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LEXICAL RELATIONS BETWEEN SALACA LIVONIAN AND ESTONIAN DIALECTS

Abstract. The present study is based on the Salaca Livonian dictionary compiled by Eberhard Winkler and Karl Pajusalu (Winkler, Pajusalu 2009), which assembles the vocabulary of all the Salaca Livonian sources. The Salaca Livonian dialect, which is a major variety of Livonian alongside Courland Livonian, was spoken in the vicinity of the river Salaca in northern Latvia until the mid-19th century. These areas were in direct contact with the areas of the Häädemeeste and Saarde subdialects of the southern group of the western dialect of North Estonian and the western dialects of South Estonian. The present study focuses on lexical relations between Salaca Livonian and its contact dialects as well as with the Estonian dialect area in general and makes an attempt to explain what the vocabulary shared by Salaca Livonian and Estonian dialects could reveal about the development of Livonian. The closeness of lexical relations is established by means of a dialectometrical study, where at first the closeness of relations is calculated on the basis of the entire shared vocabulary, followed by closeness on the basis of infrequent and frequent vocabulary. The quantitative findings serve as the basis of a diachronic study of lexical relations between Salaca Livonian and the Estonian dialects. When taking into account the entire shared vocabulary, the links between Salaca Livonian and the southernmost South-Estonian dialects prove to be the strongest; however, the links between Salaca Livonian and western South-Estonian and West-Estonian subdialects rise to prominence as well. Analysis of less common vocabulary highlights the relation between Salaca Livonian and South Estonian even more; in the case of frequent words there is, in addition to South Estonian, a positive correlation with the insular dialects. All the three analyses show the closest link between the vocabulary of Salaca Livonian and the South-Estonian Leivu linguistic enclave.

Keywords: Finnic languages, Salaca Livonian, Estonian dialects, lexical contacts.

1. Concerning lexical similarity between Livonian and Estonian

The position of Livonian in the Finnic area is an extreme one both from the geographic and the linguistic perspectives. Livonian is the southernmost Finnic language, and it reveals many peculiarities that suggest its early separation from the other Finnic languages (see Viitso 2008 : 63 et seq.). The relationship between Livonian and Estonian is important from

the perspective of the development of the southern group of Finnic languages because these languages are neighbours. Nor was the area of Livonian undivided; in Courland Livonian survived longest; for this reason, its dialects have been studied more thoroughly, besides the language was spoken in Old Livonia in central and northern Latvia. The dialect of Salaca Livonian, of which there are records from the second half of the 17th century to the mid-nineteenth century, is the language variety of the northernmost Livonian settlement area of Livonia (see the article by Sutrop, Pajusalu in this issue). This area of northern Livonian was known since the end of the prehistoric period as Metsepole county. Apparently, one of the reasons why Salaca Livonian survived longer than the other Livonian dialects of Vidzeme is its peripheral position between Latvian and Estonian settlement. In principle, the same is true of the survival of Livonian settlement in the coastal villages of Courland.

The contact areas of Salaca Livonian and Courland Livonian with Estonia were different. For Courland Livonian, the neighbouring Estonian dialect was the insular dialect of Saaremaa; Salaca Livonian was in contact with the western dialect of North Estonian and the western dialects of South Estonian. For this reason it could well be that the relation of Salaca Estonian to the Estonian dialects is different from that of Courland Livonian.

Until now the lexical relations between the Estonian dialects and Livonian have been studied on a systematic basis by Eino Koponen (1990); his study was commented by Tiit-Rein Viitso (1990). Koponen analysed 1600 word bases shared by Estonian and Livonian and excluded all those words that occurred only in Salaca Livonian (see Koponen 1990 : 35). The dataset of 1600 bases included 350 borrowings from High and Low German, Latvian, Russian, and Swedish, which Koponen also excluded from comparative analysis. Koponen grouped the remaining ca. 1200 bases into general Finnic (ca. 700), western Finnic (135), and southern Finnic (130) bases. Also, Koponen analysed the spread of the selected 1200 Livonian bases in Estonian dialects and divided the words into three groups: (a) words occurring in both North-Estonian and South-Estonian dialects (1080), (b) words attested only in Livonian and North-Estonian dialects (70), and (c) words attested only in Livonian and South-Estonian dialects (20). At the end of his article Koponen raised the question concerning the possibility of different interpretations with regard to the historical relation between the Livland Livonian and Courland Livonian: (1) Livland Livonian and Courland Livonian share a common origin, their differences are secondary; (2) the true successor of Old Livonian is Courland Livonian; Livland Livonian, however, is a hybrid of Old Livonian and Old North Estonian or South Estonian; (3) the true successor of Old Livonian is Livland Livonian while Courland Livonian is a hybrid of Old Livonian and Old North Estonian; (4) Courland Livonian and Livland Livonian stem from different ancient Finnic dialects and their relationship is similar to that between North Estonian and South Estonian or western and eastern Finnish dialects. At the end of the study Koponen points to the need to include also Salaca Livonian vocabulary in future research, which could provide an answer to the previous question. Viitso's comments (1990) about the article by Koponen raised a number of specific problems concerning the

classification of bases shared by Estonian and Livonian from the standpoint of the history of Finnic languages, but he generally accepted the question raised by Koponen.

