THE CATEGORIZATION OF THE ESTONIAN DOMAIN OF "MUSICAL INSTRUMENTS" – LISTENERS VS MUSICIANS AND THE COMPARISON OF BASIC LEVELS

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Abstract. The article examines the prototypicality phenomena in the Estonian language's lexical-semantic domain of "musical instruments". There are two groups of people under examination: (i) those who consider themselves actively involved in music (practitioners), and (ii) those who don't (listeners). To elicit basic terms, a cognitive salience index is used. The results show that the main common feature between the groups is that the basic level consists of the same members: *klaver* 'piano', *kitarr* 'guitar' and *viiul* 'violin'. While *klaver* and *viiul* are stable in their nature, the salience of *kitarr* varies greatly, as listeners put it in the leading position and practitioners nearly leave it out of the basic level. Generally, the two groups share the same category structure, as based on cognitive salience index values both have: (i) three basic terms, (ii) a connecting group, and (iii) the rest of the category members with their index values decreasing toward zero.

Keywords: basic level, basic term, prototypicality, anthropological linguistics, musical instruments, cognitive salience, Estonian

1. Introduction

A wide scale of phenomena and objects have been studied from the perspective of prototypicality. For example the terms for sense perception and colours from the more abstract side (Sutrop 2002, and Berlin and Kay 1969) and the prototypicality of birds (Rosch 1975) representing the more concrete or material side. Musical instruments, a class of objects with high cultural significance, reside on the latter end. Like any other category, the category of musical instruments has its inner structure, salience and distinct members. Working under the relativist assumption

that a culture and language system are mutually bound, we can expect to see different structures of that domain emerging when comparing different groups. In this case, the subjects are divided on the basis of musical activity: whether a person considers himself to be merely a listener or a practitioner.

This article demonstrates a lexical prototypicality phenomenon among the speakers of Estonian when it comes to terms denoting musical instruments. This occurs through free listening and by eliciting basic level terms and the most prototypical members of the domain by calculating scaled salience. The analysis took place on two levels: firstly, by taking all the answers from all the subjects into account and, secondly, by associating the most salient or prototypical members with subjects' backgrounds in musical activity. This makes it possible to see the big picture of how Estonian speakers in general perceive musical instruments and, furthermore, there is the opportunity to evaluate the same notion separately among the subculture of musicians versus "ordinary people" in terms of similarities and differences.

2. Background

"Basic word and vocabulary" is a linguistic concept lacking a clear-cut definition or a unifying theory. One of the most common approaches is to define the notion through frequency. In this perspective, there are about 100 grammatical and lexical units that make up 50% of the lexicon of some simple texts. This means, in plain words, that a small lexicon is sufficient to meet a large area of needs. That approach can be used to view a language as a whole, but it applies to separate semantic domains as well, presenting the basic words of a particular subject field, and thus viewing it through the prism of the basic vocabulary of a language (Sutrop 2000: 118, and Sutrop 2002: 31).

The prototype theory and the basic level category concept were formulated by Eleanor Rosch and her colleagues in the early 1970s. She showed that basic objects should be at level of abstraction at which it is generally most useful to refer to objects In this study, I use the same methods as Urmas Sutrop (2002) used to study Estonian colour and sense perception terms. Therefore, as a starting point, I use his definition of "basic term" that derives from Berlin and Kay (1969) criteria for defining basic colour terms, the critique to the basic term concept made by Anthony Moss and T. D. Crawford, and the earlier attempts to define the basic term by Eleanor Rosch, John R. Taylor, David R. Andrews, and Frans Plank (see Sutrop 2002: 31 ff.).

"A basic term is a psychologically salient, in most cases morphologically simple and native word, which belongs to the same word class and has the same grammatical potential as the prototypical member(s) of its semantic field. It is a term which generally denotes an object, a quality, or a phenomenon at a basic level, and which is applicable in all relevant domains" (Sutrop 2000: 127). This definition can be applied to the concrete semantic fields under observation. For example, the definition of a basic colour term is as follows:

"A basic colour term is a psychologically salient, in most cases morphologically simple and native word, which belongs to the same word class and has the same grammatical potential as the prototypical colour term(s). That term denotes a quality of colour at the basic level and is applicable in all relevant domains" (Sutrop 2002: 40).

Mari Uusküla, in her study of basic color terms of Finno-Ugric and Slavonic languages (2008: 29), finds the above definition better than the classical Berlin and Kay (1969: 6-7) criteria list for differentiating basic from non-basic color terms, as it emphasises the importance of psychological salience.

To apply this set of principles to my data, I tweaked it a little to suit the needs and the context. Color terms are a natural category describing all kinds of color-related aspects of the world; musical instruments, on the other hand, are not and cannot be "applicable in all relevant domains" in the same sense. In addition, as musical ideas, instruments and the words denoting them tend to be quite a universal phenomenon and are easily borrowed and domesticated in different cultures, it is less common for the basic terms to be native words. We will examine this in subsequent sections.

