responsible for the splitting of these two functions.

(68) Courland Livonian (ŪT 1942, Mark 13:04)

Kīt	*mädd-õn,*	*kuna*	*se*	*lī-b*	*ja*	*mis*
tell.IMP.2SG	we-DAT	when	this	LEE-3SG	and	what
lī-b	*tād-kõks,*	*ku*	*se*	*ama*	*sā-b*	*täut-õt?*
LEE-3SG	sign-INS	when	this	all	get-3SG	fulfil-PPP

‘“Tell us, when will these things be, and what will be the sign when all these things are about to be accomplished?”’ (ESV)

5.2.3 Ingressivity, progressivity and related meanings in connection with FTR

Ingressivity, progressivity and related meanings were primarily discussed in [P4]. The article provided an analysis of the Salaca Livonian verbs *ürg* and *akk* (cognates of Courland Livonian *irgõ* and *akkõ*) that both mean ‘begin’ (see Winkler & Pajusalu 2009). The aim was to see whether they show the development INGRESSIVITY > FUTURE. Although ‘begin’ verbs appear to be a common source of FTR devices in the Finno-Ugric languages, the Salaca Livonian data did not reveal any examples that would leave the meaning ‘begin’ in the background and express FUTURE (cf. subsection 4.1.3.2). As the data set collected for [P1] also did not include any clear examples of the development INGRESSIVITY > FUTURE in the case of Courland Livonian *irgõ* and *akkõ*, the ‘begin’ verbs were not a focus for this thesis.

Since motion verbs are common sources of FTR devices (see subsection 4.2.1), another analysed path in [P4] was MOTION > FUTURE in the case of Salaca Livonian *tulla* ‘come’. The data set did not contain any cases of *tulla* used as an auxiliary, but there were four instances where *tulla* was used to express CHANGE that showed some development towards future; see example (69) (for comparison, see the grammaticalisation path for ‘come’ in Swedish in subsection 4.2.2). The corresponding cases were of interest for they were combined with the M-infinitive Inessive form (*-mVs*) for expressing change. The data set also contained two instances that were associated with immediate future; see example (70) (for a definition of immediate future, see subsection 4.1.3.2). Use of the *mVs-* form was argued to view change as gradual (also referred to as states that develop by degrees, e.g. by Comrie 1976). By comparison, no instances of change-of-state verbs combined with the M-infinitive Inessive for Courland Livonian (see subsection 5.2.2).

(69) Salaca Livonian (Sjögren & Wiedemann 1861a: 316)

Ku	***tul-ms***	*kavali-m,*	*sis*	*ana-b*
when	come-mINF.INE	smart-COMP	then	give-3SG
täd-l	*opatumis-t.*			
you-ADE/ALL	teaching-PART			

'When [one] gets smarter, [one] will teach you (lit. give you teaching).'

(70) Salaca Livonian (Sjögren & Wiedemann 1861a: 296)

Voi	*sa*	*ka*	*taggis*	***tul-mis?***
PTCL	you	also	back	come-mINF.INE

'Are you also coming back?'

The six cases can be subsumed under the construction *olla* 'be' + M-infinitive inessive (cf. subsection 4.1.3.2). Unlike most of the Finnic languages, the Salaca Livonian construction does not commonly contain the verb 'be' (see also Sjögren & Wiedemann 1861a: 139 and subsection 3.3.1): five of six examples were used without the present copula. Another Finnic language that omits the copula from the construction is Veps (see Serebrennikov 1963).

The Salaca Livonian data set additionally contained instances where *līd* appeared in the M-infinitive inessive form; see examples (71) and (72). Although in [P1] parallels were drawn between the use of LEE(NE)- + M-infinitive inessive in Salaca Livonian, Old Written North Estonian, the Insular dialect of Estonian and Courland Livonian (see also subsection 5.1.2), the Salaca Livonian examples stand out as *līd* itself is a copula; see examples (71) and (72). Thus, it is not possible to speak about the omission of the copula in the case of examples (69) and (70).

(71) Salaca Livonian (Sjögren & Wiedemann 1861a: 350)

Mina	*luot-ub,*	*ku*	*täma*	***lī-ms***	***tulle-n.***
I	hope-1SG	that	s/he	LEE-mINF.INE	come-APP

'I hope that s/he has arrived.'

(72) Salaca Livonian (Sjögren & Wiedemann 1861a: 330)

K'iŋge	*jūrs*	*löüd-ub,*	*sie*	***lī-ms***	*vigali.*
who.GEN	at	find-3SG	this	LEE-mINF.INE	quilty

'At who's place will [this] be found, that will be quilty.'

Revision of the data showed that in all seven examples containing *līm(V)s*, three were instances of *līms* + PTCP, i.e. similar to example (71). The remaining examples contained *līms* (once *līmes*) functioning as a copula; see example (72). Whereas (71) expresses an epistemic function, example (72) conveys future. It is possible that in these cases *-m(v)s* can be associated with a real emphatic reading; see example (73) (see also Sjögren & Wiedemann 1861a: 139; cf. subsection 4.1.3.2). This brings us back to one of the Livonian first phrases written down, i.e. the 13th century *maga maga-mas* (sleep.IMP.2SG sleep-mINF.INE) 'sleep for eternity'. Crosslinguistic data suggests that "the original meaning of most PROG devices must have been that of a stative construction expressing the idea of "being (i.e., finding oneself/itself) in a state"" (Bertinetto et al. 2000: 539).

(73) Courlan Livoniand (Sjögren & Wiedemann 1861a: 139)

Ta	***näe-mis***	***äb***	***näe.***
s/he	see-mINF.INE	NEG.3SG	see.CNG

'S/he does not see at all.' (lit. 'S/he seeing does not see.')

CONCLUSIONS AND FURTHER RESEARCH

This article-based thesis presented an analysis of future time reference (FTR) devices in Livonian and drew parallels with expressions of FTR in other Finnic languages. As Livonian and Finnic languages in general are known for their possibility to express FTR by means of using a verb in the present tense, for this thesis I concentrated on verbs that showed at least some development into an FTR device. Previous research has revealed that every Finnic language, including Livonian, contains at least one such device. However, especially in the case of Finnic languages other than Finnish and Estonian, periphrastic devices have previously received little attention.

The material presented in the articles was collected from Livonian and eleven other Finnic language varieties, namely Northern Karelian, Olonets Karelian, Tver Karelian, Central Ludic, Veps, Ingrian, Votic, Old Written North Estonian, the Insular dialect of Estonian, Standard Estonian and Standard Finnish. Priority was given to sources where it was possible to collect linguistic examples with a context. In the case of Livonian, the oldest sources included in this study date back to the middle of the 19th century; the newest material originates from the 21st century.

Relying on previous crosslinguistic studies, FTR devices were expected to show an intertwining of temporal, modal and aspectual meanings, and well-grammaticalised cases of FTR to mark obligatorily prediction about future. For the current study I set out to determine in what way the temporal, modal and aspectual meaning elements are present in FTR devices in Livonian and to what extent these devices can be associated with the expression of prediction. I acknowledged that expressions of FTR differ modally from past and present tense, but this does not mean that an FTR device is *a priori* modal.