The analysis in the present article focuses on the vocabulary of Salaca Livonian. The lexical data on Salaca Livonian is rather scarce; the dictionary of Salaca Livonian (Winkler, Pajusalu 2009) covers only 1,450 lemmas or bases and 8,500 word forms, including inflected forms; together with derivatives and compounds the dictionary lists over 3,000 words of Salaca Livonian. Eberhard Winkler (2002) identified 470 Latvian, 27 Middle Low German, 10 High German, 7 Estonian, and 3 Russian borrowings in Salaca Livonian, whereas only one part of Latvian and Middle Low German loans could be regarded as early loans. Anyway, the number of documented Salaca Livonian and Estonian bases is less than 1,000. The present study, however, takes into account not only all the shared bases but all the words shared by Salaca Livonian and Estonian dialects. We also included the pronominal words that Koponen excluded from his study. For example, in Winkler, Pajusalu 2009 the lemma *täma* 'he; this' covers the words *tempi* 'today', *tänn* 'over here', *täs* 'here', and *täst* 'from here', which have equivalents with certain distribution patterns in the Estonian dialect area. Salaca Livonian words were compared with concrete Estonian dialect words, the distribution data of which is provided by the electronic database of the dictionary of Estonian dialects (Väike murdesõnastik I–II; can be accessed online at <http://portaal.eki.ee/dict/vms>). Efforts were made to establish the most accurate equivalents. For example, the word *ahas* 'narrow' corresponds to *õ'dõz* in Courland Livonian and *āki* in Salaca Livonian, both of which stem from the same base (cf. Finnish *ahdas*); however, we selected the South Estonian *ahrike* as an equivalent of the Salaca Livonian word because it was the most precise equivalent in the electronic database of the Estonian dialects. Accordingly, the approach of the present study is substantially different from that of Koponen 1990; it focuses on finding as accurate as possible equivalents for Salaca Livonian words and the analysis of the selected words in Estonian dialects. The present quantitative study is based on 1,262 Estonian dialect words, which have a definite Salaca Livonian equivalent.

2. Quantitative analysis of lexical relations between Salaca Livonian and Estonian dialects

Table 1 provides an overview of the vocabulary shared by Salaca Livonian and Estonian dialects. At first it shows the total number of words of each Estonian subdialect in the database, followed by the number of those words that have an equivalent in Salaca Livonian. The table shows that the size of the existing word collections per Estonian subdialect reveals extensive variation. At this the difference is remarkable not only with regard to size but to content as well. As a rule, small word collections reveal a smaller proportion of native vocabulary with limited distribution.

The present dialectometrical analysis was carried out using the same methods as in the analysis of lexical relations between Estonian dialects (see Krikmann, Pajusalu 2000: 136 et seq.). As earlier, we considered

Table 1

**Size of word collections of Estonian subdialects
and shared vocabulary with Salaca Livonian**

(P = partner area (i.e. Estonian parish, Setu county, or a linguistic enclave);
w(P) = number of words recorded from area *P*; *w(P∩S)* = number of words
shared by *P* and Salaca Livonian)*

<i>P</i>	<i>w(P)</i>	<i>w(P∩S)</i>	<i>P</i>	<i>w(P)</i>	<i>w(P∩S)</i>	<i>P</i>	<i>w(P)</i>	<i>w(P∩S)</i>
Amb	3445	583	Kos	3731	572	Pst	2768	471
Ann	2021	435	Kra	756	316	Puh	7184	825
Ans	2668	496	Krj	2979	490	Pär	1589	336
Aud	4959	661	Krk	10865	893	Pöi	6813	734
Emm	6605	755	Krl	7199	831	Rak	1302	355
Hag	2216	393	Kse	9065	828	Ran	6556	761
Han	4445	564	Ksi	3256	527	Rap	1575	357
Har	9735	850	Kul	3348	618	Rei	7784	819
Hel	5650	749	Kuu	12554	849	Rid	3715	620
HJn	2317	437	KuuK	1723	342	Ris	7800	829
Hlj	4209	517	Köp	1817	350	Rön	2753	540
HljK	339	83	Käi	4185	623	Röu	10304	837
Hls	8468	851	Kär	1868	410	Räp	6815	761
HMd	1559	386	Lai	6523	680	Saa	3279	545
Hää	9727	880	Lei	3295	682	San	8024	839
lis	7684	781	Lih	2131	470	Se	9343	814
lisK	783	130	LNg	2695	511	Sim	4503	593
lisR	4364	466	Luk	253	71	SJn	2526	432
Jaa	2105	345	Lut	3792	587	TMr	1702	451
JJn	2948	474	Lüg	11193	854	Tor	8188	839
JMd	7539	792	Mar	8859	841	Trm	9057	819
Juu	9416	839	Mih	3776	600	Trv	8774	857
Jõe	3593	526	MMg	1825	377	Tös	8882	843
JõeK	2361	408	Muh	10356	874	Tür	2669	551
Jöh	6567	660	Mus	3583	518	Urv	5833	674
Jäm	9440	858	Mär	9050	839	Vai	8797	830
Jür	2915	435	Nis	2112	373	Var	4594	583
Kaa	4501	607	Noa	959	216	Vas	8867	815
Kad	5678	626	Nõo	6840	789	Vig	5329	688
Kam	4581	626	Ote	4435	633	Vil	2605	550
Kan	3728	532	Pai	734	180	VJg	8243	801
Kei	3349	559	Pal	2749	541	Vll	7178	806
Khk	12469	915	Pee	1550	309	VMr	3947	633
Khn	4468	669	Pha	3526	526	VNg	9584	827
Kir	1993	443	Phl	4079	578	Võn	3605	565
KJn	9400	849	Pil	2310	389	Vän	3252	604
Kod	12454	863	PJg	4549	603	Äks	2909	535
KodT	337	96	Plt	9742	841			
Koe	7691	802	Plv	9220	815	Σ	590857	70026

* Traditional abbreviations of Estonian dialects and subdialects have been used, see <http://www.eki.ee/dict/vms/vmssubst.html>.

reasonable to lump together the data for the parishes divided between different dialects, for example: Hlj & HljK → Hlj; HljK → Hlj; Iis & IisK → Iis; Iis & IisR → Iis; IisK → Iis; IisR → Iis; IisK & IisR → Iis, and so on. In this way we obtained data for 108 basic geographical areas (104 of them being Estonian parishes, plus Setu county, plus three linguistic islands (Leivu, Lutsi, Kraasna)). Analogously, the data of the late Luke parish were considered to belong to Sangaste parish. Vormsi parish was excluded from the study due to scarcity of data.

