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The past participle constructions LEE(NE)- + PTCP and SAA- + PTCP as future time reference devices: the example of Livonian against a Southern Finnic background

The present article studies the semantic functions and syntactic behaviour of past participle constructions in Livonian: līdõ ‘will be’ + active past participle (APP) / passive past participle (PPP) and sǭdõ ‘get; become’ + APP / PPP. Parallels are drawn with the corresponding constructions in the other Southern Finnic languages, as well as Northern Finnic and the Indo-European contact languages. The main focus is on Livonian līdõ ‘will be’ + APP. Considering the primary meaning element, time reference (future, past, or present), and the clause type (main or subordinate), a distinction is made between two main functions: (i) expressing anteriority, and (ii) epistemic modality. It is argued that Livonian līdõ + APP deserves to be regarded as the future perfect, as its primary function is to express anteriority in the future domain. Furthermore, līdõ + APP is shown to stand out with regard to the usage of temporal (future) meaning in subordinate clauses, as it is more common for a future-marking device to be redundant in subordinate clauses or associated with modal meanings. The expression of epistemic modality is regarded as its secondary function and possibly a later development; the epistemic usage is primarily associated with the construction occurring in main clauses.

1. Introduction

The present article discusses the expression of future time reference (FTR) in Livonian by means of past participle (PTCP) constructions. The focus is on Livonian līdõ ‘will be’ + PTCP and sǭdõ ‘get; become’ + PTCP; see examples (1) and (2). These constructions will be compared to the corresponding constructions in close cognate languages. Livonian is a Finnic language that used to be spoken in present-day Latvia; together with Estonian and Votic it belongs to the Southern Finnic group. Within Livonian, a distinction is made between two main varieties, Courland Livonian (associated with 12 coastal villages in northern Courland) and Salaca Livonian (which became extinct at the end of the 19th century). Here, the focus is on Courland Livonian, while Salaca Livonian examples are considered for comparison.

(1) Courland Livonian (AEDKL F0277-01)

```
ku lī-b ni se vie’d tilk-ûn sīe-stō mōk-stō
when LEE-3SG now this water,GEN drip-APP this-ELA sword-ELA

se glōz-ô, siz sa tu’l
this glass-ILL then you come,IMP,2SG
```

‘when now the water has dripped from the sword into the glass, then come’

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Livonian and its past participle constructions are of interest as they have already been associated with FTR in the first Livonian grammar (Sjögren & Wiedemann 1861), but there have been no thorough discussions concerning their semantic functions and syntactic behaviour. Furthermore, previous research has concentrated on līdō and sǭdō occurring as simple predicates and as part of infinitival and debitive constructions (Norvik 2013; Norvik 2014; Viitso 2014). The studies that deal with the expression of FTR in other Finnic languages also tend to concentrate on infinitival constructions and/or copular devices (Mägiste 1936; Majtinskaja 1973; Metslang 1996; Norvik 2013; Tauli 1966). Due to the fact that Finnic languages lack morphological future marking, grammars and language overviews comment only occasionally on the expression of FTR, most notably when morphological marking is seen to constitute a grammatical category.

Finnic languages display two types of past participles: active past participles (APP) and passive past participles (PPP). As the verbs līdō as well as sǭdō combine with both of these, all combinations are analysed in the present article. The main focus is on Livonian līdō + APP, which has been called the future perfect (Pajusalu 2014: 132; Wälchli 2011: 337). It is considered remarkable that “Livonian has been inspired to develop a more marked form of the future, the future perfect, but not the simple future (except for the copula)” (Wälchli 2011: 336–337). Additionally, līdō + APP has been attested in a modal meaning expressing epistemic modality; see example (3) (Norvik 2013: 145–148). Kettunen (1938: LXIII), for instance, subsumes both usages, the temporal (future perfect) as well as the modal usage of the construction, under the category of potential (hereinafter, potentiality is referred to as epistemic modality; see e.g. ISK 2004: 1510). The presence of an aspectual meaning element has been stressed as well (Norvik 2013: 145–148).

(3) Courland Livonian (Kettunen 1925: 26)

\[
\begin{array}{ccccccc}
ni & tä’mm-ōn & ni’em-ōd & attō & jarā & ka’dd-ōnōd, \\
now & s/he-DAT & cow-PL & be.3PL & PP & lost-APP \\
kīen-di & sudū-d & lī-bōd & mō’zō & mūrdā-nōd \\
who-PL.PART & wolf-PL & LEE-3PL & PP & kill-APP \\
\end{array}
\]

‘now his/her cows have got lost, whom wolves may have killed.’
Proceeding from previous considerations, one aim of the present article is to analyse the semantic functions of \textit{līdõ + APP} in order to determine whether it deserves to be called the future perfect or something else. Future perfect is here associated with expressing anteriority in the future domain, i.e. that a situation is located temporally prior to some reference point in the future (Comrie 1976: 53; Declerck 2006: 155); see example (1). With respect to syntactic behaviour, the usage of \textit{līdõ + APP} in a subordinate clause is of interest. Namely, the use of FTR devices in subordinate clauses crosslinguistically tends to be redundant and/or is associated with modal meanings and non-assertiveness\textsuperscript{2} (Bybee et al. 1994: 274; Comrie 1993: 48, 118; Huddleston & Pullum 2012); or, if future marking is used, inflectional FTR devices are said to be more likely to occur, as inflectional means are associated with later stages of grammaticalization (Bybee & Dahl 1989: 94; Dahl 2000a: 314).

Another aim of the article is to study the Livonian construction \textit{līdõ + APP} against a broader background. Its usage will be first compared to the passive past participle construction \textit{līdõ + PPP} but also to past participle constructions involving a different verb, \textit{sǭdõ ‘get; become’ + APP / PPP}; see example (2) for \textit{sǭdõ + PPP}. Given that \textit{līdõ + APP} and \textit{sǭdõ + PPP} frequently occur in texts, and that the former can be associated with the active voice and latter with the passive voice (Norvik 2013: 155), the question is to what extent they can be regarded as (active vs. passive) counterparts. As both verbs occurring in the constructions (\textit{līdõ} as well as \textit{sǭdõ}) go back to Proto-Finno-Ugric (UEW) and similar past participle constructions can be found in various Finnic languages (Norvik 2013: 132–135), the article will present some comparative data from the other Finnic languages, mainly from the other Southern Finnic languages (Estonian and Votic).

The article proceeds as follows: section 2 introduces the material and principles of analysis; section 3 focuses on Livonian \textit{līdõ + APP} construction, analysing it against the background of \textit{līdõ + PPP} and \textit{sǭdõ + APP / PPP} constructions. Section 4 draws parallels with the corresponding devices in Salaca Livonian and in the other Finnic languages.

2. Material and principles of analysis

2.1. Compiling the data set

The data set consisted of the constructions \textit{līdõ ‘will be’ + PTCP} and \textit{sǭdõ ‘get; become’ + PTCP} in a broader context. Only the constructions that contained \textit{līdõ} and \textit{sǭdõ} in the present indicative form were included for the purposes of further study. The reason for this is that among all the instances of \textit{līdõ + PTCP}, \textit{līdõ} occurred in another form (quotative form) only once. In fact, \textit{līdõ} has never been attested in a

\textsuperscript{2} Assertiveness can be associated with speaker’s belief or confidence in the truth of the proposition. It is claimed to convey degrees of hypotheticality; the greatest degree of assertiveness and the smallest degree of assertiveness are two extremes (i.e. most factual vs. most hypothetical). (Silva-Corvalan 1995: 92). The term non-assertiveness used in the literature denotes here the smallest degree of assertiveness.
past simple form and there are only a few examples of līdõ in a past participle form occurring as a simple predicate (see also Norvik 2014: 140). The verb sǭdõ, in turn, commonly appeared in past forms and other moods (conditional, quotative, imperative), but considering only the present indicative forms made the constructions sǭdõ + PTCP and līdõ + PTCP better comparable.

<table>
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Table 1. Data set of Courland Livonian

The material originates from different time periods and contains both oral as well as written texts. The linguistic sources contain different kinds of texts: narratives about past events, fairy tales told by the speakers, interviews about everyday life, descriptions of certain activities (e.g. how beer is made), sentence examples, translated texts, etc. FTR devices appeared to be more common in fairy tales and Gospels, as both kinds of sources contain predictions about a future state of affairs. The usage of sǭdõ + PPP stands out in the case of Bible translations, in which the construction expresses passive future. However, it should be noted that the instances of sǭdõ used in the present indicative form + PPP also include cases with present reference, e.g. sǭ-b tī’ed-õt (get-3SG do-PPP) can be translated as ‘is being done’ as well as ‘will be done’, depending on the context.
The principles described above were applied when collecting comparative material from the other Southern Finnic languages (parallels with the Northern Finnic languages will be drawn only occasionally). The corresponding constructions in the Finnic languages are here referred to as LEE(NE)- + PTCP and SAA- + PTCP. The use of capital letters denotes common origin and shared meanings (Dahl 2000a). LEE- stands for the Finnic verbs associated with the Proto-Finnic root *lē-; LEENE- designates the lēne- root, which is generally seen as the modal version of *lē- (see Saukkonen 1965: 174). Depending on the language, LEE(NE)- forms are associated with FTR (temporal meaning) and/or modal meanings (Norvik 2013: 141). Livonian is the only Finnic language where LEE- forms have been attested without the suffix -ne (Laakso 1990: 115).