The main results of this thesis concern the use of the Livonian *līdõ* 'will be' and the cognate verbs (referred to as LEE(NE)- verbs) in other Finnic languages. The analysis showed that the Livonian *līdõ* has been grammaticalised as an FTR device for two uses: (i) it functions as a future copula when used as a simple predicate, (ii) the construction *līdõ* + active past participle (APP) can be called a future perfect. Thus, support was found for the hypothesis that there are uses where *līdõ* is a systematic and obligatory FTR device.

The copular uses of *līdõ* were associated with five clause types: locational, existential, predicate nominal, possessive and resultative. The Livonian *līdõ* was obligatorily used in cases where a copula was needed for FTR and was mainly found to express prediction. In these clause types, *līdõ* was associated with the meaning 'will be', but it could also intertwine with the meaning 'become' and related meanings that were regarded on a continuum. As a result, the term *future copula* was not solely reserved for instances of 'will be'.

In the case of other Finnic languages, LEE(NE)- as a simple predicate was investigated further for Votic, Tver Karelian and Veps and similar results were found. In addition, separate attention was devoted to the past tense form of the Karelian LEE(NE)- verbs that appeared with the meaning 'become'. Providing

evidence from Finnic languages but also drawing on crosslinguistic data, I regarded 'become' as showing the persistence of an older meaning. In this thesis I argued in support of the claims that the verb originally expressed motion (Budenz 1966), or at least some kind of change (Saukkonen 1965), and the meaning 'will be' was a later development.

The construction *līdõ* + APP (called the *future perfect*) was commonly used for expressing future anteriority or resultativity. The former was attested to express completion of an action before another future action or by a certain future orientation point. The latter brings the future result (the resulting state) into focus. Although most of the examples clearly conveyed anteriority, anteriority and resultativity were seen to form a continuum. Regarding syntactic behaviour, the results showed that *līdõ* + APP is favoured for subordinate clauses, especially temporal clauses. Whereas the use of an FTR device in a subordinate clause is commonly associated with modal meanings, the results obtained for this thesis provide further evidence from the languages (Livonian) that can obligatorily use an FTR device in a subordinate clause with primarily temporal meaning. In the case of other Southern Finnic languages, a few instances of LEE(NE)- + APP conveying future anteriority/resultativity were also found in Votic, as was one instance for the Insular dialect of Estonian. Thus, Livonian stood out for the frequent use of *līdõ* + APP as a future perfect.

In addition to the function of expressing FUTURE by means of a future copula or future perfect, *līdõ* as well as *līdõ* + APP had the epistemic function. In this case, the FTR device was used to express a present relevance about a past situation and added a modal meaning to it. In Livonian the epistemic meaning appeared to be less common and was regarded as a secondary meaning. It was regarded possible that the epistemic function is of later development, which was shown to find crosslinguistic evidence as well. The epistemic function was found for LEE(NE)- verbs in all the Finnic varieties studied for this thesis.

With respect to modal meanings, the Finnic LEE- forms (represented by the Proto-Finnic root **lē*-) and LEENE- forms (the Proto-Finnic **lēne*-) were analysed separately. Previous research tended to primarily associate LEENE- with modal (epistemic) meanings. The current study however, showed that the distinction is not so clear-cut. LEENE- as well as LEE- were found for both uses: primarily expressing FUTURE or an EPISTEMIC (modal) meaning. Which use was in the foreground depended on the broader context.

In addition to the finding that the future copula and future perfect are well-grammaticalised cases of expressing future in Livonian in general, Salaca Livonian revealed some examples where *līd* + T-infinitive was used to express PREDICTION, i.e. FUTURE. If the occurrence of the corresponding constructions in the main clause had been systematic, the conclusion would have been that Livonian has a well-grammaticalised future tense. This however was not the case as the data set contained only a few such instances. Even though the 19th century Courland Livonian examples seemed to provide a possibility for the development OBLIGATION > FUTURE in the case of *līdõ* + T-infinitive

construction, the construction was rare in the 20th century sources and primarily associated with an obligative reading.

Thus, in the case of Livonian, the most grammaticalised instances of an FTR device were found in Salaca Livonian. Furthermore, it is of interest that the construction contained the T-infinitive not the M-infinitive, as the latter might have been expected if one considers FTR devices in other Finnic languages. For instance, the Votic data contained a few instances where the LEE- + M-infinitive was primarily used to express PREDICTION. In the Insular dialect of Estonian and in Old Written North Estonian, the construction LEE- + M-infinitive inessive appeared with the future meaning. However, neither the Salaca Livonian *līd* + T-infinitive nor LEE(NE)- + M-infinitive constructions in the other Finnic languages constitute a well-grammaticalised future auxiliary. Thus, the other part of the hypothesis, that Livonian does not have an obligatory future auxiliary in the infinitival construction, was also supported by the data set.

In this thesis I also set out to discuss other possible FTR devices in addition to *līdõ*. The verbs considered in the case of Livonian were *irgõ* 'begin' and *akkõ* 'catch, grab; begin', *tūlda* 'come' and *sǭdõ* 'get; become'. Whereas in several Finno-Ugric languages the grammaticalisation path 'begin' > FUTURE has been attested, the Livonian data did not reveal any clear examples of such a development. The construction *sǭdõ* + PPP was however regarded as a passive future mainly to express an action taking place at a certain future orientation point. Thus, in the Livonian data set, the copula and participle constructions appeared to be the most grammaticalised cases of FTR.

For this thesis I also considered change-of-state predicates in Livonian. Five verbs were of interest: *līdõ* 'will be', *tūlda* 'come', *sǭdõ* 'get; become', *īedõ* 'remain; stay' and *lā̄dõ* 'go'. These verbs were studied for three constructions: goal-marking, source-marking and predicate nominal constructions. The most common change-of-state verbs were *īedõ* and *sǭdõ*, and the primary change-construction was goal-marking. It was argued that the main difference between the use of *īedõ* and *sǭdõ* can be explained in terms of spoken vs. written language: the vast majority of examples containing *īedõ* as a change-of-state predicate originated from spoken language, whereas *sǭdõ* was more frequently used in translated texts such as Bible translations. In a Finnic context, Livonian stood out for the use of *īedõ* to express change. Although CHANGE > FUTURE is a common grammaticalisation path and languages may have several future copulas, only the Livonian *līdõ* was shown to function as a future copula. Unlike *īedõ* and *sǭdõ*, Livonian *līdõ* mainly appeared in predicate nominal constructions that marked neither source nor goal. It was argued that partly because of the construction, but also partly because of the verb (*līdõ*), the meaning 'will be' tended to be in the foreground.

For this thesis I mainly concentrated on determining FTR devices in Livonian and outlining their functions, as well as comparing their use with FTR devices in other Finnic languages. In addition, some parallels were drawn with the contact Indo-European languages. A task for further study would be to discuss the results presented in this thesis in the light of the multiple language-

contact situations that have occurred within the Finnic area. The Southern Finnic language group in particular provides an interesting context for this, as close cognate languages reveal different contact-situations: Livonian has been in long-term contact with Latvian, Votic-speakers have lived side by side with speakers of Russian, and German influenced the development of Estonian literary language.