The estimation of lexical proximity between Salaca Livonian and the partner areas was performed in the following way. Three subsets of data were observed:

- (1) the subset of all words;
- (2) the subset of frequent words (occurring in 34 or more partner areas);
- (3) the subset of infrequent data (occurring in 33 or less partner areas).

Table 2 shows the numerical data for each of the three subsets.

Table 2

Vocabulary shared between Estonian subdialects and Salaca Livonian according to stereotypicality

	All words		Frequent words		Infrequent words	
	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$
Amb	3445	583	2233	568	1212	15
Ann	2021	435	1491	429	530	6
Ans	2668	496	1506	469	1162	27
Aud	4959	661	2655	626	2304	35
Emm	6605	755	3194	713	3411	42
Hag	2216	393	1470	386	746	7
Han	4445	564	2126	538	2319	26
Har	9735	850	3162	690	6573	160
Hel	5650	749	2510	636	3140	113
HJn	2317	437	1541	428	776	9
Hlj	4359	530	1981	499	2378	31
Hls	8468	851	3727	749	4741	102
HMd	1559	386	1140	377	419	9
Hää	9727	880	4133	788	5594	92
Iis	9862	809	4207	763	5655	46
Jaa	2105	345	1082	327	1023	18
JJn	2948	474	1760	462	1188	12
JMd	7539	792	4076	750	3463	42
Juu	9416	839	4346	783	5070	56
Jõe	4945	641	2359	604	2586	37
Jõh	6567	660	2847	627	3720	33
Jäm	9440	858	3957	781	5483	77
Jür	2915	435	1625	428	1290	7
Kaa	4501	607	2035	571	2466	36
Kad	5678	626	2680	590	2998	36
Kam	4581	626	1905	531	2676	95
Kan	3728	532	1475	441	2253	91
Kei	3349	559	2025	540	1324	19

	All words		Frequent words		Infrequent words	
	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$
Khk	12469	915	4356	805	8113	110
Khn	4468	669	2428	627	2040	42
Kir	1993	443	1366	431	627	12
KJn	9400	849	4321	784	5079	65
Kod	12526	871	4158	786	8368	85
Koe	7691	802	4119	748	3572	54
Kos	3731	572	2350	547	1381	25
Krj	2979	490	1546	462	1433	28
Krk	10865	893	3782	757	7083	136
Krl	7199	831	3178	688	4021	143
Kse	9065	828	4153	770	4912	58
Ksi	3256	527	1990	513	1266	14
Kul	3348	618	2194	601	1154	17
Kuu	12987	868	4143	782	8844	86
Köp	1817	350	1280	334	537	16
Käi	4185	623	2134	586	2051	37
Kär	1868	410	1182	396	686	14
Lai	6523	680	3170	650	3353	30
Lih	2131	470	1534	462	597	8
LNg	2695	511	1742	491	953	20
Lüg	11193	854	4169	784	7024	70
Mar	8859	841	4157	783	4702	58
Mih	3776	600	2174	582	1602	18
MMg	1825	377	1224	361	601	16
Muh	10356	874	4150	799	6206	75
Mus	3583	518	1626	484	1957	34
Mär	9050	839	4268	774	4782	65
Nis	2112	373	1305	362	807	11
Noa	959	216	651	215	308	1
Nõo	6840	789	2992	676	3848	113
Ote	4435	633	1828	542	2607	91
Pai	734	180	558	179	176	1
Pal	2749	541	1944	526	805	15
Pee	1550	309	1075	304	475	5
Pha	3526	526	1763	495	1763	31
Phl	4079	578	1986	540	2093	38
Pil	2310	389	1378	375	932	14
PJg	4549	603	2407	579	2142	24
Plt	9742	841	4427	775	5315	66
Plv	9220	815	3227	676	5993	139
Pst	2768	471	1410	429	1358	42
Puh	7184	825	3453	719	3731	106
Pär	1589	336	1112	325	477	11
Pöi	6813	734	3060	684	3753	50
Rak	1302	355	983	348	319	7
Ran	6556	761	2856	661	3700	100
Rap	1575	357	1136	346	439	11
Rei	7784	819	3770	759	4014	60

	All words		Frequent words		Infrequent words	
	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$	$w(P)$	$w(P \cap S)$
Rid	3715	620	2222	598	1493	22
Ris	7800	829	3995	770	3805	59
Rõn	2753	540	1461	468	1292	72
Rõu	10304	837	3248	688	7056	149
Räp	6815	761	2537	638	4278	123
Saa	3279	545	1792	497	1487	48
San	8056	840	3425	702	4631	138
Se	9343	814	2646	667	6697	147
Sim	4503	593	2413	573	2090	20
SJn	2526	432	1569	418	957	14
TMr	1702	451	1145	400	557	51
Tor	8188	839	4210	785	3978	54
Trm	9057	819	4243	768	4814	51
Trv	8774	857	3793	744	4981	113
Tõs	8882	843	4209	786	4673	57
Tür	2669	551	1910	537	759	14
Urv	5833	674	1992	559	3841	115
Vai	8797	830	3776	756	5021	74
Var	4594	583	2317	552	2277	31
Vas	8867	815	3008	678	5859	137
Vig	5329	688	2917	662	2412	26
Vil	2605	550	1726	525	879	25
VJg	8243	801	4125	763	4118	38
Vll	7178	806	3597	753	3581	53
VMr	3947	633	2504	620	1443	13
VNg	9584	827	3878	752	5706	75
Võn	3605	565	1660	478	1945	87
Vän	3252	604	2233	576	1019	28
Äks	2909	535	2002	524	907	11
Lei	3295	682	1433	559	1862	123
Lut	3792	587	1249	479	2543	108
Kra	756	316	474	269	282	47
Σ	584914	68614	273172	62940	311742	5674

Table 3 provides summary figures for different words in each of the three subsets.