As the linguistic data from other (Southern) Finnic languages was considered only for comparative purposes and the source material that could be included was smaller, no exact number of occurrences will be given.

The examples of līdõ + PTCP / sǭdõ + PTCP and their counterparts in the other Finnic languages were tagged for the following:

- (1) language variety
- (2) origin of linguistic example (oral or edited/translated text; example sentence in a grammar/dictionary3)
- (3) clause type (main or subordinate; in the case of the subordinate clause, also the type of clause was determined)
- (4) time reference (past, present, or future)
- (5) primary meaning element (temporal, modal, or aspectual)
- (6) formal properties (e.g. voice, mood, tense, polarity, person)

The central task was to determine the primary meaning element of a participle construction in a particular context. The need for this came from the approach supported here. Namely, it has been argued that grammatical devices, especially FTR devices, combine temporal, modal, and aspectual meaning elements that can be associated with the domains of tense, modality, and aspect, respectively. Typically, the question is which meaning element is the strongest, not which one is the only one to be present (Dahl 2000b: 7; Dahl & Velupillai 2013; Givón 2001: 285). It will be shown that such an approach is well-suited for analysing the participle constructions containing LEE(NE)- and SAA-verbs, but also for providing an explanation, for instance, as to why temporal, modal as well as aspectual meaning elements have been associated with Livonian līdõ + APP (cf. section 1).

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3. Grammars and dictionaries were additionally used for collecting examples whenever there seemed to be enough information about the time reference and possible meanings of the devices under study. In addition, the examples included in these grammars/dictionaries often originate from natural speech.
2.2. Principles of analysis

2.2.1. Representation of temporal relations

The representation of temporal relations in the article relies on Declerck’s work (2006). Although he studies the English verb system, his figures proved suitable for illustrating the results of the present study as well.

Figure 1 illustrates the conceptualization of time line as understood by Declerck. He makes a distinction between two time-spheres – past and present – that have a break between them (marked by a dotted line). The present, pre-present, and post-present constitute the present time-sphere and the past constitutes the past time-sphere. The present moment is marked by $t_0$, which stands for the temporal zero-point. The post-present zone is also called the future zone. The choice between past and pre-present depends on the speaker’s so-called temporal focus: whether it is on the present (= pre-present) or on the past (= past). The present perfect typically places situations in the pre-present. (Declerck 2006: 148–151.)

![Figure 1. “Linguistic conceptualization of the time line” (reproduced from Declerck 2006: 149) ]

According to Declerck (2006: 147, 149), the two-way distinction of time-spheres in the case of English depends on the following:

(a) only past and present are marked inflectionally (e.g. walk : walked);
(b) future tense use of will and shall goes back to present non-epistemic modality: < ‘want’ and ‘owe’ correspondingly (see Bybee et al. 1994: 254–256, 263);
(c) in order to temporally relate a situation time to a future situation time, English uses the same tense system as it uses to temporally relate a situation time to $t_0$, compare I am ill with [Next time, he will pretend that] he is ill”.

The considerations listed in (a) and (c) also apply to the Finnic languages. With respect to (b), LEE(NE)- and SAA- do not go back to modal verbs, but originate from lexical sources expressing motion or at least some kind of change (Norvik 2013: 132–134; Norvik 2014: 141; Saukkonen 1965: 174; UEW). Thus, neither the English nor the Finnic FTR devices discussed here were originally periphrastic future markers.
2.2.2. Graphical representation of future simple and future perfect

There has been much debate over the issue of what counts as a true future tense and what not. Without going into details, this article shares the viewpoint of those researchers who claim that (i) when a grammatical device is used for making predictions and statements, asking factual questions about a future situation, and its usage in such cases is obligatory, the language has a well-grammaticalized future tense, (ii) in addition to morphological devices, also periphrastic devices can count as a future tense (Bybee et al. 1994: 244; Comrie 1993: 44; Lyons 1977: 677; Dahl 2000a: 310). In these cases, the temporal meaning element can be regarded as the strongest (cf. subsection 2.1). Example (4a) is presented as an example of future tense (future simple). As it expresses a situation that is posterior to \( t_0 \), it can be illustrated in terms of Figure 2.

\[(4) \quad \text{a. Prudence will retire in a month. (Declerck 2006: 25)} \]
\[ \text{b. Estonian (personal knowledge)} \]
\[ \text{Prudence lähe-b kuu aja pärast pensioni-le.} \]
\[ \text{Prudence go-3SG month.Gen time.Gen after pension-ALL} \]

![Figure 2. Graphic representation of examples (4a) and (4b)](image)

The Estonian example (4b), which is a translation of (4a), can also be regarded in terms of Figure 2, only here we have an instance of a present tense form (läheb ‘goes’) fulfilling the function of expressing FTR. The placement of the situation in the future becomes clear from the adverbial kuu aja pärast ‘in a month’. Thus, it is important to note that FTR does not necessarily imply the use of a future tense.

Figure 3 is a graphic representation of the English future perfect, as demonstrated by example (5). It encompasses what is regarded as the main characteristic of the future perfect: it expresses anteriority in the post-present (future) domain regardless of whether the situation had its beginning in the past, present or the future (Comrie 1993: 53). In Figure 3, \( x \) stands for orientation times like by the end of next month in examples (5), but also for situation times like līb jera ‘will have passed’ in example (6) (see also Declerck 2006: 155). Thus, Figure 3 is suitable for illustrating devices with different syntactic behaviour, cf. the use of will have V-ed (example 5) in the main clause and līdō + APP in the subordinate clause (example 6).
I will have finished this manuscript by the end of next month. (Comrie 1993: 69)

Courland Livonian (Setälä 1953: 328–329)

and when whole mountain LEE-3SG pp erode-APP

then LEE-3SG one moment time-ELA away

‘and when the whole mountain has been eroded [...] , one moment will have passed’

2.2.3. Past anteriority

The data set also contains instances that establish past time-sphere. Figure 4 illustrates these cases: the x on the timeline denotes some past orientation time due to which the past perfect has been used in the main clause. The other x denotes the orientation time established by by the end of the day.

Figure 3. Graphic representation of examples (5) and (6) (based on Declerck 2006: 157)

(5) *I will have finished* this manuscript by the end of next month. (Comrie 1993: 69)

(6) Courland Livonian (Setälä 1953: 328–329)

and when whole mountain LEE-3SG pp erode-APP

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‘and when the whole mountain has been eroded [...] , one moment will have passed’

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Figure 4. “The tense structure of Bill had promised that he would have finished (by the end of the day)” (reproduced from Declerck 2006: 457)
Even though *would have* *V*-ed is better known as *conditional perfect* and is thus associated with modal meanings (Harder 1996: 358, 454, 459), Thieroff (2010: 13) maintains that the so-called *Western Conditionals*\(^4\) (applies also to English) can be rather subsumed into the tense category expressing temporal meanings. Declerck (2006: 457) also argues for the purely temporal sense of the example represented by Figure 4. Additionally, Figure 4 represents what is known as *consecutio temporum*, i.e. shifting back the tense of the verb (*will have V*-ed > *would have V*-ed) following the sequence of tense rule in the case of a subordinate clause (Comrie 1993: 111). For comparison, no shift of tenses occurs in Russian (Plungian 2011: 368). A different rule is in force there: “tenses in indirect speech in Russian are interpreted not from the viewpoint of the deictic centre of the here-and-now, but rather with the deictic centre of the original speaker” (Comrie 1993: 109); cf. English translation for example (7).

(7) Russian (Plungian 2011: 368)

*Oni byli železno uvereny,*

če *ty* otkro-eš' korobk-u do togo,

that *you* open.*pfv.*-2sg box-acc until that.*gen

kak tebe po-zvonát iz policii.

when *you.*dat *pfv.*-call.*prs.*-3pl from police.*gen

‘They were as sure as hell you *would have opened* the box before the police *would call* you.’

3. Livonian *līdō* + APP within the context of *līdō* + PPP and *sūdō* + APP/PPP

Sections 3.1 and 3.2 focus on the functions of *līdō* + APP, drawing some parallels with *sūdō* + APP. For comparative purposes, subsection 3.3 considers PPP constructions including *līdō* and *sūdō*. Subsection 3.4 lists the main findings.

The following analysis considers 56 examples of *līdō* + APP in the data set (translation equivalents in Bible translations have been counted only once, cf. Table 1, which contains 58 instances). Table 2 illustrates the paradigm of the present indicative forms of *līdō* + markers of APP based on Viitso and Ernštreits (2012) and the forms in the data set. Although most examples (29 out of 56) contained *līdō* in 3sg, all person forms in both affirmative as well as in negative were represented.