3. Method

The empirical data was collected by conducting structured interviews. As the nature of the study called for maximum spontaneousness, the subjects didn't have any prior knowledge of the subject matter. In the list task, subjects were asked to name as many musical instruments as they knew. As a result, the data was:

- (i) a list of lexical units denoting musical instruments in a very wide interpretation of the term¹;
- (ii) of ordinal nature: every lexeme had a positional value in a list.

Another important aspect is that subjects had to define themselves either as merely a listener or as someone who was actively involved in music, such as musicians, choir singers etc.

- **listeners** vs **practitioners**, respectively. This emic-natured opposition added another dimension to the analysis, hence allowing us to see the correlation between such a division and the category structures.

The method for eliciting the inner structure and salience of the domain involved processing the data with Urmas Sutrop's (2001: 266) cognitive salience index: $S = F / (N \times mP)$. The index takes into account the frequency (F) with which a term was named in the list task, the term's mean position in the list (mP), and the total number of subjects (N).

¹ It should be noted that the answers might not be "lexical units" in a strict sense, as the given answers might even go beyond the boundaries of a phrase and be as long as a narrative sentence.

4. Results and discussion

The fieldwork was conducted in Estonia, from autumn 2005 to spring 2006, in Estonia's two biggest towns: Tallinn and Tartu. In the subjects' group there were 53 subjects, 25 men and 28 women, with an average age of 32 years, all native speakers of Estonian. The average length of the list was 17 terms – the shortest having 9 terms and the longest 29.

In the following three sections, I will show three different kinds of results – firstly those that take into account the data all together; in Section 4.2 and 4.3, the general data is split between listeners and practitioners, respectively. Twenty-eight subjects considered themselves to be merely listeners and 25 to be actively involved in music.

4.1 General results

Table 1 shows the entire category of musical instruments, which takes into account the data from the whole group of subjects.

As Stephen Borgatti and Urmas Sutrop note, drawing any borders around a category is an arbitrary activity. I followed their guidelines in pinning down category membership: all terms for musical instruments with a frequency of three or less were automatically removed. Those I considered to be "in passive use or /.../ used only in some idiolects" or just denoting instruments that are quite rare (Borgatti 1998: 5–6, and Sutrop 2001: 265).

The table is sorted by cognitive salience index values and divided into a few more or less distinct groups according to these values. In a broad view, all the instruments in Table 1 belong to the category of musical instruments. However, we can distinguish some smaller groupings:

(i) **Basic terms**. The most important members to emerge at the top of the list are *klaver* 'piano', *kitarr* 'guitar' and *viiul* 'violin' – distinctively higher cognitive salience index values make the members of this group the basic terms. As noted

above, it is hard to demand nativeness from words belonging to a category with such vast borrowings. These words are not native words in Estonian.

- (ii) the **second group** does not belong to the basic level but still has relatively high cognitive salience index values and is of a transitional nature. As the values drop even more rapidly after "double bass" and a natural break, mentioned by Bogatti (1999: 6), appears, I draw the line there.
- (iii) **The rest of the category members** are items that belong to the category but lack the higher salience. They do meet one criteria that Urmas Sutrop mentions (2001: 265): when dealing with bigger groups of subjects (50...80), it is advisable to include only members that are mentioned by at least four subjects, thus deleting the low-frequency terms.

Table 1. Category of musical instruments (general data).

Group	Instrument	Frequency	Mean	Cognitive
			position	salience
		(F)	(mP)	index (S)
Dagia	klaver 'piano'	45	3.8	0.223
Basic	kitarr 'guitar'	43	4.3	0.191
terms	viiul 'violin'	45	5.1	0.168
	tšello 'cello'	33	8.5	0.073
2nd	orel 'organ'	27	7.3	0.070
group	<i>flööt</i> 'flute'	31	8.4	0.070
	kontrabass 'double bass'	33	9.5	0.066
ers	trompet 'trumpet'	26	9.4	0.052
y membe	klarnet 'clarinet'	30	10.9	0.052
	akordion 'accordion'	22	8.0	0.052
	trumm 'drum'	21	7.9	0.050
[0g;	saksofon 'saxophone'	29	11.0	0.050
sate	tuuba 'tuba'	26	10.4	0.047
he o	trummid 'drums'	22	9.2	0.045
The rest of the category members	tromboon 'trombone'	20	9.5	0.040
	kannel 'kantela'	15	7.3	0.039
	oboe 'oboe'	20	10.2	0.037
	harf 'harp'	19	9.9	0.036