Table 3

The overall commonality between Salaca Livonian and Estonian vocabulary

All words		Frequent words		Infrequent words	
ΣP	Salaca	ΣP	Salaca	ΣP	Salaca
73397	1262	4876	840	68521	422

Subsequently, a simple regression analysis was carried out, taking $x = w(P)$ and $y = w(P \cap S)$ for each subset, and the predicted values (statistical norms) for each y in each subset were calculated, depending on the visual shape of the regression fields of each subset. In the case of infrequent words,

the linear fitting was applied, in the other two cases where higher $w(P \cap S)$ -values were involved — the logarithmic ones were used. The obtained y -norms turned out to be as follows: (a) for the subset of all words, $\text{norm}(y) = -1601,422 + 612,762 \log_{10}(x)$; (b) for the subset of frequent words, $\text{norm}(y) = -1783,16 + 705,117 \log_{10}(x)$; (c) for the subset of infrequent words, $\text{norm}(y) = -10,722 + 0,014x$. Further, the residuals (i.e. differences between actual and predicted y -values) for all x, y -pairs in each subset of data were calculated. Figures 1a, 2a, and 3a show cartographic projections of the 'raw' residuals.

Finally, the fields of raw residuals were smoothed using the simple method of 'averaging of neighbours', where neighbours constitute first and foremost physically contiguous parishes or other geographic areas; however, there are also some 'overseas neighbours' (such as Muhu and Hanila, Muhu and Pöide, Karja and Emmaste, Kihnu and Tõstamaa, etc.), and some areas in south-eastern Estonia are linked with the linguistic islands, viz. Leivu and Hargla, Setu and Lutsi, Setu and Kraasna.

Area P_1 may have three neighbouring areas, $P_2, P_3,$ and P_4 . Area P_2 may have four neighbours, $P_1, P_3, P_5,$ and P_6 . Accordingly, the 'raw' residuals for these areas are $r_0(P_1), r_0(P_2), r_0(P_3), \dots,$ respectively. Then, in the first round of iteration, a new, smoothed r_1 -estimate is attributed to each area, that is, the average of r_0 -values of itself and its neighbours as, for example: $r_1(P_1) = (r_0(P_1) + r_0(P_2) + r_0(P_3) + r_0(P_4)) / 4$; $r_1(P_2) = (r_0(P_2) + r_0(P_1) + r_0(P_3) + r_0(P_5) + r_0(P_6)) / 5$, and so on. In each following round of iteration, the results of the previous smoothing iteration are used as initial data, for example: $r_2(P_1) = (r_1(P_1) + r_1(P_2) + r_1(P_3) + r_1(P_4)) / 4$, and a suitable number of recalculations will be made. To avoid excessive dulling of the relief of relationships, we confined ourselves to two rounds of smoothing. The cartographic projections of the final results (i.e. twice-smoothed residuals) are shown in Figures 1b, 2b, and 3b.

Despite the fact that only 1,262 Salaca Livonian equivalents have been identified for the total vocabulary of Estonian dialects (73,397 words, see Table 3), which amounts to 1.7 per cent, the majority of Salaca Livonian words — 840 items — have Estonian dialect words with a wide distribution as equivalents; dialect words that have been attested in less than 34 parishes show only 422 equivalents. At the same time, Estonian dialect vocabulary includes 6.6 per cent (4,876 words) of widespread words while 93.4 per cent (68,521 words) of words have been attested in less than 34 parishes. Among Salaca vocabulary words with a restricted distribution in the Estonian dialect area constitute only a third (422 words out of 1,262 or 33.4 per cent).

The calculations of the number of words shared by the Estonian dialects and Salaca Livonian show first and foremost a high degree of fluctuation in the raw data, that is, in unsmoothed data of individual subdialects with their neighbours. The fluctuations are especially remarkable in the calculations with total vocabulary and frequent words. It could be explained by the fact that in the case of the dialects with small data sets stereotypicality of the word collection becomes predominant. While a small collection consists of mostly common vocabulary that has more Salaca Livonian equivalents, it gives rise to a positive correlation with the corresponding dialects.

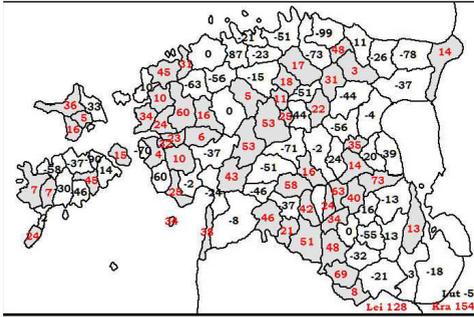


Figure 1a. All words: raw data.

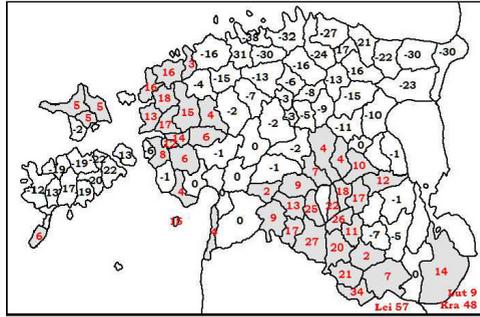


Figure 1b. All words: smoothed data.

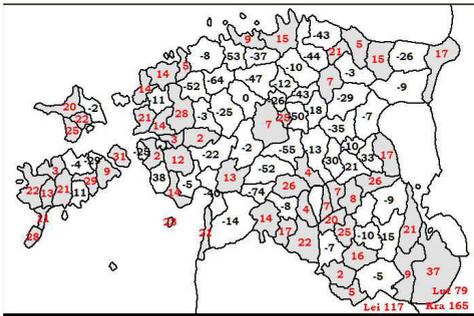


Figure 2a. Frequent words: raw data.