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\(^4\) Thieroff makes a distinction between Western Conditionals and Eastern Conditionals, claiming that such a distinction corresponds to geographical spread only to some extent: Western Conditionals are found in Germanic, Romance, Celtic languages, but also in Albanian, Basque, Armenian, and Georgian. The Slavic languages, Latvian, Lithuanian, Finnish, Estonian, and Hungarian belong to the group of “Eastern Conditionals”; in these languages, the category is still called mood (Thieroff 2010: 13–14).
On the basis of the interplay of clause type, time reference, and primary meaning element, it was possible to distinguish between two main functions of \( \text{līdō} + \text{APP} \): expressing future anteriority and epistemic modality. Every type is introduced by a small table that contains information about the clause type in which \( \text{līdō} + \text{APP} \) occurred, the number of occurrences, time reference, and the main meaning element. TAM stands for the temporal, aspectual, and modal meaning elements that can be shown to intertwine in grammatical devices. The main meaning element is underlined. As the aspectual meaning element (A) seemed to be relevant in all the cases, it is either M (modal) or T (temporal) that gets underlined.

3.1. \( \text{līdō} + \text{APP} \) expressing future anteriority

The function of expressing future anteriority, i.e. the completion of a situation before another situation point or orientation point in the future, is the most typical way to use the \( \text{līdō} + \text{APP} \) construction (39 instances out of 56). Thus, Livonian \( \text{līdō} + \text{APP} \) was primarily found in the function that is generally referred to as the future perfect. Corresponding examples were attested in all the sources; only the text collections by Kettunen (1925), Loorits (1922) and Mägiste (1964) did not contain any examples. These sources contained all in all only a few instances of \( \text{līdō} + \text{APP} \) (see Table 1).

Table 3 indicates that the construction most typically appears in subordinate temporal clauses, as in (8), and less commonly in subordinate object clauses, relative clauses and clauses of place. Additionally, \( \text{līdō} + \text{APP} \) was found in the main clause, as in (9). The 39 instances that were subsumed under the present type primarily convey a temporal meaning (see the marking TAM in Table 3). The modal meaning element can be claimed to be present, but it is not the strongest.
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(8) Courland Livonian (Setälä 1953: 108)
ku sinā lī-d no-ra’dl-õn siz
when you LEE-2SG off-cut-APP then
sa kīt sīe neits-õn
you tell.IMP.2SG this.GEN girl-DAT
‘when you have cut [it] off, then tell this girl’

(9) Courland Livonian (Setälä 1953: 144)
siz sīe kēzar-õn lī-b
then this.GEN emperor-DAT LEE-3SG
jo emīņ vä’gg-ō no-sa’dd-õn
PREP more army-PART off-fall-APP
‘then more of the emperor’s army will have fallen’

The temporal relation can be illustrated graphically with the help of Figure 5. The x on the timeline marks the situation point established by kīt in example (8) and an orientation point established by siz in example (9). As the situation times expressed by līd nu’ora’dlõn (8) and līb nu’osa’ddõn (9) convey anteriority, they are placed diagonally to the left of x on the timeline.

Figure 5. Graphic representation of examples (8) and (9)

3.1.1. Establishing FTR in a subordinate temporal clause

Claiming that a temporal meaning element is present (and strongest) in the case of a subordinate temporal clause (as done above) partly depends on the approach taken. For comparison, Givón (2001: 311) includes so-called future time adverbial clauses under irrealis-scope adverbial clauses (i.e. associates them with modal meaning), as the situation represented by the clause has not yet been realized. Namely, subordinate clauses may be regarded as non-assertive and lacking in specificity in time reference (for an explanation, see Dahl 2000a: 314; cf. also section 1). Still, there are researchers
who maintain that subordinate temporal clauses can establish time reference and that using an FTR device can serve the function of establishing FTR. In Greek, for example, FTR devices commonly occur in a subordinate temporal clause indicating a stronger certainty than the non-temporal subjunctive (Hedin 2000: 344, 346). The Hungarian periphrastic future construction fog ‘will be’ + infinitive in a subordinate temporal clause is claimed to primarily convey a temporal (future) meaning (Kenesei et al. 1998: 49). The Livonian examples in the data set present additional proof for the temporal interpretation of an FTR device in a subordinate temporal clause.

3.1.2. Continuum of resultativity and anteriority

Among the 39 examples, there were also some cases that primarily seemed to express a future state rather than an anterior action that had led to the corresponding state, as in example (10). Bybee et al. (1994: 63) have called the corresponding cases resultatives, which are explained as denoting “a state brought about by some action in the past”; the state is claimed to persist at a reference time. The possibility of using an adverb expressing unlimited duration (e.g. with the meaning ‘still’) aids in distinguishing resultativity from anteriority (Lindstedt 2000: 367).

(10) Courland Livonian (Sjögren & Wiedemann 1861: 455)

\[
ma \quad li-b \quad selli \quad jera \quad vazz-\text{on}
\]

I \quad LEE-\text{ISG} \quad such \quad \text{PP} \quad \text{tired-APP}

‘I’ll be tired.’

The corresponding cases showed similarities with predicate nominal clauses (NP_{Nom} V \text{AdjP}_{Nom}), which also primarily convey a future state (Norvik 2013: 136, 140–141), as in (11). The temporal relations of examples (10) and (11) can be viewed in terms of the same figure as well (Figure 6).

(11) Courland Livonian (Setälä 1953: 104)

\[
ma \quad li-b \quad si’n \quad päl \quad ne’i \quad kō’zzi
\]

I \quad LEE-\text{ISG} \quad you_{\text{GEN}} \quad on \quad so \quad \text{angry}

‘I’ll be so angry with you.’

As it occasionally proved hard to decide whether an example expressed resulting state or an anterior action, resultativity and anteriority are here regarded as a continuum and viewed as belonging to the same type. There is also historical proof that anteriority and resultativity are related, namely resultativity is said to lead to anteriority when a participle loses its adjectival nature and becomes part of the verb (Bybee et al. 1994: 68; Nedjalkov 1988: 49).
3.1.3. **sǭdõ + APP showing overlapping functions with īdõ + APP**

Although the large data set on Livonian contained only one instance of sǭdõ + APP (example 12), it reveals an interesting parallel with īdõ + APP: sǭdõ + APP in example (12) conveys future anteriority, as in example (8). Their similar usage finds proof from Sjögren & Wiedemann (1861: 145), who use the term *future exactum* (denotes the same as *future perfect*) for īdõ + APP as well as sǭdõ + APP.

![Figure 6. Graphic representation of examples (10) and (11)](image)

(12) **Courland Livonian** (Looiris 1922)

Ta sǭ-b sāl seļļiz strēk spēl-ōn,

s/he get-3SG there such_GEN while_GEN play-APP

ne‘i nūz-ōb lōja kilg-st ikš nai i‘lz

so rise-3SG boat_GEN side-ELA one woman up

‘[When] s/he has played a while, so a woman will rise from the side of the boat.’

The several examples of sǭdõ + APP included by Sjögren & Wiedemann (1861: 160) suggest that Livonian sǭdõ + APP once belonged to the vernacular language. However, unlike the Estonian cognate construction saada + APP, the Livonian construction is claimed to stress completeness more strongly (Sjögren & Wiedemann 1861: 145). For instance, Viitso (2008: 323) analyses example (13) as an expression of state. A comparison of examples (10), (12), and (13), shows that examples (12) and (13) are less state-like than (10), partly because the verb sǭdõ itself adds a dynamicity of reading (see also section 3.3.2).

(13) **Courland Livonian** (Viitso 2008: 323)

Ma sǭ-b sēe-st lēba-st sēe-nd.

I get-1SG this-ELA bread-ELA eat-APP

‘I will get full from this bread.’

The overlapping functions might be the reason why almost only īdõ + APP occurs in the data set (see also subsection 4.2).
3.2. *līdõ + APP* and modal meanings

Subsections 3.2.1 through 3.2.3 introduce the cases in which *līdõ + APP* can be associated primarily with modal meanings. A distinction is made between the instances when *līdõ + APP* (i) locates the situation in the pre-present and expresses epistemic modality, (ii) appears in a conditional clause that can be associated with hypotheticality, and (iii) is used in the past zone expressing epistemic modality or anteriority. The majority of the examples analysed in the following subsections were attested elsewhere than in the translations of Gospels (see Table 1). This could be explained by the fact that all in all the Gospels tend to put forward confident beliefs rather than doubts.

### 3.2.1. Epistemic modality and pre-present zone

<table>
<thead>
<tr>
<th>Clause type</th>
<th>No. of occ.-s</th>
<th>Time ref.</th>
<th>TAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main clause</td>
<td>9</td>
<td>PRS/PST</td>
<td>TAM</td>
</tr>
<tr>
<td>Subordinate clause</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>object clause</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Instances of epistemic modality in the pre-present zone

When used in the main clause, *līdõ + APP* expresses either future anteriority (Table 3 in subsection 3.1) or epistemic modality placing the situation in the pre-present; see example (14) and Figure 7.