ABBREVIATIONS

1, 2, 3	first person, second person, third person
ABL	ablative
ACC	accusative
ADE	adessive
AdjP	adjective phrase
Adv	adverb
AdvP	adverb phrase
ALL	allative
APP	active past participle
ART	article
AUX	auxiliary
CND	conditional
CNG	conegative
COMP	comparative
DAT	dative
DEB	debitive
DEF	definite
Deon	deontic modality
ELA	elative
Epist	epistemic modality
Ess	essive
EstIns	Insular dialect of Estonian
FTR	future time reference
FUT	future
GEN	genitive
ILL	illative
IMP	imperative
IPFV	imperfective
Ind	indicative
INE	inessive
INF	infinitive
INS	instrumental
Liv	Livonian
Loc	locative
M	modal (function)
mINF	M-infinitive
NEG	negative
Nom	nominative
NP	noun phrase
OWNE	Old Written North Estonian
PART	partitive
PASS	passive
PF	Proto-Finnic
PFU	Proto-Finno-Ugric
PFV	perfective
PL	plural
POT	potential
PP	perfective particle
PPP	passive past participle
PREP	preposition
PROG	progressive
PRS	present
PST	past
PTCL	particle
PTCP	participle
Quot	quotative
REFL	reflexive
SG	singular
T	temporal (function)
TAM	tense, aspect, modality
tINF	T-infinitive
TRA	translative
TvKrl	Tver Karelian
V	verb
V2	non-finite main verb
Vep	Veps
Vot	Votic

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SUMMARY IN ESTONIAN

Tuleviku väljendamise vahendid liivi keeles läänemeresoome keelte taustal

Käesolev doktoritöö käsitleb tuleviku väljendamise vahendeid liivi keeles, vaadeldes neid laiemal läänemeresoomelisel taustal. Töö põhineb neljal artiklil, mis lähenevad teemale mõnevõrra eri nurga alt. Kasutatud näitematerjal on kogutud erinevatest suulise ja kirjaliku keele allikatest. Materjali analüüsimiseks kasutatakse funktsionaaltüpoloogilist lähenemist keelele ning võetakse arvesse grammatisatsiooniteooria põhiprintsiipe.

Tuleviku väljendamiseks on keeltes erinevaid võimalusi: kasutusel võib olla morfoloogiline tulevikumarker (nt läti *-s/-š/-si*), perifrastiline konstruktsioon (nt inglise *will* + infinitiiv), kuid tulevikku võidakse väljendada ka verbi olevikuvormi abil, misjuhul tulevikuline tõlgendus selgub kontekstist (nt eesti keeles). Mingi võimalus tuleviku väljendamiseks on keeles alati olemas, põhiline erinevus keelte vahel seisneb pigem selles, mil määral vastavad vahendid on spetsialiseerunud just tuleviku väljendusvahenditeks (Comrie 1993: 11–12).

Eesti keelt, aga ka soome-ugri keeli üldiselt, tuuakse sageli näiteks keelte kohta, kus tavapärane tuleviku väljendamise viis on kasutada verbi oleviku ajavormi. Siiski on kõigis nendes keeltes olemas vähemalt osaliselt grammatiseerunud perifrastilised tuleviku väljendamise vahendid, nt eesti *saab olema* või *hakkab olema* ja soome vastavasisuline tarind *tulee olemaan* (vt nt Majtinskaja 1973; Metslang 1996; Mägiste 1936). Siinses töös on põhitähelepanu keskendatud liivi keelele ning verbile *līdõ*, mida on tuleviku väljendamisega seostatud juba esimeses liivi keele grammatikas (Sjögren ja Wiedemann 1861a). Verbil *līdõ* on vasteid kõigis läänemeresoome keeltes ning enamikus kaugemates soome-ugri keeltes, näiteks isuri *lījjä*, soome *lienee* ja *lie*, eesti *leeda*, vadja *lē-*, vepsa *l'ińd'ä*, lüüdi *l'iettä*, karjala *lie(nöy)*, saami *læt*, ungari *lesz*, komi *loni̯*, udmurdi *luini̯*, mäemari *liäm,* niidumari *liam* ja *lijam* (SSA II). Nimetatud verbe on seostatud ennekõike tulevikuliste ja modaalsete tähendustega (vt Budenz 1966; Majtinskaja 1973; SSA II; UEW).

Verb *līdõ* on uurimuse keskmes seetõttu, et tegu on ainukese tulevikku väljendava verbiga, mis on nii vormi kui ka põhitähenduse poolest ühine paljudele soome-ugri keeltele. Näiteks on soome-ugri keeltele omaseks peetud ka 'algust' väljendavate verbide arenemist tuleviku väljendusvahenditeks, kuid nende puhul on tegemist sarnase alliktähendusega, mitte aga vormiga, vrd nt vadja *nõis(s)a* 'tõusta; hakata' ning ersa *karmams* 'hakata' (vt veel Majtinskaja 1973; Metslang 1996). Vormi ning funktsiooni sarnasustele osutamiseks on järgnevalt kasutatud suurtähti, nt liivi *līdõ* ja selle vasteid läänemeresoome keeltes hõlmab LEE(NE)-. Variant LEE- märgib läänemeresoome algkeele tüvega **lē-* seostatavaid vorme ning LEENE- selle modaalseks vasteks peetud tüvele **lēne-* tagasiviidavaid vorme (vt Saukkonen 1965: 174).

LEE(NE)-verbide kasutust liivi keeles ning teistes läänemeresoome keeltes kutsus lähemalt uurima asjaolu, et grammatikates ja teistes keeleülevaadetes on

neid käsitletud erinevalt, sh ühe keele raames. Näiteks Andreas J. Sjögren & Ferdinand J. Wiedemann (1861a) on esitanud *līdõ*-verbi tuleviku abiverbina ning eristanud muuhulgas tuleviku perfekti. Lauri Kettunen (1938) on oma grammatikaülevaates aga paigutanud *līdõ* hoopis potentsiaali alla. Üleüldse on perifrastilised tuleviku väljendamise võimalused teistes läänemeresoome keeltes peale eesti ja soome keele vähem tähelepanu leidnud.

Eelnevast uurimisest lähtuvalt on käesoleva doktoritöö eesmärgiks analüüsida täpsemini *līdõ* funktsioone ning selgitada välja, kas ja kuivõrd seda võib pidada grammatiseerunud tuleviku väljendusvahendiks. Hüpoteesiks oli, et verbil *līdõ* eristuvad kasutused, kus see toimib täieõigusliku tuleviku väljendusvahendina, kuid ootuspärast tuleviku abiverbi liivi keeles siiski ei ole. Teoreetilisele kirjandusele tuginedes on grammatiseerunud tuleviku abiverb siinse töö jaoks defineeritud järgnevalt: see esineb koos infinitiiviga, on obligatoorne pealauses, juhul kui lause kannab tulevikulist tõlgendust ning väljendab ennustust tulevikulise olukorra kohta (vt Dahl 2000b; Heine 1993). Kuna tüpoloogilised uurimused on näidanud, et keeles võib olla mitu tuleviku väljendamise vahendit, mis on spetsialiseerunud erineval viisil (vt Bybee jt 1994), analüüsin doktoritöös teisigi verbe, mis on vähemalt osaliselt arenenud tuleviku väljendusvahendi suunas või mille puhul pidasin vastavat arengut võimalikus. Näiteks liivi keelest on lisaks verbile *līdõ* vaatluse all ka verbid *sǭdõ* 'saada', *īedõ* 'jääda', *tūlda* 'tulla', *lādõ* 'minna' *irgõ* 'hakata' ja *akkõ* 'haarata; hakata'.