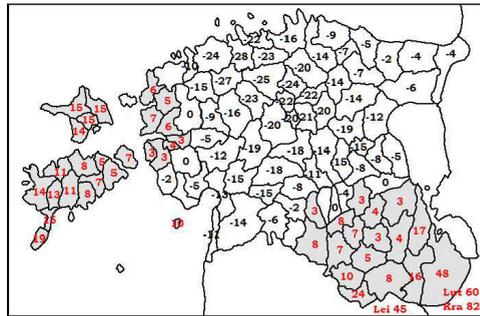


Figure 2b. Frequent words: smoothed data.

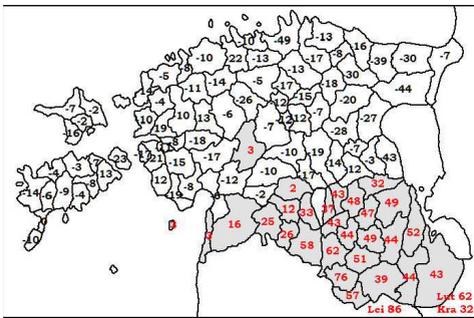


Figure 3a. Infrequent words: raw data.



Figure 3b. Infrequent words: smoothed data.

Analysis of equivalents with a more restricted distribution yields the most systematic result already in the raw data (see Figure 3a). There is a positive relation between the South-Estonian dialect area and the historical immediate contact dialects of Saarde, Häädemeste, and Kihnu, as well as with the only surprising exception Vändra, which is represented by a small collection and only 28 words of restricted distribution that are shared with Salaca Livonian. The positive correlation of Vändra disappears upon smoothing the data set with the scores of the neighbouring subdialects. It could well be that a higher degree of the stereotypicality of the data set may also explain the prominence of the subdialects of the northern part of the western dialect in those areas that bordered on the historical Estonian-Swedish areas (see Figures 1a, 1b). Smoothing the data with the scores of

the neighbouring dialects highlights larger compact areas in all the analyses, the vocabulary of which shows a positive correlation with Salaca Livonian and which call for further qualitative analysis.

3. Concerning the lexical relations between Salaca Livonian and South Estonian

In all the analyses the most positive correlation was the one between the vocabulary of Salaca Livonian and South-Estonian dialects. This outcome is strikingly different from the research findings of Eino Koponen (1990), which he reached by studying the size of the shared proportion of bases by Courland Livonian and North- and South-Estonian dialects. According to Koponen, Courland Livonian and North Estonian share 1,150 word bases, but Courland Livonian and South Estonian share 1,100 bases, whereas there are only 20 bases that are attested only in Courland Livonian and South Estonian. However, the present analysis shows that the relation of the vocabulary of Courland Livonian and Salaca Livonian to the Estonian dialects is different. It is true that Salaca Livonian shares the largest number of words with the subdialect of Kihelkonna in western Saaremaa (915 words, see Table 2). On the other hand, as the word collection of Kihelkonna is exceptionally large, the percentage of the shared proportion is low (out of 12,469 words $915 = 7.3$ per cent). Karksi, the central dialect of the western South Estonian or Mulgi, holds the second place in terms of the total number of Salaca Livonian equivalents (893 words out of 10,865 or 8.2 per cent), and Häädemeeste, the immediate historical contact area of Salaca Livonian comes third (880 words out of 9,727 or 9.0 per cent). However, these absolute figures do not show the big picture due to the fact that the size of the word collections of the subdialects are very different. Taking into account those subdialects that are represented by at least 3,000 words in the database, the southern South-Estonian subdialects rise to prominence with regard to the proportion of shared vocabulary. The shared proportion of the vocabulary of the Leivu linguistic enclave with Salaca Livonian amounts to 20.7 per cent (682 words out of 3,295), the corresponding percentage for the Lutsi linguistic enclave is 15.5 per cent (587 out of 3,792), Helme 13.3 per cent (749 out of 5,650). The correlation of Leivu with Salaca Livonian is the highest with regard to both the entire vocabulary and infrequent words. Considering the total vocabulary, Salaca Livonian shows a high positive correlation with the southern and western South-Estonian subdialects; in the case of the vocabulary with a more restricted distribution the eastern South-Estonian subdialects rise to prominence more evenly.

The vocabulary shared by South Estonian and Salaca Livonian includes a large number of words that can be found in Courland Livonian as well and are, thus, characteristic of Livonian as a whole, for example, the base words *hahk* 'grey', *hähn* 'woodpecker', *kikas* 'rooster', *kõiv* 'birch', *liin* 'hill fort; town' (Sal Kur *nīn*), *nakkama* 'to begin', *peesitama* 'to warm', *tõlv* 'club', *vähkrema* 'to toss and turn' (cf. Koponen 1990 : 38). Some of them have been attested only in western South Estonian or the Mulgi dialect, such as *osa* 'meat', *puduma* 'to fall', *päkk* 'mushroom', *taras* 'fence picket', *uisk* 'snake', *ürgama* 'to begin' (vocabulary shared by Mulgi and Livonian is discussed in Tanning 1958; Pajusalu 1996 : 56–64). On the other hand,

there is a small group of words shared with Livonian that occur only in the eastern South-Estonian subdialects, for example, *nõsema* 'to rise', *saarna* 'ash', *oona*(*kõnõ*) 'lamb', the words with an original *o* in the first syllable: *korgõ* 'high' (cf. Est. *kõrge*), *olg* 'straw' (Est. *õlg*), *opma* 'to learn' (Est. *õppima*); most of them are common in the Finnic languages.