14. **Courland Livonian** (Loorits 1922)

> Perīmīez u’m kīt-õn

> ”Mingi lī-b jārā võtt-õn, kis tō’-ž sīe-dõ”

> someone LEE-3SG pp take-APP who want-PST.3SG eat-TINF

> – un lā’nd tījā ma’gkōks.

> ‘But the master said, “Someone who wanted to eat may have taken it” – and went [on] with an empty stomach.’

---

**Figure 7.** Graphic representation of examples (14)–(16)

Whenever there were several options for how to analyse *līdõ + APP*, context proved to be the decisive factor. For instance, in the case of example (14), context determines
that something has been taken away (it does not enable the reading that something will be taken away in the future). The modal sense added by \(\text{lidõ} + \text{APP}\) becomes clear when one tries to replace \(\text{lidõ} \text{ ‘will be’ + APP}\) with \(\text{võlõda}^5 \text{ ‘be’ + APP}\), e.g. \(\text{lib järä võttõn > um järä võttõn}\), which results in a non-modal meaning ‘has taken away’.

In example (15a), the presence of a modal meaning element finds support from the German translation in (15b) containing the future perfect construction \(\text{werden + PTCP + haben/sein ‘be’ (also known as Futur II)}\). The epistemic usage of the German future perfect is described as a common usage of the construction; the temporal relations are otherwise said to be similar to that of the present perfect (Duden-Grammatik 2005: 506, 515). Indeed, Figure 7 would also be applicable for the present perfect (cf. subsection 2.2.1).

(15) Courland Livonian (Sjögren & Wiedemann 1861: 345)

a. Ta li-b āita taga kāt-õn.
s/he LEE-3SG granary,GEN behind lose-APP

b. Er võrd es hinter der Kleete
he FUT.AUX.3SG this behind DEF.ART granary

\(\text{verloren haben.}\)
lose.PTCP have.PTCP

‘S/he may have lost it behind the granary.’

The only case of a subordinate clause (object clause) falling under this type contains \(\text{ma ārõb ‘I think’ in the main clause, see (16)}\); otherwise it shares the characteristics as illustrated above.

(16) Courland Livonian (Sjögren & Wiedemann 1861: 350)

\(\text{Ma ār-õb, ku ta li-b tul-nd.}\)
I think-1SG that s/he LEE-3SG come-APP

‘I think s/he might have arrived.’

Crosslinguistically, the epistemic usage is seen as a later development, e.g. English \(\text{will}\) and German \(\text{werden}\) show the further development \(\text{FUTURE > EPISTEMIC MODALITY}\) (see Heine & Kuteva 2002: 142). As the linguistic data on Livonian does not go far back and Sjögren & Wiedemann (1861) include the cases of anteriority/resultativity as well as epistemic modality, there is no clear proof for the order of the development. At the same time, there is no proof that this could not have been the case. As expressing epistemic modality in Livonian appeared to be the less commonly attested function of \(\text{lidõ + APP}\) (cf. Tables 4 and 5), it can be in any case regarded as a secondary function of \(\text{lidõ + APP}\).

5. The verb \(\text{võlõda}\) is a non-modal ‘be’ verb that has both a present and a past paradigm and is correspondingly used for present and past time reference (Viitso 2008: 319).
3.2.2. (Epistemic) modality and conditional clauses

The data set contained two examples of conditional clauses containing līdõ + APP, see (17) and (18). The subordinator in example (17) is až ‘if’, whereas in example (18) the conjunction ku is used. Typically ku expresses temporal relations and translates to ‘when’, but here the broader context supports the conditional interpretation.

(17) Courland Livonian (ÜT 1942, Mt. 12:29)

Kui vōi-b ykš mingiz vegiz mīe
how can-3SG one some GEN strong GEN man GEN

kuoddõ lā-dõ až ta āb lī
home ILL go TINF if s/he NEG 3SG LEE CNG

jedmōl vegiz vizzō sidd-ōn
before strong GEN together bind APP

‘Or how can someone enter a strong man’s house […] unless he first binds the strong man?’ (ESV)

(18) Courland Livonian (Setälä 1953: 370)

tam’ kīōn,
ku perīnai lī-b lōinagiž-iz lemđi rīprokk-ō kīet-ōn,
if hostess LEE 3SG lunch PL ILL warm PART drink PART boil APP

ne‘i ta tēl-ōb ēntš-ta pa pōzāg ōks
so s/he make 3SG oneself PART prep mote TRA

‘s/he told, if the hostess has made warm drink for lunch, then s/he’ll make himself/herself into a mote?’

In comparison with temporal clauses, conditional clauses tend to (i) mark time reference less frequently (although some temporal element is always involved) and (ii) be more often non-assertive (Bybee et al. 1994: 274). For this reason, the use of FTR devices in conditional clauses is more readily associated with modal meanings than in the case of temporal clauses (cf. discussion in 3.1). Still, for the example of Greek it has been shown that the use of an FTR device in a conditional clause can denote a greater extent of assertion than using the subjunctive (Hedin 2000: 347).

With respect to example (17) it can be claimed that līdõ + APP expresses anteriority, but no specific time reference can be established as the situation is hypothetical, which is why no figure has been presented. In example (18), līdõ + APP can be associated with past time reference and adding an epistemic meaning, but again, the situation is hypothetical.
3.2.3. Past zone: epistemic modality and anteriority

<table>
<thead>
<tr>
<th>Clause type</th>
<th>No. of occ.-s</th>
<th>Time ref.</th>
<th>TAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subordinate clause</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>temporal clause</td>
<td>2</td>
<td>PST</td>
<td>TAM</td>
</tr>
<tr>
<td>object clause</td>
<td>1</td>
<td></td>
<td>TAM</td>
</tr>
<tr>
<td>relative clause</td>
<td>1</td>
<td></td>
<td>TAM</td>
</tr>
<tr>
<td>predicative clause</td>
<td>1</td>
<td></td>
<td>TAM</td>
</tr>
</tbody>
</table>

Total: 5/56

Table 5. Instances of epistemic modality in the past zone

There were five instances of *līdō* + APP used in the past zone. All the examples occurred in a subordinate clause. The absence of *līdō* + APP in the main clause can be explained by the fact that *līdō* does not have simple past tense forms (see subsection 2.1), and thus it cannot establish a past time-sphere by itself.

The past zone is established by a past tense form in the main clause (see subsection 2.2.3). In example (19a), *um’ vōnd* serves to place a situation into the past and *äb lī vōnd* is anterior to that (see Figure 8). In example (20), the past simple form *kūondiz* ‘charge’ takes the perspective into the past (see Figure 9).

(19) Courland Livonian (Setälä 1953: 354)

a. tā’mm-ōn u’m vōnd irm,
s/he-DAT be.3SG be.APP fear
   
   ku ä’b lī jōvā vōnd
   that NEG.3SG LEE.CNG good be.APP

b. Häne-llā on ol-lut pelko ettei
   s/he-ADE be.3SG be-APP fear that NEG.3SG

   ole ol-lut hyvā
   be.CNG be-APP good

‘but s/he feared (lit. has had fear) that [the soup] may not have been good’
Norvik

Norvik (20) Courland Livonian (UT 1942, Mark 09:09)
kūondiz ta nāntōn pālō,
algō ne mityd-ōn kītō-gōd, mis ne
NEG.JUSS they anyone-PL.DAT tell-JUSS.3PL what they

voļt nānd, kuņtš Rišting Pūoga āb lī
be.PST.3PL see.APP until human son NEG.3SG LEE.CNG

kūolini-st ylz-nūz-ōn.
dead-ELA up-rise-APP

‘he charged them to tell no one what they had seen, until
the Son of Man had risen from the dead’ (ESV)

Both past simple forms (such as kūondiz) as well as present perfect forms (such as um’ vōnd) are regarded here as establishing the past time-sphere (not pre-present as one could expect, cf. subsection 2.2.1). The reason is that the perfect forms in narrative texts, especially in folk tales, are used for stylistic means. This technique is also common to Estonian (Alvre 1993: 102), Latvian (Kalnača 2014: 124), and Lithuanian (Klaas 1997: 89), where its usage instead of the simple past tense is claimed to add a sense of a mediated message6 (Klaas 1997: 89–90). Considering both forms as a means

6. In Latvian, the modal sense that is added to the message is additionally supported by the use of the perfect tense of the oblique mood (Kalnača 2014: 122).
to establish the past time-sphere makes it possible to avoid the unnecessary distinction between cases like (19a) and (20) but also between narratives told in the present perfect vs. simple past (e.g. in the Votic examples, past simple commonly established the past zone). Moreover, it explains why the verb in the subordinate clause can occur in the same tense as the verb in the main clause but still express anteriority.