Töös analüüsitav liivikeelne materjal pärineb järgmistest allikatest:

1. Transkriptsioonis tekstikogumikud: Kettunen (1925), Loorits (1922), Mägiste (1964) ja Setälä (1953). Nendes sisalduvad suulised tekstid on kirja pandud foneetilises transkriptsioonis ajavahemikus 1888–1943. Nagu ilmneb vastavate kogumike sissejuhatustest, on tekstikogumiku trükki toimetamine tähendanud ennekõike foneetiliste paranduste tegemist.
2. Valik audiofaile Tartu Ülikooli Eesti murrete ja sugulaskeelte arhiivi kogudest (AEDKL). Liivi keele lindistused on tehtud ajavahemikus 1968–2010; need esindavad erinevate keelejuhtide kõnepruuki.
3. Toimetatud ja tõlgitud tekstid: Sjögren & Wiedemann (1861a), Stalte (2011), eri aegadest pärit Matteuse Evangeeliumid (Mt 1880; ŪT 1942) ja Markuse Evangeelium (ŪT 1942).

Materjali analüüsimisel lähtun funktsionaaltüpoloogilisest lähenemisest keelele, mis seletab keelestruktuuri keelekasutuse kaudu ning toob sisse keeltevahelise võrdluse (Croft 1999: 87). Võimalike tuleviku väljendusvahendite tuvastamisel ning nende arengu analüüsimisel tuginen muuhulgas grammatisatsiooniteooria põhimõtetele. Grammatsiatsiooniteooria aitab seletada nii grammatiliste vormide diakroonilist arengut kui ka sünkroonilist olukorda (Heine & Kuteva 2002: 2).

Tuleviku väljendamine keeles ning selleks tarvitusel olevad grammatilised võimalused on keeleteadlaste hulgas laialdast arutelu leidnud. Palju on diskuteeritud näiteks selle üle, millise kategooria all tuleviku väljendamise vahendeid

ikkagi vaadelda. Põhjusel, et tulevikku ei saa mäletada (nagu minevikku) või kogeda (nagu olevikku), on tulevik sageli seotud modaalsusega, nt soovide, kavatsuste väljendamise ja järelduste tegemisega (Dahl 2000b: 309–310; Lyons 1977: 816). Modaalsete elementide olemasolu on vahel viinud selleni, et tulevikus on nähtud hoopis modaalset kategooriat (nt Quirk jt 1974). Aspektuaalsete nüansside tajumine on aga võinud tingida tuleviku väljendusvahendi käsitlemise aspektikategooria liikmena (vt Palmer 1990: 160–161). Siinses doktoritöös ei ole üritatud uuritavaid vahendeid (enne analüüsimist) ühe või teise grammatilise kategooria alla liigitada; aega, aspekti ja modaalsust on käsitletud pigem kui domeene, kust grammatiline väljendusvahend „valib" oma tähenduselemendi (vt Dahl 2000a: 7). Ühel ja samal vahendil võib tulenevalt kasutuskontekstist tähendus varieeruda, mis võib peegeldada eri arenguetappe (Hopper & Traugott 2003: 97). Põhiline küsimus taolise lähenemise korral seisnebki selles, milline tähenduselement on mingil juhul esil. Tulevikuvahendiks grammatiseerumise astet näitab see, kuivõrd on tuleviku väljendamise korral esiplaanil ajaline tähenduselement (Dahl & Velupillai 2013).

Doktoritöö koosneb neljast artiklist. Kõigis neis on analüüsi keskmes liivi keel. Kolmes artiklis [A1–A3] on põhitähelepanu all kuraliivi keelekuju, kuid üks artikkel [A4] lähtub salatsiliivi keelekujust. Kuraliivi on seostatav kaheteistkümne rannakülaga Kuramaal, kus veel hiljuti elas emakeelseid liivlasi; salatsiliivi keel on aga mälestis Salatsi jõe ümbruses räägitud liivi keelekujust, mis hääbus 19. sajandi viimasel veerandil. Teistest läänemeresoome keeltest leidub töös võrdlusi vadja, Tveri karjala, vepsa, vähemal määral ka kesklüüdi, aunusekarjala, põhjakarjala ja isuri keelega. Täpsem liigitus karjala ja lüüdi keele puhul tuleneb sellest, et olen ise neis piirkondades välitöid teinud ja oma materjali kogunud (aastal 2009 Tveri Karjalas ja aastal 2012 lüüdi aladel). Eesti keele puhul olen eraldi arvestanud vanemat kirjakeelt ja saarte murret, sest neis keelevariantides esineb näiteid uurimistöö keskmes oleva LEE(NE)-verbi kohta. Tabel 1 annab ülevaate artiklite aluseks olnud andmestikust liivi keele materjalist lähtudes.

Peamised tulemused puudutavad LEE(NE)-verbi funktsioone liivi keeles ja teistes läänemeresoome keeltes. Seda teemat käsitletakse kõigis artiklites, kuid kõige põhjalikumalt siiski artiklis [A1]. Analüüsi tulemused näitavad, et liivi *līdõ* on grammatiseerunud tuleviku väljendusvahend kahel juhul: esinedes tulevikukoopulana ning tuleviku perfekti konstruktsioonis (*līdõ* + aktiivi mineviku partitsiip). Järgnevalt tutvustataksegi uurimustöö peamisi tulemusi, tõmmates paralleele teiste läänemeresoome keeltega.

Tabel 1. Doktoritöös kasutatud andmestik liivi keele materjalist lähtudes.

Artikkel	Andmestik
[A1] Norvik (2013)	*līdõ* 'olla (tulevikus)', *sǭdõ* 'saada (sh muutuse väljendamine)', vähemal määral ka *irgõ* 'hakata', *akkõ* 'haarata; hakata'. Põhitähelepanu on LEE(NE)-verbidel läänemeresoome keeltes; lisaks liivi keelele on keskmes vadja, Tveri karjala ja vepsa keel.
[A2] Norvik (ilmumas)	*līdõ* / *sǭdõ* + mineviku partitsiip. Artikkel keskendub liivi keelele, kuid toob paralleele ka teiste (lõuna)läänemeresoome keeltega.
[A3] Norvik (2014)	*līdõ*, *sǭdõ*, *īedõ* 'jääda', *tūlda* 'tulla' ja *lā̄dõ* 'minna'. Vaatluse all on muutuse väljendamine liivi keeles.
[A4] Norvik (2012a)	salatsiliivi *līd* 'olla (tulevikus)', *saad* 'saada (sh muutuse väljendamine)', *tulla* 'tulla', *ürg* 'hakata', vähemal määral ka *akk* 'haarata; hakata'. Artikkel käsitleb nimetatud verbide (võimalikku) kujunemist tuleviku abiverbideks.