In addition to those bases shared by Livonian and South Estonian that do not occur in North-Estonian dialects, there are also many specific words that are important from the perspective of language history, for example, words with the *ai*-diphthong, such as *hain* 'hay' (cf. Fin. *heinä*), *sain* 'wall' (Fin. *seinä*), *saivas* — Sal *taib* 'pole' (Fin. *seiväs*); in addition to the above-mentioned words that are common in South Estonian, the *ai*-diphthong occurs also in the Leivu *aim* 'household; tribe' (cf. Fin. *heimo*, Est. *hõim*) and *laib* 'bread', which has an equivalent only in Salaca Livonian.

Many words belonging to the common vocabulary shared by South Estonian and Salaca Livonian do not occur at all in Courland Livonian, or their phonetic shape is different in Courland Livonian. The respective South-Estonian words include *ahtike* 'narrow', *haivas* 'sneeze', *kirg* 'spark', *lagja* 'wide' (cf. Sal *ladja*, Kur *laiga*), *päidi* 'by (sth)', *peied* 'funeral', *puskma* 'to gore' (Sal *pusk*, Kur *pusklõ*), *raguda* 'to chop', *sõlgpuu* 'collar beam', *süütma* 'to scratch', *vang* 'river bend; riverside meadow', etc. Salaca Livonian shares with South Estonian several old phonetic developments that have resulted in similar words, for example, vocalization of a stop consonant in bases that originally contained the clusters **kl*, **kr*: *kaal* 'neck' (cf. Kur *ka'ggõl*), *kaar* 'oats' (cf. Kur *ka'ggõrz*), labialization of *v* word-finally, as in Sal and Har Hel San *saru* 'horn' (cf. Est. *sarv*), Sal *alu* 'bad' (cf. SE *halv*).

Apparently, the vocabulary shared by Salaca Livonian and South Estonian, which does not occur in Courland Livonian, dates back to different periods of history. The previously mentioned shared bases point to earlier contacts; however, such changes as the word-final *v* > *u* must be relatively recent, and they indicate that Salaca Livonian belongs to the same dialect area. Also, precise phonetic correspondences to Mulgi words point to more recent contacts, for example, *katik* 'broken', *kõrbuma* 'to burn', *seemel* 'seed', *vapsik* 'hornet', *välän* 'outside'. The total number of words shared by Salaca Livonian and Mulgi is remarkable. Also, common phonetic and morphological innovations suggest intense language contacts between these neighbouring areas during the second half of the second millennium.

From the perspective of the chronology of the historical contacts between Salaca Livonian and South Estonian it would be important to explain the strong correlation between Salaca Livonian and Leivu. These varieties were not spoken in the immediate vicinity at least after the Middle Ages. At first one notices that among the South-Estonian vocabulary with a wider distribution Leivu reveals many words that have equivalents both in Courland Livonian and Salaca Livonian. Previously, the word *aim* 'tribe' was mentioned; one can add such words as *arbuja* 'witch', *nakrma* 'to laugh', *urg* 'river'; Leivu has precise equivalents even to such grammatical words in Livonian as the prohibitive *ala* 'don't' and the preterite negational word *is* 'did not'. There are a number of frequent words in Leivu that show phonetic similarity to Salaca Livonian, cf. e.g. Sal *pagatum* 'to speak' and Lei *pa'atõm*, Sal and Lei *pirz* 'arse', *väi* 'crayfish'. It is likely that the inhabitants of the Leivu linguistic enclave may have been in contact down the

river Gauja with Gauja Livonians and their language at the beginning of the second millennium, which explains the presence of older shared words that are more widespread in Livonian. On the other hand, more restricted shared features with Salaca Livonian support the presence of rather recent contacts (cf. Viitso 2009 in this publication). Several explanations are possible — previously the area of Salaca Livonian may have extended much farther in the east as far as the Leivu area, or some Salaca Livonians may have relocated in Leivu areas, and later they merged into the South-Estonian majority.

4. Concerning lexical relations between Salaca Livonian and the western dialect

The last speakers of Salaca Livonian lived on the coast of the Gulf of Riga in northern Latvia or in its vicinity (see Pajusalu 2007; Sutrop, Pajusalu 2009). The Estonian-language area in the southern part of Häädemeeste and Saarde parish started immediately to the north of the settlement area of Salaca Livonians. Häädemeeste and Salaca Livonian share a relatively large number of words (880). Taking into account the entire vocabulary, raw data reveal a strong positive correlation (+38); however, it disappears upon smoothing because of the negative correlations of neighbouring subdialects. In respect to the vocabulary with restricted distribution the correlation with Häädemeeste remains rather weak, as is the case with the western Estonian dialects on the whole. However, the Saarde subdialect, which is in close contact with the western dialect of South Estonian, behaves somewhat differently from Häädemeeste. Taking into account the total vocabulary, Saarde reveals a negative correlation with Salaca Livonian; however, as regards infrequent vocabulary, it is positive. Apart from Häädemeeste and Saarde, there is a remarkable correlation between the vocabulary of the island of Kihnu and Salaca Livonian. Similarly to Häädemeeste, it is clearly positive with regard to the entire vocabulary and frequent words but remains also weak in the case of words with a restricted distribution.

Generally, the subdialects of the western dialect of North Estonian stand out by considerable fluctuations in raw data; after smoothing more positive correlations become apparent in the case of total vocabulary and frequent words while a weak correlation is revealed in the case of words with a restricted distribution. This finding is surprising considering the fact that the western dialect and Livonian share a large number of morphological and phonetic features, the majority of which is attested also in Courland Livonian. For example, several pronominal forms are historically identical, e.g. *W mede* 'we', *tede* 'you (pl)' (see the distribution map in Viitso 2008 : 94), *tend* 'him; her' (see the distribution in Sutrop, Pajusalu 2009 : Figure 3); there are striking similarities in the vocabulary related to terrain and nature, for example, *W rava* 'rocky place in water', *urgad* 'watery places', *juugane* 'muddy (water)' (cf. Sal *juug* 'sand', *juugi* 'sandy'), *kärmes* 'fly', *mõtus* 'capercaillie' (cf. Sal *mütiks*). The last word is significant also in regard to its spread. In both South Estonian and Livonian it is associated with the back-vowel word *mõts* 'forest' (Sal *mütsa*, where *ü* denotes a high central vowel), however, it occurs with a back vowel also in the western

subdialects where the word *mets* 'forest' has a front vowel. The word *mõts* has been attested also in the area of the western dialect in Varbla; it is possible that the word may once have been common in the western dialect, which is proved by several place names. Apparently, the western dialect that remains between other dialect areas has changed more as a result of various dialect contacts than the so-called peripheral dialects.