When liidõ + APP occurs in a subordinate clause, which takes the perspective even further back in time (see example 19a), the use of liidõ + APP can be primarily associated with modal meanings. Although the Finnish translation (19b) given by Setälä does not contain any hints of a modal meaning element, using liidõ + APP in this example seems to trigger at least some modal meaning. Again, trying to replace liidõ ‘will be’ in example (19a) with võlda ‘be’ results in a non-modal meaning (cf. subsection 3.2.1). For comparison, in example (21), the whole sentence context seems to support the modal reading: liidõ appears twice as a copula conveying epistemic meaning about a situation that is represented as simultaneous with that of at mõtlõnd ‘(lit.) have thought’ (see also Norvik 2013: 143–144). Figure 10 makes the temporal relations holding for example (21) explicit.

(21) Courland Livonian (Looirts 1922)

\[
\begin{array}{llllll}
\text{Ne} & \text{at} & \text{mõtl-õnd,} & \text{ku} & \text{se} & \text{li-b} \\
\text{they} & \text{be.3PL} & \text{think-APP} & \text{that} & \text{this} & \text{LEE-3SG} \\
\text{mingi} & \text{kuo'ig} & \text{li-b} & \text{ukkõ} & \text{lǟ'-nd} & \text{un} & \text{sâl} \\
\text{some} & \text{ship} & \text{LEE-3SG} & \text{down} & \text{go-APP} & \text{and} & \text{there} \\
\text{bôts} & \text{li-b} & \text{ro'vž-ti.} & \text{perish} & \text{LEE-3SG} & \text{people-PL.PART} \\
\end{array}
\]

‘they thought that this may have been a ship, which had probably sunk and people had perished there’

Figure 10. Graphic representation of example (21)

In the case of example (20), in turn, liidõ + APP primarily expresses a temporal meaning although the whole sentence is placed into the past zone. The reason is that unlike
in examples (19a) and (21), \textit{līdō} + APP in (20) expresses anteriority with respect to a posterior orientation point (i.e. telling that something does not happen before the Son of Man has risen).

The cases discussed above suggest that the examples of \textit{līdō} + APP remaining within the past zone can express both modal as well as temporal meaning. It seems to be the case that the complex temporal relations with respect to central orientation time determine the accompanying meaning element, cf. Figures 8 and 10, in which \textit{līdō} + APP is placed diagonally to the left vs. Figure 9, where \textit{līdō} + APP is placed diagonally to the right of the orientation point. The former were associated with modal meanings, the latter with temporal meanings.

### 3.3. Comparisons with Livonian \textit{līdō} + PPP and \textit{sūdō} + PPP

The constructions \textit{līdō} ‘will be’ + PPP (passive past participle) and \textit{sūdō} ‘get; become’ + PPP can be associated with expressing passive meaning. Whereas Sjögren & Wiedemann (1861: 158–159, 162–163) list \textit{līdō}, \textit{sūdō}, and \textit{völđa} ‘be’ + PPP of a lexical verb as means of conveying passive relations, Viitso (2008: 324) mentions only \textit{völđa} and \textit{sūdō} + PPP, as \textit{līdō} + PPP is rare (Tiit-Rein Viitso, personal communication).

An additional way of conveying passive meaning in Livonian is by using a verb in the 3rd person form (singular or plural) and omitting the subject, e.g. \textit{viētā} (water. part) \textit{kånd-iz} (carry-pst.3sg) ‘water was carried’ (Viitso 2008: 321). This possibility, however, has some constraints, for instance, when an agent is explicitly expressed the construction \textit{sūdō} + PPP must be used, e.g. \textit{ta sai taptōd evēšt} […] \textit{veľst} ‘s/he was killed by his/her brother’ (Sjögren & Wiedemann 1861: 159–160). Here, only the analytical constructions will be discussed.

Table 6 includes the forms of \textit{līdō} + PPP and \textit{sūdō} + PPP that were represented in the data set. Whereas \textit{līdō} + PPP occurred only 6 times and only in the 3rd person affirmative form, there were all in all 259 instances of \textit{sūdō} + PPP. Mostly \textit{sūdō} appeared in 3rd person forms but also other options were represented.

<table>
<thead>
<tr>
<th>Person</th>
<th>Finite verb</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Affirmative</td>
<td>Negative</td>
</tr>
<tr>
<td>1SG</td>
<td>sōb</td>
<td>āb sō</td>
</tr>
<tr>
<td>2SG</td>
<td>sōd</td>
<td>ād sō</td>
</tr>
<tr>
<td>3SG</td>
<td>sōb līb</td>
<td>āb sō</td>
</tr>
<tr>
<td>1PL</td>
<td>sōmō</td>
<td>āb sōmō</td>
</tr>
<tr>
<td>2PL</td>
<td>sōt(ō)</td>
<td>āt sōt(ō)</td>
</tr>
<tr>
<td>3PL</td>
<td>sōbōd lībōd</td>
<td>āb sōt(ō)</td>
</tr>
</tbody>
</table>

*Table 6. Present indicative forms of \textit{sūdō} and \textit{līdō} in a PPP construction*
3.3.1. *līdō* + PPP in Livonian

The 6 instances of *līdō* + PPP in the data set all get passive readings but represent somewhat different cases. In example (22), *līdō* + PPP occurs in a subordinate temporal clause and expresses future anteriority. Example (23) seems to stress the resulting state as explained in the case of *līdō* + APP (cf. subsection 3.1.2). In example (24), *līdō* + PPP is used in the main clause, where it conveys epistemic modality. Thus, (22) through (24) show similarities with *līdō* + APP described in 3.1, 3.1.2, and 3.2.1 and illustrated by Figures 5–7, respectively.

(22) Courland Livonian (Sjögren & Wiedemann 1861: 332)

*Ku*  
*lī-b*  
*jera*  
*jū-o-dōd*,  
*sis*  
*tul*  
*when*  
LEE-3SG  
PP  
drink-PPP  
then  
come.IMP.2SG

*mīn-da*  
*nutā-m*  
I-PART  
call-MINF  
‘when you have drunk it up, then come to call me’

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

*Ma*  
*ānd-ab*  
*sinnon*  
touvōd  
vald  
vōtm-ōd;  
*I*  
give-1SG  
you.DAT  
sky.PL.GEN  
kingdom.GEN  
key-PL

*ja*  
*mis*  
*sa*  
mā  
pāl  
*sidā-d,*  
*and*  
*what*  
*you*  
earth.GEN  
on  
bind-2SG

*lī-b*  
touvis  
*sid-tōt*  
LEE-3SG  
heaven.INE  
bind-PPP  
‘I will give you the keys to the kingdom of heaven, and whatever you bind on earth shall be bound in heaven’ (*ESV*)

(24) Courland Livonian (Kettunen 1925: 54)

*kui*  
*ma*  
*ni*  
*lār-b*  
kuodāj  
vōi  
minā  
*when*  
*I*  
now  
go-3SG  
home  
or  
*I*

*entš*  
*kuolm-ō*  
pōig-ō  
vel  
sō-b  
nār-dō  
vōi  
own.GEN  
three-PART  
boy-PART  
still  
get-1SG  
see-TINF  
or

*ne*  
*lī-bōd*  
*ka*  
kuo’nnō*  
jārā*  
vōtt-ōt*  
*they*  
LEE-3PL  
also  
at_home  
PP  
take-PPP  
‘when I go home now, will I be able to see my three boys or maybe they have been taken away from home’
These few examples already show that \( \text{līdō} + \text{PPP} \) can be regarded as a passive counterpart of \( \text{līdō} + \text{APP} \). Furthermore, Sjögren & Wiedemann (1861: 158, 160) have introduced \( \text{līdō} + \text{PPP} \) as *passive future perfect* as opposed to \( \text{līdō} + \text{APP} \) and \( \text{sōdō} + \text{APP} \), which are both placed under *active future perfect* (cf. subsection 3.1.3).

### 3.3.2. \( \text{sōdō} + \text{PPP} \) in Livonian

With 259 examples, \( \text{sōdō} + \text{PPP} \) was the commonest construction in the data set; see example (25) and corresponding Figure (11). The following overview is, however, based on 195 examples as translational equivalents occurring in the data set were counted only once (Gospels of Matthew contained 64 overlapping instances out of 80). The high number of instances in the data set is partly due to the fact that the PPP construction containing \( \text{sōdō} \) in the present tense was used also for expressing present time reference (cf. subsection 2.1). The high number of instances in the Gospel translations, in turn, can be explained by the type of the text: Gospels contain many predictions about future states of affairs.