Artiklis [A1] näidatakse, et *līdõ* on käsitatav **tulevikukoopulana**, sest see on kohustuslik koopulalausetes, mis saavad tulevikutõlgenduse. Koopulat on töös defineeritud kui verbi, millel on võimalikult vähe leksikaalset sisu, nagu nt 'olema'-verbil; inhoatiivseks, kvaasi- või semikoopulaks on peetud verbe, mis on seostatavad ennekõike muutusega (Payne 1997: 115; Pustet 2003: 5). Vahel on „koopulat" kasutatud katusterminina nii 'olemise' kui ka 'muutuse' tähistamiseks (nt Geist & Rothstein 2007: 1).

Thomas Payne'i (1997) ja Mati Erelti (2005) töödest lähtuvalt eristatakse artiklis [A1] viit tüüpi koopulalauseid: kohalaused, eksistentsiaallaused, nominaalse predikaadiga laused, kogeja-omajalaused ja resultatiivlaused (vt tabelit 2). Nende alla oli võimalik liigitada kõik materjalis esinenud näited.

Tabel 2. LEE(NE)- kasutamine koopulana liivi (lv), vepsa (vps), Tveri karjala (Tkrj) ja vadja (vdj) keeles ([A1] põhjal).

Formaalsed tunnused / Funktsioon		**Tulevik** (ennustus)			**Olevik** (epist. modaalsus)			**Minevik** (muutus)		
Lausetüüp	**Konstruktsioon**	**lv**	**vps**	**Tkrj**	**vdj**	**lv**	**vps**	**Tkrj**	**lv**	**Tkrj**
Kohalause	NP_{Nom} V Loc									
Eksistentsiaallause	(Loc) V $NP_{Nom/Part}$[17]									
Nominaalse predikaadiga lause	a. NP_{Nom} V NP_{Nom}/Adv									
	b. NP_{Nom} V NP_{Ess}									
Kogeja-omajalause	a. NP_{Dat} V $NP_{Nom/Part}$		-	-	-		-	-		-
	b. $NP_{Ade/All}$ V $NP_{Nom/Part}$	-				-			-	
Resultatiivlause	a. NP_{Ela} V NP_{Nom}									
	b. NP_{Nom} V NP_{Tra}									

5 või vähem näidet; 6 või rohkem näidet; - võimatu; näited puudusid, kuid võimalik

[17] Võimalik ka kvantorifraas.

Artiklist [A1] ilmneb, et ennekõike on *līdõ* seostatav ennustuse väljendamisega, st tulevikulise olukorra esitamisega võimalikult kindlana, vt näidet (1) ning tabeli 2 lahtrit „Tulevik". Nagu eelnevalt mainitud, võib ennustuse väljendamist pidada kõige grammatiseerunumaks tulevikuga seotud tähenduseks (ENNUSTUS on töös sünonüümselt kasutusel ajalise tähenduse esiplaanil olemisega). Samuti vepsa, Tveri karjala ja vadja keeles on LEE(NE)-verbid kasutusel ennustuse märkimiseks tuleviku suhtes (vt tabelit 2).

(1) Kuraliivi (Setälä 1953: 105)

ārga u'm kītõn:

"ants,	*sā'l*	***lī-b***	*knašš-õd*	*umār-d,*
Ants	seal	LEE-3SG	ilus-PL	õun-PL

sinā alā võttõ nēḍi …

'Härg öelnud: „Ants, seal on [tulevikus] ilusaid õunu,
kuid sina ära võta neid!"'

Analüüsist siiski selgub, et tulevikku ei saa seostada pelgalt '(tulevikus) olemise' tähendusega, vaid see põimub '(tulevikus) olema saamise' ehk muutuse tähendusega. Nende tähenduste segunemist tulevikulistes lausetes on rõhutanud nt Östen Dahl (2000c). Samas on materjali hulgas vähe näiteid selle kohta, kus tulevikutõlgenduse korral oleks esiplaanil ennekõike muutuse märkimine. Seda kinnitab muuhulgas resultatiivses konstruktsioonis (NP_{Nom} V NP_{Tra} või NP_{Ela} V NP_{Nom}) esinenud LEE(NE)-verbide väike hulk (just resultatiivset konstruktsiooni võiks ennekõike seostada muutusega).

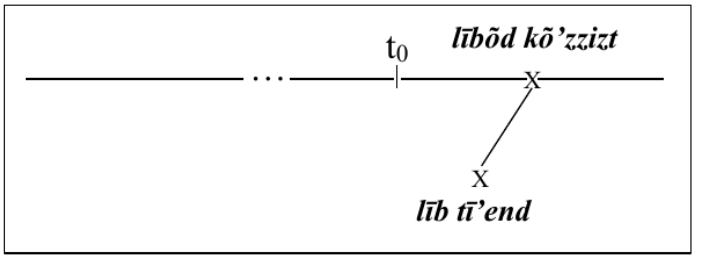
Artiklis [A2] keskendutakse **tuleviku perfekti konstruktsioonile** (*līdõ* + APP), näidates et see on ennekõike kasutusel tulevikus eelnevuse või resultatiivsuse märkimiseks (kõnealuses artiklis analüüsitud 56 näitest 39 väljendasid eelnevust). Tulevikuline eelnevus tähendab seda, et varasem sündmus esitatakse lõpetatuna enne mingi tulevikulise ajahetke kättejõudmist (nt enne järgmise sündmuse toimumishetke), vt näidet (2). Kirjeldatud ajasuhe on toodud joonisel 1[18]. Resultatiivsetena vaadeldakse näiteid, kus esiplaanil oli pigem tulevikuline seisund kui varasem tegevus. Kuna eelnevust ning resultatiivsust on kohati raske eristada, käsitletakse neid artiklis pigem kontiinumina. Pealegi on näidatud, et diakrooniliselt lähtub eelnevus resultatiivsusest (Bybee jt 1994: 68; Nedjalkov 1988: 49).

[18] Joonised põhinevad Declerki (2006) kasutatud joonistel. t_0 tähistab deiktilist nullpunkti, sellest vasakule paigutub minevik ning paremale tulevik. Punktiirjoon tähistab vahet mineviku ja eeloleviku (ingl *pre-present*) vahel. Viimast seostab Declerk perfektivormi ning selle funktsiooniga (vt Declerck 2006: 150–151).

(2) Kuraliivi (Setälä 1953: 243)

un	*siz*	*ku*	*ta*	***lī-b***	*sīe*	***tī'e-nd***
ja	siis	kui	ta	LEE-3SG	see.GEN	tegema-APP
siz	*ne*	*lī-bõd*	*kõ'zziz-t*	*tä'm*	*pālõ.*	
siis	nemad	LEE-3PL	vihane-PL	tema.GEN	peale	

'Ja siis kui ta on selle ära teinud, siis nad on tema peale vihased.'