Salaca Livonian is characterized by several derivational and phonetic developments that are typical first and foremost of the vocabulary of the western Estonian dialects, as evidenced in *u*-suffixed verbs *kuduma* 'to spawn' (Sal *kudub* 'spawns'), *laguma* 'to fall apart' (Sal *lagu*-), *liguma* 'to soak' (Sal *ligub* 'soaks'), loss of *v* and vocalization that were discussed in the context of the western dialects of South Estonian, but also in the fronting of *a* after *j*-, for example, *a* > *ä* in the words Sal, W *jägu* 'part', Sal *jägg*- 'to divide', etc. The Häädemeeste subdialect has a noticeable group of words shared with Salaca Livonian, which could represent loans from Livonian, for example, *amatsi* 'in all respects', *järk* 'thick', *kõsa* 'anger; angry' (cf. Sal *küza*), *kööri(ta)ma* 'disapprove by a squinty look' (Sal *küür*-), *laaksima* 'to disbranch', *paal* 'ribbon', etc.

5. Concerning the lexical relations between Salaca Livonian and the insular dialect

Courland Livonian reveals especially close contacts with the insular dialect (see Ари́стэ́ 1954). Apparently, it is one of the reasons why Courland Livonian shows greater affinity with North Estonian than with South Estonian, as Koponen claimed in 1990. The material of Salaca Livonian shows much weaker correlations with the insular dialect. Only the subdialect of the island of Kihnu holds a special position because of its geographical proximity to Salaca Livonian, which was discussed in connection with the western dialect. As far as the total vocabulary is concerned, the Jämaja subdialect on the Sörve peninsula and the Hiiumaa subdialect show a stronger correlation with Salaca Livonian. In the case of Jämaja it can be explained by direct contacts with Courland Livonian; however, in the case of Hiiumaa it is probably caused by commonality due to the so-called western stereotypicality of the database.

At the same time it is noticeable that in Hiiumaa, which was settled later, some words are surprisingly similar to Salaca Livonian and differ from its neighbouring subdialects, for example, *kaal* 'neck' and *kaar* 'oats', *paal* 'ribbon', but also such a Livonian-like word as *koudi* 'by way of (sth)' (cf. Sal *kouti*). Can it be explained by similar contacts with the historical Swedish dialects and presumably these contacts would explain the similar phonetic developments or circumstances of settlement history; all this calls for further study.

In the case of vocabulary with restricted distribution the insular dialect with the exception of Kihnu does not show any positive correlation with Salaca Livonian. Also, when taking into account the total vocabulary, the correlation remains rather uncertain. However, when taking into account only the vocabulary that is widespread in the Estonian dialects, the entire area of the insular dialect and its neighbouring subdialect on mainland West Estonia show a clearly positive correlation. It could be explained by

two types of vocabulary — first, the words that occur in North-Estonian dialects and also in the insular dialect, and, second, the lexical layer that is shared by Livonian and the southern Estonian dialects from South Estonia to Saaremaa. The latter group of words comprises, e.g. *kand* 'stump', *kuna* 'when', *kura* 'left', *laguma* 'to fall apart', *lauge* 'even; quiet' (cf. Sal *loug* 'even, slow'), *ling* 'sling', *lävi* ~ *läve* ~ *läbi* ~ *lääb* 'threshold' (cf. Sal *läb* 'opening; window'), *mõtus* 'capercaillie', *nänn* 'nipple', *peel* 'mast boom', *peni* 'dog', *setu* 'a little; little', *suitsed* 'bit' (Sal *suiksud*), *sõsar* 'sister', *tutka* 'end', *vahe* ~ *vaib* 'sharp', *vähi* 'crayfish', *hällima* 'to swing', etc. On the one hand, this group includes widespread Finnic words, for which the northern Estonian dialects have adopted other words; on the other hand, there are words that are characteristic only of the southernmost Finnic dialects.

The insular dialect and Salaca Livonian share, however, a few words with restricted occurrence, e.g. *abu* 'shoulder blade', *kõsa* 'anger' (also Hää), *lakk* 'cap' (Sal *latt*), *lõunak* 'south; midday meal' (but also Hel Lei *lõunag*), *oiguma* 'to swim', *säädsas* 'nice; proper', *vikart* 'scythe'; most of these words occur also in Courland Livonian, and they are more common in western Saaremaa, which was in close contact with Courland Livonian. Consequently, there is no reason to assume any direct contact between Salaca Livonian and the insular dialect.

6. Conclusions

Comparison of Salaca Livonian vocabulary with the data of Estonian dialects shows close contacts between Salaca Livonian and the southern and western dialects of South Estonian. There are strong correlations both in the case of infrequent and frequent vocabulary, which indicates contacts throughout different historical periods. At this the correlation between the vocabulary of Salaca Livonian and Leivu rose to prominence; it points to special contacts between this westernmost South-Estonian linguistic enclave and Livonian.