(25) Courland Livonian (Kettunen 1925: 53)

\[
\begin{align*}
\text{un} & \quad \text{li} & \quad \text{jālgab-õz} & \quad […] & \quad \text{un} \\
\text{and} & \quad \text{go.IMP.2SG} & \quad \text{town-ILL} & \quad \text{and} \\
\text{sinā} & \quad \text{sō-d} & \quad \text{vōtt-õd} & \quad \text{pa} & \quad \text{pūoš-õks} \\
\text{you} & \quad \text{get-2SG} & \quad \text{take-PPP} & \quad \text{PREP} & \quad \text{servant-INS} \\
\end{align*}
\]

‘and go to town […] you’ll be taken as a servant’

![Figure 11](image.png)

*Figure 11. Graphic representation of example (25)*

The construction \( \text{sōdō} + \text{PPP} \) is claimed to describe an action (Viitso 2008: 324). Indeed, most instances of Livonian \( \text{sōdō} + \text{PPP} \) in the data set occurred in the main clause conveying an action. The action is carried out at a certain orientation point, as in (25), not by a certain orientation point as is typically the case with \( \text{līdō} + \text{APP} \) (cf. subsection 3.2). The construction \( \text{sōdō} + \text{PPP} \) showed such behaviour in various subordinate clauses as well. For instance, in example (26), \( \text{sōdō} + \text{PPP} \) occurs in a subordinate object clause expressing an action that is viewed as simultaneous with another action in the past zone (for past time zone, see subsections 2.2.3 and 3.2.3).
Unlike līdō + APP, sǭdō + PPP appeared only infrequently in temporal clauses (cf. subsection 3.2.1).

(26) Courland Livonian (Kettunen 1925: 99)

\[ \text{un } \text{tam } nā’nd } \text{ ku } sō-b \text{ kand-tōd } zārka \]

and s/he_be.3SG see_APP that get-3SG carry-PPP coffin

‘S/he saw that a coffin was being carried’

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{graph.png}
\caption{Graphical representation of example (26)}
\end{figure}

In addition to syntactic differences, there are also semantic differences between sǭdō + PPP and līdō + PPP. The verbs themselves play a role here: sǭdō expresses a more dynamic action and gives a hint of change, while līdō, in turn, expresses static relations. Whereas līdō can be found in the epistemic function, sǭdō rather carries the coremeaning of succeed. For comparison, this meaning is shown to be present in different constructions containing Estonian saada (Tragel & Habicht 2012: 1397) and it seems to apply at least to Livonian sǭdō + PTCP constructions as well (cf. also subsection 3.1.3).

Relying on the evidence presented above, līdō + APP and sǭdō + PPP cannot be regarded as active and passive counterparts. Sjögren & Wiedemann (1861: 162) have also treated sǭdō + PPP differently from līdō + APP (and also from sǭdō + APP and līdō + PPP) placing sǭdō + PPP under passive future (cf. subsection 3.3.1).

The majority of the investigated cases contained a semantic patient as a grammatical subject (occurs in the nominative case, coordinates with the verb), see sinā in (25) and zārka in (26). This proves the claim about Livonian that expressing passive relations is subject-centred (Tiit-Rein Viitso, personal communication). Occasionally, the agent was expressed as well, usually by means of an elative agent adverbial (e.g. enš velst ‘by his/her brother’) or by means of NP Gen kā’dst (e.g. kēnig kā’dst ‘by the king’, lit. ‘by king’s hand’). The semantic patient did not appear as a grammatical subject or it was not possible to insert one only in a few cases. For instance, example (27) contains semantic patient as a grammatical object (it occurs in the partitive case, which is an object case); an agent is not expressed.

(27) Courland Livonian (Māgiste 1964: 58)

\[ \text{sīe } \text{reit } \text{si’nn-ōn } \text{sō-b } \text{ie-ra’dl-tōd } \text{jalg-ō} \]

this time you-DAT get-3SG off-cut-PPP leg-PART

‘This time your leg will be cut off.’
When studying the cognate *saada* + PPP constructions in Estonian dialects, the cases that reduce the valence of the verb (examples 25 and 26) are associated with passive meanings, whereas the instances that do not affect the valence of the verb (example 27) have been associated with impersonal meanings (see Uiboaed 2013: 179). (For more information on the differences between impersonalization and passivization, see Torn-Leesik 2009 and Erelt 2013). As it appears, unlike Livonian, the Estonian counterpart *saada* + PPP was typically attested in the impersonal function; the passive function turned out to be less common. Additionally, Estonian *saada* + PPP was found in the possessive perfect construction (contains an adessive agent) and resultative construction7 (Uiboaed 2013: 179–180). The Livonian material collected for the present study did not reveal any corresponding instances. This, however, does not mean that these uses are impossible: in Estonian dialects, the possessive perfect and resultative uses were also shown to be infrequent.

### 3.4. Conclusive remarks on Livonian *līdõ* + PTCP and *sǭdõ* + PTCP

Analysis of Livonian *līdõ* + PTCP and *sǭdõ* + PTCP has demonstrated the following

1. *līdõ* + APP occurs commonly in the function of expressing future anteriority (and resultativity). Thus, it deserves to be called the future perfect. The epistemic meaning, which occurred to a lesser extent, could be regarded as a secondary function of *līdõ* + APP.

2. *līdõ* + PPP was infrequent (all in all 6 occurrences), but the few usages showed that it can be considered the passive counterpart for *līdõ* + APP (it conveyed future anteriority and epistemic modality, and had a state-like usage).

3. *sǭdõ* + APP occurred in only one instance in the data set and in a few examples in earlier grammars / language overviews. The construction showed overlapping uses with *līdõ* + APP, first of all in the function of conveying anteriority. Comparison of *sǭdõ* + APP and *līdõ* + APP in a state-like cases revealed a more dynamic usage of the former.

4. The construction *sǭdõ* + PPP was shown to differ semantically and syntactically from the rest of the constructions: it is more likely to express an action carried out at a certain reference point (rather than by a certain reference point); the construction is typically used in the main clause; the differences are conditioned partly by the verb *sǭdõ* itself.

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7. In the case of a resultative construction, the semantic agent and grammatical subject are claimed to express the same entity. Thus, the resultative is defined differently from what is regarded as a resultative construction here, see subsections 3.1.2 and 3.1.3.
4. Participle constructions in Livonian in a Southern Finnic context

Table 7 views the functions of PTCP constructions in Livonian (explained in subsections 3.1 through 3.3) within a broader Southern Finnic context. The discussion will follow in subsections 4.1 through 4.3.

<table>
<thead>
<tr>
<th>Construction</th>
<th>Language variety</th>
<th>LEE(NE)- + APP</th>
<th>SAA- + APP</th>
<th>LEE(NE)- + PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>temp. (ant./res.)</td>
<td>epist. mod.</td>
<td>temp. (ant./res.)</td>
</tr>
<tr>
<td>Courland Livonian</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Salaca Livonian</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Insular dialect of Estonian</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Old Written North Estonian</td>
<td>N/A</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Standard Estonian</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Votic</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

Table 7. LEE(NE)-/SAA- + APP and LEE(NE)- + PPP constructions in Southern Finnic

In addition to Courland Livonian, Salaca Livonian and Votic have also been included. With respect to Estonian, Old Written North Estonian (OWNE) and the Insular dialect are considered separately as *leeda* could be attested only in these language varieties. Standard Estonian is included for comparison.

In the case of LEE(NE)- + APP/PPP, a distinction is made between the two main functions outlined in section 3: temporal (anteriority/resultativity) and modal function (epistemic modality). As SAA- + APP does not have the epistemic modality reading, only the temporal function is included. Although parallels were also drawn with SAA- + PPP, this construction is not included in Table 7 as the construction was shown to differ semantically and syntactically (cf. subsection 3.3.2).

The marking “−” is used if the corresponding construction was not attested in a particular language variety. “+” means that the construction was attested in a particular function, whereas “N/A” means that it was not. The darker grey in the case of Votic indicates a different function (see subsection 4.3). It is, however, important to note that Table 7 illustrates only the data set collected for the purposes of the present study.

8. Tunkelo (1946: 556) has reconstructed the form *liis* for South Estonian; the literary sources, however, do not seem to contain any instances.
## 4.1. Temporal and modal usage of LEE(NE)- + APP in Southern Finnic

Analysis of the Southern Finnic language varieties revealed both the temporal as well as the modal usage of LEE(NE)- + APP (see Tables 7 and 8). Still, OWNE is represented only by examples of the modal usage. There are no examples from Standard Estonian, as the verb *leeda* is not used in present-day Estonian.

<table>
<thead>
<tr>
<th>Example</th>
<th>Language</th>
<th>Textual Representation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(28)</td>
<td>Votic (Ariste 1948: 79)</td>
<td><em>kui</em> minä <em>lee-n</em> tšüsü-nnū, <em>sis</em></td>
<td>when I LEE-1SG ask-APP then</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>siä anna</em></td>
<td>you give.IMP.2SG</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>‘when I have asked then you give [it to me]’</em></td>
<td></td>
</tr>
<tr>
<td>(29)</td>
<td>Votic (Ariste 1977: 52)</td>
<td><em>se</em> moni <em>satoi-ta</em> vuosii-ta <em>vie-z</em> lie-b ūl-lu</td>
<td>this some hundred.PL-PART year.PL-PART water-INE LEE-3SG be-APP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘this might have been in the water for hundreds of years’</td>
</tr>
<tr>
<td>(30)</td>
<td>Insular dialect of Estonian (Ariste 1954: 288)</td>
<td><em>sis ma tee ku ma lee (lii) seel käi-nd</em></td>
<td>then I know when I LEE there go-APP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘then I’ll know, when I’ve been there’</td>
</tr>
<tr>
<td>(31)</td>
<td>Insular dialect of Estonian (EMS)</td>
<td><em>ta lee-b se-da saa-nd</em></td>
<td>s/he LEE-3SG this-PART get-APP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘S/he may have received this.’</td>
</tr>
<tr>
<td>(32)</td>
<td>OWNE (Hornung 1693)</td>
<td><em>ehk ma lene-n ol-nud</em></td>
<td>maybe I LEENE-1SG be-APP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘Maybe I have been.’</td>
</tr>
</tbody>
</table>
The past participle constructions LEE(NE)- + PTCP and SAA- + PTCP as future...