Joonis 1. Näite (2) graafiline representatsioon

Näitematerjalist selgub, et tulevikulise eelnevuse (ja resultatiivsuse) väljendamisel esineb *līdõ* + APP tavaliselt ajakõrvallauses. Asjaolu, et nimetatud juhtudel võib konstruktsiooni tõlgendada ennekõike ajalist tähendust väljendavana, paigutab liivi keele selliste keelte hulka, milles on võimalik tuleviku väljendusvahendi tarvitamine kõrvallauses ajalises tähenduses (vt Hedin 2000). Nimelt on üsna tavaline, et tulevikumarkeri kasutus kõrvallauses tõstab esile hoopis modaalse tähendusnüansi (vt Bybee jt 1994: 274; Comrie 1993: 48, 118).

Artiklis [A2] vaadeldakse LEE(NE)- + APP kasutamist ka laiemal, peamiselt lõunaläänemeresoomelisel taustal. Võrdlusest ilmneb, et liivi keel eristub oma rohkete näidete poolest lähedastest sugulaskeeltest selgesti. Nimelt vadja keelest kogutud materjalist tuli vaid mõni harv näide *leevvä* + APP kasutamise kohta ajalise eelnevuse märkimiseks ning eesti keele saarte murdest leidus üks vastav näide *leeda* + APP kohta. Näidete vähesust vadja keeles on artiklis põhjendatud asjaoluga, et perfektivormide kasutamine on vene keele mõjust tulenevalt üldiselt väiksem. Eesti keele puhul on aga oluline meeles pidada, et tänapäeva (kirja)keeles on *leeda*-verb tundmata.

Eelnevalt kirjeldati juhte, kus LEE(NE)- lihtpredikaadina ja tuleviku perfekti konstruktsioonis väljendab ennekõike ennustust, st ajalist tähendust. Teise peamise funktsioonina eristub nii koopula kui ka perfektikonstruktsiooni korral **episteemilise modaalsuse** väljendamine, misjuhul on esiplaanil hoopis olevikuline tõlgendus, vt vastavaid näiteid (3) ja (4) ning koopula puhul ka

tabeli 2 lahtrit „Olevik”. Kõnealust funktsiooni on käsitletud kõigis artiklites ning vähemalt liivi keele puhul peetud sekundaarseks. Kui näiteks eesti keele vanema kirjakeele ja saarte murde materjali hulgas esines *leeda* + APP ennekõike just episteemilises tähenduses, olid liivi keele materjali hulgas ülekaalus ajalises tähenduses esinenud näited. Ka tüpoloogiliselt on ootuspärane episteemilise funktsiooni hilisem areng, st TULEVIK > EPISTEEMILINE MODAALSUS (vt nt Heine & Kuteva 2002: 142).

(3) Tveri karjala (Virtaranta & Virtaranta 1990: 240)

Nu	*Kaškipuusa-lda*	*hiän*	***l'ienöu***	*naverno*
PTCL	Kaškipuusa-ABL	tema	LEENE.3SG	vist
virštu-a	*puolentois-ta*	*al'i*	*kakši*	
verst-PART	kaksteist-PART	või	kaks	

’No Kaškipuusalt see on vist mingi poolteist või kaks versta.’

(4) Vadja (Ariste 1977: 52)

se	*moni*	*satoi-ta*	*vuosii-ta*	*vie-z*	***lie-b***	***õl-lu***
see	mõni	sada.PL-PART	aasta.PL-PART	vesi-INE	LEE-3SG	olla-APP

’See on vast mõni sada aastat vees olnud.’

Modaalsete ja ajaliste tähenduselementide põimumise analüüsimine on olnud olulisel kohal kõigis artiklites. Analüüsi tulemused näitavad, et LEENE- ei ole pelk LEE-vormi modaalne variant, vaid LEENE-vormide puhul on samuti võimalik ajalise tähenduselemendi esiplaanile tõusmine, nii nagu ka LEE-vorm võib üksi esinedes episteemilise tähenduse saada.

Kuraliivi *līdõ* kasutus tulevikukoopulana ja tuleviku perfekti konstruktsioonis näitab, et hüpotees peab paika ning verbil *līdõ* on leitavad funktsioonid, milles see on grammatiseerunud. Ühtlasi leiab kinnitust teine osa hüpoteesist, mille kohaselt liivi keeles ei ole grammatiseerunud abiverbikonstruktsiooni, milles *līdõ* kombineeruks infinitiiviga ning oleks obligatoorne tuleviku väljendamisel. Nimelt tuli materjali hulgast välja vaid mõni üksik näide T-infinitiivse konstruktsiooni kohta, mis väljendab ennustust tuleviku suhtes. Vastavad näited pärinevad salatsiliivi keelest, vt lauset (5). Vaid juhul, kui salatsiliivi *līd* + T-infinitiiv oleks pealauses ennustuse märkimiseks süstemaatiliselt kasutusel olnud, oleks saanud tõdeda, et tegemist on tuleviku abiverbiga. Nii see aga polnud.

(5) Salatsiliivi (Sjögren & Wiedemann 1861a: 338)

Mina uskub un ūde lug uskub,

ku	*jumal*	*luo-b*	*om*	*luo-n*	*un*	***lī-b***	***luo-d.***
et	jumal	looma-3SG	olema.3SG	looma-APP	ja	LEE-3SG	looma-tINF

'Ma usun ja usun ühtelugu, et Jumal loob, on loonud ja loob edaspidi.'

Kuraliivi materjalis esinenud *līdõ* + T-infinitiivi näited olid seevastu seostatavad ennekõike deontilise modaalsusega (väljendasid kohustust) ning erinevalt salatsiliivi näidetest sisaldas konstruktsioon hoopis daativi käände abil vormistatud kogejat (vt näidet 6). Kuigi Sjögren & Wiedemann (1861a: 138) on vastava konstruktsiooni kohta märkinud, et kohustuse väljendamine võib ka tagaplaanile jääda ning esiplaanile tõusta ajalise tähenduse (st tuleviku) väljendamine, oli näidete ühemõttelisuse üle raske otsustada. Samas kui nimetatud konstruktsiooni puhul oleks arengule KOHUSTUS > TULEVIK 19. sajandil isegi alge olnud, vastavat arengut siiski ei toimunud. Nimelt hilisemast ajast pärit materjalis on vaid üksikuid näiteid; need saavad eranditult modaalse tõlgenduse.

(6) Kuraliivi (Mt 1880, 06:05)

un	*ku*	*sa*	*pāla-d*	*sis*	***äb***	***lih***	*sinn-õn*
ja	kui	sa	paluma-2SG	siis	NEG.3SG	LEE.CNG	sina-DAT
lī-dõ	*kui*	*ne*	*kādkielis-t*		*rous*	*umahtõ*	
LEE-tINF	nagu	need	silmakirjalik-PL		rahvas	olema.3PL	

'Ja kui sa palud, siis ei pea sina olema nagu need silmakirjalikud on.'