In addition to the South-Estonian dialects, Salaca Livonian reveals a positive correlation with the western and insular dialects of North Estonian. However, the general correlation between the vocabulary of the western dialect and Salaca Livonian remained weak, especially in the case of the vocabulary with restricted distribution. One can highlight to some extent the close areas Häädemeeste and Kihnu and in the case of total vocabulary and frequent words also the westernmost subdialects that are spoken in the neighbourhood of the insular dialect. The lexical affinity between Salaca Livonian and the insular dialect is greater than average only in the case of frequent vocabulary. A positive correlation, on the one hand, between the stereotypical vocabulary of Salaca Livonian and South Estonian, and, on the other hand, between Salaca Livonian and the insular dialect shows that Salaca Livonian belongs lexically both to the southern and western Finnic areas.

Lexically Salaca Livonian is clearly a dialect of Livonian. Its lexical affinity with Courland Livonian is much greater than with any Estonian dialect, where it reaches a maximum of 21 per cent in the case of Leivu. If one tries to answer the questions about the development and interrela-

tionship between Courland and Salaca Livonian raised by Eino Koponen in his 1990 article, then the present research findings enable us to claim that Salaca and Courland Livonian developed from a single ancient tribal language. However, none of them as they are known to us represents a conservative successor of this ancient language. Both main varieties of Livonian were influenced for longtime dialect contacts with the Estonian neighbouring languages, whereas the contacts of Salaca Livonian with the South-Estonian dialects were significantly closer than those of Courland Livonian.

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Abbreviations

Est. — Estonian; **Fin.** — Finnish; **Kur** — Courland Livonian; **Sal** — Salaca Livonian; **SE** — South Estonian; **W** — western Estonian dialects.

REFERENCES

- Koponen, E. 1990. Viron ja liivin yhteissanaston tarkastelua. — Itämerensuomalaiset kielikontaktit. Läänemereseome keelekontaktid, Helsinki (Kotimaisten kielten tutkimuskeskuksen julkaisuja 61), 35–39.
- Krikmann, A., Pajusalu, K. 2000. Kus on keskmurde keskpunkt. — Inter dialectos nominaque. Pühendusteos Mari Mustale 11. novembril 2000, Tallinn (Eesti Keele Instituudi toimetised 7), 131–172.
- Pajusalu, K. 1996. Multiple Linguistic Contacts in South Estonian. Variation of Verb Inflection in Karksi, Turku (Turun yliopiston suomalaisen ja yleisen kielitieteen laitoksen julkaisuja 54).
- 2007. Kuidas äratada keelt: salatsiliivi väljavaateid. — Merkityksen ongelmasta vähemmistökielten oikeuksiin. Juhlakirja professori Helena Sulkalan 60-vuotispäivänä, Oulu (Acta Universitas Ouluensis, Humaniora B 79), 211–227.
- Sutrop, U., Pajusalu, K. 2009. Lexical Relations between Salaca Livonian and Estonian Dialects. — LU XLV, 253–268.
- Tanning, S. 1958. Mulgi murde ja liivi keele suhetest. — KKIU II, Tallinn, 105–117.
- Viitsi, T.-R. 1990. Komenttipuheenvuoro Eino Koposen esitelmään Viron ja liivin yhteissanaston tarkastelua. — Itämerensuomalaiset kielikontaktit. Läänemereseome keelekontaktid, Helsinki (Kotimaisten kielten tutkimuskeskuksen julkaisuja 61), 40–43.
- 2008. Liivi keel ja läänemereseome keelemaastikud, Tartu–Tallinn.
- 2009. Liivi and Leivu: Shared Innovations and Problems. — LU XLV, 269–282.
- Väike murdesõnastik I–II, Tallinn 1982–1989.
- Winkler, E. 2002. Laensõnakihid Salatsi liivi keeles ja mis sellest järeldub. — Väikeisi kiili kokkoputmisõq. Väikeste keelte kontaktid, Võro (Võro Instituudi Toimõndusõq 14), 61–69.

Winkler, E., Pajusalu, K. 2009, *Salis-livisches Wörterbuch*, Tallinn (Linguistica Uralica. Supplementary Series. Volume 3).

А р и с т э, П. 1954, К вопросу о развитии ливского языка. — Труды Института языкознания АН СССР IV, Москва, 254—307.

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ЛЕКСИЧЕСКИЕ СВЯЗИ МЕЖДУ САЛАЦКИМ ЛИВСКИМ ДИАЛЕКТОМ И ЭСТОНСКИМИ ДИАЛЕКТАМИ

В основу данной работы положен словарь салацкого диалекта ливского языка, составленный Эберхардом Винклером и Карлом Паюсалу (Winkler, Pajusalu 2009), в котором собрана лексика всех источников на салацком диалекте. На салацком диалекте, одной из основных форм ливского языка наряду с курляндским диалектом, говорили до середины XIX века в Северной Латвии в бассейне реки Салаца. Этот ареал непосредственно соприкасался с ареалом распространения говоров Хяэдемеесте и Саарде южной группы западного диалекта североэстонского языка, а также с западными говорами южноэстонского языка. В исследовании рассматриваются салацкие лексические связи как с контактирующими диалектами, так и с эстонским диалектным ареалом вообще. Делается попытка выяснить, что может сказать общая лексика салацкого диалекта и эстонских диалектов о формировании ливского языка. Для установления прочности лексических связей использовался диалектометрический метод: прежде всего прочность связей определялись для общей лексики в целом, затем для менее распространенной и для часто употребляемой общей лексики. Полученные цифровые данные использованы для диахронического анализа лексических отношений ливского салацкого диалекта и эстонских диалектов. В части общей лексики в целом наиболее прочными представляются связи между салацким и самыми южными диалектами южноэстонского языка. Обращают на себя внимание и его связи с западными южноэстонскими и западноэстонскими говорами. Анализ более редкой лексики подчеркивает связи ливского салацкого диалекта с южноэстонскими диалектами. Относительно часто употребляемой лексики позитивный результат выявлен по связям с островным диалектом эстонского языка. Все три анализа показали особенно тесную связь между салацким диалектом ливского языка и южноэстонским языковым островком Лейву.