<table>
<thead>
<tr>
<th>(33)</th>
<th>Salaca Livonian (Sjögren &amp; Wiedemann 1861: 297)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ma ēldim ab iā mierk ku</td>
<td>I before NEG.1SG stay.CNG satisfied when</td>
</tr>
<tr>
<td>ma ama lī-b jära kirit-en</td>
<td>I everything LEE-1SG PP write-APP</td>
</tr>
<tr>
<td>‘I won’t be satisfied before I have written everything down.’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(34)</th>
<th>Salaca Livonian (Sjögren &amp; Wiedemann 1861: 332)</th>
</tr>
</thead>
<tbody>
<tr>
<td>nüüd te lī-ti magg-en</td>
<td>now you.2PL LEE-3SG sleep-APP</td>
</tr>
<tr>
<td>-ab uo magg-en</td>
<td>NEG.1PL be.CNG sleep-APP</td>
</tr>
<tr>
<td>‘Now you must have slept – no we have not.’</td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Temporal and modal uses of LEE(NE)- + APP

In the Insular dialect of Estonian, only one example gets an anteriority reading (30); the rest convey epistemic modality. It is interesting that example (30) has been noted down from the Sõrve peninsula – the area that is geographically closest to Courland. Furthermore, the lī- form in brackets shows similarities with Livonian līdõ. Ariste (1954: 288) regarded Livonian influence as possible, although at the same time he maintained that there was not enough evidence to prove that.

Whereas the examples from Votic and Salaca Livonian contained only the LEE-form, the examples in OWNE also made use of the LEENE-form; see (32). Even though examples (31) and (32) are represented without context, their translations in dictionaries support the modal reading. Example (31) is “translated” into Standard Estonian as vist on saanud ‘probably has received’ (EMS). Hornung (1693) translates example (32) into German as vielleicht bin ich gewesen ‘maybe I have been’. An additional indicator of modality in example (32) is the modal particle ehk ‘maybe’.

A small comparison with Northern Finnic languages shows that Finnish, Karelian (Olonets and Viena Karelian), and Ludic also use LEE(NE)- + APP constructions. In these language varieties, the epistemic modality reading seems to be the commonest, as in example (35). Thus, in a broader Finnic context, the anteriority reading of Livonian līdõ + APP stands out even more.
Norvik (Zaikov 2000: 261)

\[ \text{kah\text{-}eh \text{kier\text{-}ah \text{vai \text{kol\text{-}meh \text{\ell\text{-}iene-n \text{ol\text{-}nu \text{Terun\text{-}külä\text{-}s}}}} \quad \text{\rotatebox{-90}{two \ time \ or \ three \ LEENE\text{-}1SG \ be\text{-}APP \ Terun\text{-}külä\text{-}INE}} \]

‘Two or three times I’ve been to Terunkülä’

4.2. Anteriority – the overlapping use of LEE(NE)- + APP and SAA- + APP

Livonian \textit{lidō} + APP and \textit{sōdō} + APP were shown to overlap in the functions of expressing future anteriority. This was also proposed as the reason why only one of the devices (\textit{lidō} + APP) is typical in this function (cf. subsection 3.1.3). Further proof comes from OWNE and the Insular dialect of Estonian, which contained instances of \textit{saada} + APP as well as \textit{leeda} + APP. Both constructions were found in the anteriority function; see examples (36) and (30). But again, only one of the constructions proved to be common. Unlike in Livonian, \textit{saada} + APP gave numerous examples. As mentioned already, example (30) was the only instance of \textit{leeda} + APP expressing anteriority in the case of Estonian varieties discussed here. In addition to \textit{leeda} + APP, also \textit{saada} + APP is uncommon in present-day Estonian (see also Tragel & Habicht 2012: 1398, 1403).

\[ \text{(36) \ OWNE (COWE [<<1781-Lithander_g_669.1047>>])} \]

\begin{align*}
\text{\rotatebox{90}{Sa-a-d}} & \quad \text{\rotatebox{90}{sā}} & \quad \text{pārmi} & \quad \text{sissepan-nud,} \\
\text{get-2SG} & \quad \text{you} & \quad \text{yeast,GEN} & \quad \text{in_put-APP} \\
\text{siis […]} & \quad \text{liguta} & \quad \text{se-dda} & \quad \text{ölлу-t} \\
\text{then} & \quad \text{stir,IMP,2SG} & \quad \text{this-PART} & \quad \text{beer-PART} \\
\end{align*}

‘When you have put the yeast in, then […] stir this beer’

The construction \textit{saada} + APP is regarded as characteristic of the first Estonian full Bible from 1739 (Māgiste 1936: 73), where it is found in the function of relative future expressing perfectivity (Helle 2006: C40–C41). (This description corresponds to the function of expressing future anteriority as explained in this article.) A small comparison of passages containing Livonian \textit{lidō} + APP in the Gospels of Matthew (Mt 1880; ÚT 1942) with the corresponding passages in different translations of the Gospel of Matthew into Estonian\textsuperscript{9} showed that the Gospel of Matthew of the Livonian Úž Testament (1942) and the Gospel of Matthew of the first full Estonian Bible 1739 provide the most correspondences: Livonian \textit{lidō} + APP and Estonian \textit{saada} + APP correspond in 6 cases. In 5 out of 6 instances, they are used in temporal clauses, in which they express future anteriority and primarily convey temporal meaning; see examples (37a) and (37b). The remaining example was the instance of a conditional clause already discussed in subsection 3.2.2. In Standard Estonian, the 6 instances either contain a verb in the present tense or use the present perfect construction \textit{olla ‘be’ + APP} (\textit{olla} is a cognate of Livonian \textit{vōlda ‘be’}).

\[ \text{\rotatebox{90}{9. \ Search engine available online: <http://www.eki.ee/piibel/>} \]
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(37) a. Courland Livonian (ÜT 1942, Mt. 26:32)

\[
\begin{array}{llll}
\text{Aga} & \text{pierrõ,} & \text{ku} & \text{ma} \\
\text{but} & \text{after} & \text{when} & \text{I} \\
\text{ylz-nūz-õn} & \text{ma} & \text{lā-b} & \text{tād} \\
\text{up-raise-APP} & \text{I} & \text{go-lsg} & \text{you.pl.gen} \\
\text{jeds} & \text{Galileamā-lō.} \\
\text{before} & \text{Galilee-ALL}
\end{array}
\]

b. OWNE (COWE [Bible 1739], Mt. 26:32)

\[
\begin{array}{llll}
\text{Agga} & \text{pārīrast,} & \text{kui} & \text{ma} \\
\text{but} & \text{after} & \text{when} & \text{I} \\
\text{ūlles-tous-nud,} & \text{tahha-n} & \text{ma} & \text{teie} \\
\text{up-raise-APP} & \text{want-lsg} & \text{I} & \text{you.pl.gen} \\
\text{miñ-na} & \text{Kalileama-le.} \\
\text{go-tinf} & \text{Galilee-ALL}
\end{array}
\]

‘But after I am risen, I will go before you to Galilee.’ (ESV)

As Estonian saada + APP construction may have entered the stage with Bible translations and by now it has fallen out of use, but also for other reasons, the question of the origin of saada + APP has been addressed. Researchers tend to argue for a native origin, claiming that once it belonged to the vernacular language (Māgiste 1936: 87–88; Tragel & Habicht 2012: 1398). Due to the reason that linguistic data from Votic and Livonian does not go far back, it is hard to say anything decisive about SAA- + APP constructions in these languages. It is only possible to note that the corresponding constructions are rare in the sources that were used for the present study. For instance, Ariste (1948: 91–92) presents full paradigm of saata + APP in the Votic Grammar, but the text collections I consulted with, did not reveal any instances. Of course, it is possible that the data set was too small, but in the Finnic languages in general, SAA- + APP constructions seem to be uncommon (see also subsection 3.1.3). Considering this, SAA- + APP constructions need further study, besides, there still remains the question why this construction is uncommon in Standard Estonian.
4.3. LEE(NE)- + PPP: resultative vs. actional?

Whereas Salaca Livonian and Votic also contained examples of LEE- + PPP (the LEENE- form did not occur), the Estonian language varieties discussed here did not reveal any corresponding examples (see Table 7). The Salaca Livonian examples were attested in the function of expressing future anteriority/resultativity, see examples (38) and (39), cf. corresponding examples in Courland Livonian (examples 21 and 22 respectively).