Ootuspärasemalt M-infinitiiviga moodustatud konstruktsiooni (vrd eesti *saab olema*, *hakkab olema* ning soome *tulee olemaan*) leidus paaril korral artikli [A1] jaoks kogutud vadja keele materjalis, vt näidet (7). Näiteid infinitiivikonstruktsioonidest, mille peamine funktsioon on väljendada ennustust tuleviku suhtes, leidus ka lüüdi ja aunusekarjala materjalist. Kokkuvõttes peab aga tõdema, et kuigi LEE(NE)- + M-infinitiivil on võimalik tulevikuline kasutus (ajalises tähenduses), ei ole selline tuleviku märkimise viis üheski läänemeresoome keeles kohustuslik.

(7) Vadja (Ariste 1977: 105)

kana avvob, seness munass tuõb mato.

mitä	*siä*	*taho-d*	*sitä*	*tämä*	***lee-b***
mis.PART	sina	tahtma-2SG	see.PART	tema	LEE-3SG
si-llõõ	***kanta-maa***				
sina-ALL	kandma-mINF				

’Kana haub, sellest munast tuleb uss. Mida sina tahad, seda tema sulle kannab.’

Teisi võimalikke tuleviku abiverbe on analüüsitud lähemalt artiklis [A4], keskendudes salatsiliivi verbidele *saad*, *tulla*, *ürg* ning ka *akk* (vt tabelit 1). Abiverbikonstruktsioonis ennustust märkivana neid aga ei leidunud. Kuraliivist kogusin verbe *irgõ* ja *akkõ* sisaldavaid konstruktsioone artikli [A1] tarvis, kuid kuraliiviski ei olnud võimalik täheldada selgeid juhtusid, kus infinitiiviga konstruktsioonis oleks alguse märkimise asemel esiplaanil hoopis tulevikus toimuma saamine (vrd Metslang 1994: 167). Kuna soome-ugri keeltes tavapäraseks peetud nihet ’algus’ > TULEVIK vastavate liivi verbide puhul ei olnud võimalik täheldada, ei ole vastav grammatisatsiooni ahel ka töös täpsemat tähelepanu leidnud.

Artiklis [A2] on seatud põhieesmärgiks võrrelda *līdõ* + APP ja *sǭdõ* + PPP sisaldavaid konstruktsioone, et välja selgitada, kas sagedasi passiivi partitsiibiga konstruktsioone võiks käsitleda *līdõ* + APP passiivsete vastetena. Nagu on näidatud varem (nt Sjögren & Wiedemann 1861a) ja mida ka artikli [A2] tulemused kinnitavad, võib *sǭdõ* + PPP-konstruktsiooni muuhulgas vaadelda tuleviku passiivi konstruktsioonina. Analüüsist aga selgub, et *līdõ* + APP ja *sǭdõ* + PPP on vastandatavad siiski vaid üldiselt. Täpsem tähendus ning süntaktiline käitumine erinevad neil tunduvalt. Näiteks esineb *sǭdõ* + PPP tavapäraselt pealauses ning märgib mingi konkreetse ajapunktiga seotud tulevikulist tegevust (tegevuse märkimist on rõhutanud ka Viitso 2008: 324), vt näidet (8) ning joonist 2. Ajakõrvallauses, mis on eriti sage *līdõ* + APP puhul (vrd näidet 2 ning joonist 1), on *sǭdõ* + PPP esinemine harv.

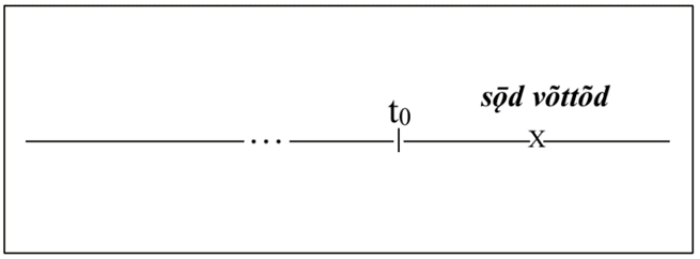
(8) Kuraliivi (Kettunen 1925: 53)

un li jālgab-õz […]

un sinā ***sǭ-d*** ***võtt-õd*** *pa* *pūoš-õks*

ja sina saama-2SG võtma-PPP PREP sulane-TRA

’ja mine linna […] ja sind võetakse sulaseks‘



Joonis 2. Näite (7) graafiline representatsioon

Artiklis [A3] keskendutakse lähemalt muutuse väljendamisele, mis pole liivi keele uurimisloos varem eraldi tähelepanu saanud, ning vaadeldakse ka võimalikku arengut MUUTUS > TULEVIK. Artiklis analüüsitakse viie verbi (*līdõ*, *sǭdõ*, *īedõ*, *tūlda* ja *lā̆dõ*) esinemist kolmes analüütilises konstruktsioonis: tulemust märkivas resultatiivlauses (NP_{Nom} V $NP_{\mathbf{Tra}}$), lähteseisundit märkivas resultatiivlauses ($NP_{\mathbf{Ela}}$ V NP_{Nom}) ning nominaalse predikaadiga lauses ($NP_{\mathbf{Nom}}$ V $NP_{\mathbf{Nom}}$). Muutust väljendavana käsitletakse juhtusid, mille korral loogilise subjekti mingi omadus muutub ajas või subjekt siseneb uude seisundisse (nt Frawley 1992: 190; Sweetser 1997: 117). Analüüsist ilmneb, et kaks peamist muutusega seostatavat verbi on *īedõ* 'jääda' ja *sǭdõ* 'saada' ning kõige tüüpilisem muutust märkiv konstruktsioon, kus mõlemad esinevad, on NP_{Nom} V $NP_{\mathbf{Tra}}$ (näide 9). Artiklist [A3] ilmneb, et erinevalt näiteks eesti või soome keelest tõuseb üldise ning rahvakeelse muutusverbina liivi keeles esile *īedõ*-verb. See on kasutusel nii 'jäämise' (edasikestmise) kui ka 'saamise' (muutuse) tähenduses. Näiteks lause (9) laiemast kontekstist selgub, et verbiga *īedõ* ei väljendata mitte seda, et naerid olid juba puhtad ja on edasi puhtad, vaid et need saavad puhtaks. Piiblitõlgetes (Mt 1880; ÜT 1942) verbi *īedõ* peaaegu et ei leidunud ning kasutusel oli teine põhiline muutust märkiv verb – *sǭdõ* 'saada'. Selline tulemus lubab tõmmata paralleele läti kõnekeelega, milles on täheldatud 'jääma'-verbi (*palikt*) levimist 'saama'-verbi (*kļūt*) arvelt.

(9) Kuraliivi (Mägiste 1964: 32)

na'ggõr-d ***īe-bõd*** *pū'dõ-ks un sield-õks*

naeris-PL jääma-3PL puhas-TRA ja selge-TRA

'Naerid saavad puhtaks ja selgeks.'