(38) Salaca Livonian (Sjögren & Wiedemann 1861: 332)
ku  lī-ms  jāra  juod-eds
when LEE-m INF,INE PP drink-PPP
sis  tul  min-d  kuts-ma
then  come,IMP.2SG  I-PART  call-INF
‘when it will be drunk up, then come to call me’

(39) Salaca Livonian (Sjögren & Wiedemann 1861: 328)
Mis  omm-el  tie-d,  se  lī-b  tied-eds.
what yourself-ADE/ALL  do-2SG  this  LEE-3SG  do-PPP
‘what you do for yourself will be done’

The examples from Votic also contained instances that primarily express action. In the case of example (40), the context provides the reading of an action, i.e. that an action of torturing will take place in the future, not that someone will be in the state of being tortured. It seems that the farther east we move, the more we get usages like (40), cf. Veps example (41). A comparison of examples (38), (40), and (41), which all contain LEE(NE)- + PPP in the main clause, reveals the more resultativity-like interpretation of Salaca Livonian example (39).

(40) Votic (Ariste 1977: 52)
kasse  puu-hōō  jumalaa  poikaa  lie-b  piina-ttu
this  tree-ILL  God.GEN  son  LEE-3SG  torture-PPP
‘On this tree they will torture God’s son’

(41) Veps (Tunkelo 1946: 310)
homen  lino-b  pāt’s-he  lykai-tud
tomorrow  LEENE-3SG  oven-ILL  push-PPP
‘Tomorrow will be put into the oven.’

The action-like uses seem to show parallels with Russian. Namely of all the tense-aspect forms, the future copula bud- + perfective form is claimed to be the least
resultative (Nedjalkov 1988: 47). Such cases are referred to as passive functions (actional passive) as opposed to resultative functions (statal passive) (Nedjalkov 1988: 45). This adds one further distinction as in subsection 3.1.2 it was stated that there is a continuum between expressing anteriority and resultativity, but in the case of PPP constructions that do not express anteriority, the question is between the actional passive and statal passive.

Be it more resultative or action-like use, the examples (39) to (41) can be represented in terms of Figure 13. Example (38), however, is an example of expressing anteriority in the future zone and can be viewed in terms of Figure 5.

With respect to Votic, Veps, and other Northern Finnic languages that can omit copula in the present, there are also Northern Finnic languages that can omit copula in the present, there are also cases where a different formation comes into the question, i.e. that LEE(NE)- is a copula inserted into a predicative construction; see example (42).

(42) Votic (Ariste 1962: 34)

\[
\begin{align*}
\text{neda} & \quad \text{bulka-}d & \quad \text{liev} & \quad \text{sene-}l & \quad \text{lavva-}lõõ & \quad \text{pan-tu}, \\
\text{these} & \quad \text{bread-}p.l & \quad \text{LEE-}3p.l & \quad \text{this-}a.l.l & \quad \text{table-}a.l.l & \quad \text{put-PPP} \\
\text{kuza} & \quad \text{kõik} & \quad \text{võõra-}d & \quad \text{nõõ-}väd & \quad \text{issu-maa} \\
\text{where} & \quad \text{all} & \quad \text{stranger-}p.l & \quad \text{begin-}3p.l & \quad \text{sit-}m.nf
\end{align*}
\]

‘This bread will be put on the table, where all guests will eat.’

In any case, LEE(NE)- + PPP in the Northern Finnic languages needs further attention, especially taking into account the contact with Russian.

5. Conclusions

The present article has analysed semantic functions and syntactic behaviour of past participle constructions. The focus was on Livonian līdõ ‘will be’ + active past participle (APP) / passive past participle (PPP) and sōdõ ‘get; become’ + APP / PPP. As regards Livonian, the article set out to determine to what extent these constructions can be associated with expressing future time reference (FTR): (i) whether līdõ +
APP, which has been called the future perfect but is also associated with modal and aspectual meanings, deserves to be called the future perfect; (ii) and what its precise relation is to the šōdō + PPP constructions that also frequently occur with reference to the future. The constructions in Livonian were viewed against a broader background, discussing the cognate constructions in the other Southern Finnic languages (referred to as LEE(NE)- + APP/PPP and SAA- + APP/PPP); some parallels were drawn with the corresponding constructions in the Northern Finnic languages and the Indo-European contact languages.

Considering the primary meaning element (temporal or modal as the aspectual meaning element was always shown to be strong), time reference (future, past, or present), and the clause type (main or subordinate), a distinction was made between two main functions: expressing (i) anteriority, and (ii) epistemic modality. It was argued that šōdō + APP deserves to be called the future perfect as its main function is to express anteriority in the future domain (39 out of 56 instances in the data set occurred in this function). Additionally, it was pointed out that Livonian stands out with regard to the usage of the future perfect construction, as future marking in subordinate clauses is often redundant or associated with modal meanings. Livonian šōdō + APP, however, was typically attested in the temporal (future) meaning. The second-most common function of šōdō + APP in Livonian was the function of expressing epistemic modality (the epistemic sense was typically added to a situation viewed as completed in the pre-present zone). Drawing on crosslinguistic evidence, it was suggested that this usage might be a later development of the construction, and can be thus regarded as a secondary function of šōdō + APP. The finer development of the semantic functions and syntactic behaviour, however, needs further study.

The construction sōdō + PPP commonly encountered in Livonian in the function of expressing passive relations was considered a passive counterpart of šōdō + APP only in a very general sense. It was found in a more action-like usage: expressing an action carried out at a certain reference point, not by a certain reference point as is typical in the case of šōdō + APP. Additionally, sōdō + PPP was associated with different accompanying meanings, e.g. the sense of SUCCEED (the epistemic sense typical of šōdō was shown to be impossible). Comparison with the Estonian data presented further proof for the claim that Livonian is more subject-centred in expressing passive relations: the majority of instances contained a semantic patient as the grammatical subject; the semantic agent could also be expressed.

There were only 6 instances of šōdō + PPP, but it turned out to be a better passive counterpart for šōdō + APP than sōdō + PPP: šōdō + PPP was also found in the function of expressing anteriority and epistemic modality. Thus, this justifies calling it the passive future perfect in the literature. In Livonian, the construction sōdō + APP also proved to be infrequent. This was explained by the fact that as SAA- + APP and LEE(NE)- + APP constructions share similar functions (even though the verbs convey somewhat different meanings), the language chooses either one or the other construction. Unlike Livonian, Old Written North Estonian was shown to have used the construction saada + APP.

Under the function of anteriority, the article also discussed the instances of resultativity. They were regarded as establishing a continuum, with anteriority stressing
the action and resultativity the resulting state. These functions were shown to intertwine; however, in some cases it was possible to tell which one was in the foreground. Whereas the difference between anteriority and resultativity was made in the case of APP constructions, in the case of PPP constructions that did not express anteriority, the term actional passive was introduced. For instance, when used in the main clause, Livonian \textit{lidõ} + PPP seemed to stress the resulting state, whereas the corresponding LEE(NE)- + PPP construction in Northern Finnic languages rather expressed an action.

Placing the results against a broader (Southern) Finnic background revealed that the presence/absence of LEE(NE)- + APP/PPP and SAA- + APP/PPP and their main/secondary functions is largely language-specific. A further task would be to analyse the results in the light of language contacts in order to determine to what extent neighbouring Indo-European languages have played a role in the development of the participle constructions discussed in this article.

Abbreviations

- 1,2,3 – numbers
- \textit{ACC} – accusative
- \textit{ADE} – adessive
- \textit{ADJP} – adjective phrase
- \textit{ALL} – allative
- \textit{APP} – active past participle
- \textit{ART} – article
- \textit{AUX} – auxiliary
- \textit{CNG} – connegative
- \textit{DAT} – dative
- \textit{DEF} – definite
- \textit{ELA} – elative
- \textit{FTR} – future time reference
- \textit{FUT} – future
- \textit{GEN} – genitive
- \textit{IMP} – imperative
- \textit{ILL} – illative
- \textit{INE} – inessive
- \textit{INS} – instrumental
- \textit{JUSS} – jussive
- \textit{mINF} – \textit{m}-infinitive
- \textit{NEG} – negative
- \textit{NOM} – nominative
- \textit{NP} – noun phrase
- \textit{PART} – partitive
- \textit{PASS} – passive
- \textit{PFF} – perfective
- \textit{PL} – plural
- \textit{PP} – perfective particle
- \textit{PPP} – passive past participle
- \textit{PREP} – preposition
- \textit{PRS} – present
- \textit{PST} – past
- \textit{PTCP} – past participle
- \textit{SG} – singular
- \textit{tINF} – \textit{t}-infinitive
- \textit{TRA} – transitive
- \textit{V} – verb

References


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Plungian 2011 = Плунгян, Владимир 2011: Введение в грамматическую семантику: грамматические значения и грамматические системы языков мира. Москва: РГГУ.