Nominaalse predikaadiga konstruktsioonid, kus nii lähteseisund kui ka tulemus on tähistatud nominatiivi käände abil, on artiklis [A3] vaatluse alla ilmestamaks asjaolu, et kuigi muutus ei ole neis eksplitsiitselt väljendatud, võib siiski täheldada '(tulevikus) olemise' ning 'olema saamise' põimumist (nagu ka eespool on juba välja toodud), vt näidet (10). Nimetatud artiklis ongi tehtud vahet eksplitsiitsetel ja implitsiistetel muutuskonstruktsioonidel, millest esimese alla on

liigitatud ennekõike verbe *sǭdõ* ja *īedõ* sisaldavad resultatiivlaused ning teise alla nominaalse predikaadiga laused, kus üldjuhul esineb *līdõ*. Analüüsides muutuse tähenduse võimalikku tagaplaanile jäämist, tõdetakse artiklis [A3], et kuigi keeles võib olla mitu tulevikukoopulat (vt Šveitsi murrete kohta nt Bickel 1992), on liivi keeles tulevikukoopulaid üks – *līdõ*.

(10) Kuraliivi (Setälä 1953: 207)

un	*sīe-n*	*vanā*	*saŋt-õn* […]	*lī-b*	*piški*	*pūoga*
ja	see-DAT	vana.GEN	sant-DAT	LEE-3SG	väike	poeg
un	*siz*	*se*	***lī-b***	*tä'm*	*tidār*	*mīez*
ja	siis	see	LEE-3SG	tema.GEN	tütar.GEN	mees

'Ja siis sel vanal sandil […] saab olema väike poeg, kellest saab tema tütre mees.'

Doktoritöös valitud teema ning saadud tulemused annavad panuse liivi keele (morfo)süntaksi uurimisse, kuid toovad välja ka edasise uurimise vajaduse. Nimelt keskendutakse artiklites [A1]–[A4] ennekõike võimalike tuleviku väljendamise vahendite väljaselgitamisele ning nende funktsioonide täpsemale tuvastamisele, edasise uurimise ülesandeks on aga vaadelda saadud tulemusi kontaktkeelte valguses. Mõningaid paralleele tõmmatakse ka siinses doktoritöös, kuid vaja oleks üksikasjalikumat uurimist. Eriti just lõunaläänemeresoome areaal pakub huvitavat ainest, sest lähedastel sugulaskeeltel on ajaloos olnud erinev põhiline mõjutaja. Liivi keel on olnud pikaaegses kontaktis läti keelega, vadja keel aga vene keelega. Eesti keel on sajandite vältel olnud saksa keele mõjusfääris.

Appendix 1. Conjugation of Courland Livonian *sǭdõ* 'get; become'

FINITE FORMS				
Indicative	**Present Simple**		**Past Simple**	
Person	*Affirmative*	*Negative*	*Affirmative*	*Negative*
1Sg	sǭ|b	ä'|b sǭ	sa|i	i'|z sǭ
2Sg	sǭ|d	ä'|d sǭ	sa|i|d	i'|zt sǭ
3Sg	sǭ|b	ä'|b sǭ	sa|i	i'|z sǭ
1Pl	sǭ|mõ	ä'|b sǭ|mõ	sa|i|mõ	i'|z sǭ|mõ
2Pl	sǭ|tõ	ä|t sǭ|tõ	sa|i|tõ	i'|zt sǭ|tõ
3Pl	sǭ|bõd	ä'|b sǭ|tõ	sa|i|tõ	i'|zt sǭ|tõ
Conditional			(In the case of Conditional, Jussive and Quotative, the past time reference is expressed by Preterite forms, which contain a finite verb + a past participle.)	
1Sg	sǭ|ks	ä'|b sǭ|ks		
2Sg	sǭ|ks|t	ä'|d sǭ|ks		
3Sg	sǭ|ks	ä'|b sǭ|ks		
1Pl	sǭ|ks|mõ	ä'|b sǭ|ks|mõ		
2Pl	sǭ|ks|tõ	ä|t sǭ|ks|tõ		
3Pl	sǭ|ks|tõ	ä'|b sǭ|ks|tõ		
Imperative				
2Sg	sǭ	alā sǭ		
1Pl	sǭ|gõm	a'l|gõm sǭ|gõm		
2Pl	sǭ|gid	a'l|gid sǭ|gid		
Jussive				
1-3Sg	sǭ|gõ	a'l|gõ sǭ|gõ		
1-3Pl	sǭ|gõ|d	a'l|gõ|d sǭ|gõ|d		
Quotative				
1-3Sg	sǭ|ji	ä'|b, ä'|d, ä'|b sǭ|ji		
1-3Pl	sǭ|ji|d	ä'|b, ä|t, ä'|b sǭ|ji|d		

NON-FINITE FORMS			
		Singular	*Plural*
Active	Present	sǭ|b	sǭ|bõd
	Past	sǭ|nd	sǭ|nõd
Passive	Present	sǭ|dõb	sǭ|dõ|bõd
	Past	sǭ|dõd	
T-infinitive		sǭ|dõ	
Gerund	Inessive	sǭ|dsõ	
	Instructive	–*	
M-infinitive	Illative	sǭ|mõ	
	Inessive	sǭ|mõs	
	Elative	sǭ|mõst	
	Translative	sǭ|mõks	
	Abessive	sǭ|mõt	
	Debitive	sǭ|mõst	

* - impossible due to semantic reasons

Appendix 2. Forms of Courland Livonian *līdõ* 'will be' in the data set

FINITE FORMS		
Indicative	**Present Simple**	
Person	*Affirmative*	*Negative*
1Sg	lī|b	ä'|b lī
2Sg	lī|d	ä'|d lī
3Sg	lī|b	ä'|b lī
1Pl	lī|mõ	ä'|b lī|mõ
2Pl	lī|tõ	ä|t lī|tõ
3Pl	lī|bõd	ä'|b lī|tõ
Conditional		
3Sg	lī|ks	ä'|b lī|ks
Quotative		
1-3Sg	lī|ji	ä'|b, ä'|d, ä'|b lī|ji
1-3Pl	lī|ji|d	ä'|b, ä|t, ä'|b lī|ji|d

NON-FINITE FORMS	
T-infinitive	lī|dõ
M-infinitive	lī|mõ
Active past participle	lī|nd

	CONSTRUCTIONS CONTAINING *līdõ*		
	Semantic role and case inflection of NP	**Finite form of *līdõ***	**Inflection of the main verb**
PTCP constructions	Agent (NP_{Nom})	Ind1Sg–3Pl, Quot1Sg–3Pl	**APP** -nd, -n, -õn (1Sg–3Sg) -nõd, -nd, -õnõd (1Pl–3Pl)
	Patient (NP_{Nom})		**PPP** -dõd, -tõd -õd
Infinitive constructions	Experiencer (NP_{Dat})	Ind3Sg, Quot3Sg	**tINF** -da -dõ -õ
	Experiencer (NP_{Dat})	Ind3Sg, Quot3Sg	**$mINF_{Deb}$** -mõst
	Agent (NP_{Nom})	Ind1Sg–3Pl, Quot1Sg–3Pl	**$mINF_{Ine}$** -mõs

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