Group	Instrument	Frequency (F)	Mean position (mP)	Cognitive salience index (S)
	suupill 'harmonica'	19	10.2	0.035
	vioola 'viola'	16	10.3	0.029
	metsasarv 'French horn'	16	11.4	0.026
	mandoliin 'mandolin'	14	11.4	0.023
	ksülofon 'xylophone'	14	13.2	0.020
	triangel 'triangle'	13	12.5	0.020
	klavessiin 'harpsichord'	13	13.1	0.019
	plokkflööt 'block flute'	12	12.2	0.019
	tamburiin 'tambourine'	12	12.2	0.019
κ	pasun 'horn'	9	9.4	0.018
The rest of the category members	fagott 'bassoon'	9	9.7	0.018
em	parmupill 'jew's harp'	11	13.3	0.016
y m	süntesaator 'synthesizer'	9	11.6	0.015
jor.	džembe 'djembe'	8	10.9	0.014
ateg	basskitarr 'bass guitar'	6	8.3	0.014
20 e	lauto 'lute'	4	5.8	0.013
th	bändžo 'banjo'	8	13.4	0.011
t of	bass 'bass'	4	7.5	0.010
res	timpan 'timpani'	7	13.9	0.010
he	vilepill 'whistle'	4	9.0	0.008
L	bongod 'bongos'	8	19.5	0.008
	torupill 'bagpipe'	5	12.2	0.008
	balalaika 'balalaika'	5	12.6	0.007
	kastanjetid 'castanets'	5	13.6	0.007
	lõõtspill 'concertina'	5	13.6	0.007
	kammipill 'comb-instru-			
	ment'	4	11.5	0.007
	taldrikud 'plates'	4	13.0	0.006
	tenorsaksofon 'tenor-			
	saxophone'	4	13.8	0.005

4.2 Listeners

The general data was then split between listeners and practitioners, and Table 2 shows the results of the former group. The members of the most prototypical group, the basic terms, stay the same, although the inner arrangement is different. In the case of the groups that have been split, there is a difference in drawing a line of category membership, as there are fewer subjects than in the general data: as Sutrop (2001: 265) notes, the rule of thumb is (if the number of subjects is small and twenty apparently is) to include all the members that are mentioned at least by two subjects ($F \ge 2$). In Table 2, *kitarr* 'guitar' is the most salient member of the category, having a very high cognitive salience index value. It is also notable that nearly every listener (26 out of 28) has *kitarr* 'guitar' in his/her list. The listeners' category of musical instruments has 47 members and the average list has 15 members.

Table 2. Listeners' category of musical instruments.

Group	Instrument	Frequency (F)	Mean position (mP)	CSI (S)
Dania	kitarr 'guitar'	26	3.5	0.265
Basic	klaver 'piano'	25	4.0	0.223
terms	viiul 'violin'	23	4.7	0.177
2nd	flööt 'flute'	17	5.9	0.102
group	trumm 'drum'	13	5.6	0.083
	tšello 'cello'	16	8.6	0.067
īry	trummid 'drums'	14	8.1	0.062
ego	orel 'organ'	13	7.6	0.061
cat	klarnet 'clarinet'	15	8.9	0.060
he	kontrabass 'double bass'	13	8.7	0.053
The rest of the category members	akordion 'accordion'	13	9.1	0.051
	suupill 'harmonica'	12	8.7	0.049
	saksofon 'saxophone'	12	8.9	0.048
	trompet 'trumpet'	11	8.2	0.048
	kannel 'kantela'	9	7.2	0.045

Group	Instrument	Frequency (F)	Mean position (mP)	CSI (S)
	pasun 'horn'	7	7.3	0.034
	tuuba 'tuba'	10	10.6	0.034
	tromboon 'trombone'	7	7.4	0.034
	harf 'harp'	7	8.9	0.028
	oboe 'oboe'	8	10.4	0.028
	triangel 'triangle'	8	10.4	0.028
	tamburiin 'tambourine'	7	9.4	0.027
	mandoliin 'mandolin'	7	9.7	0.026
	ksülofon 'xylophone'	6	9.3	0.023
S	süntesaator 'synthesizer'	7	11.6	0.022
The rest of the category members	metsasarv 'French horn'	7	11.9	0.021
lem_	plokkflööt 'block flute'	5	9.4	0.019
y m	klavessiin 'harpsichord'	7	13.3	0.019
gor	parmupill 'jew's harp'	7	15.4	0.016
ateg	vilepill 'whistle'	4	9.0	0.016
ပိ	balalaika 'balalaika'	5	12.6	0.014
f th	džembe 'djembe'	4	10.3	0.014
it oi	elektrikitarr 'electric			
res	guitar'	2	5.5	0.013
he	vioola 'viola'	4	13.3	0.011
	torupill 'bagpipe'	3	10.3	0.010
	taldrikud 'plates'	3	10.7	0.010
	kastanjetid 'castanets'	2	9.5	0.008
	pasunad 'horns'	2	9.5	0.008
	timpan 'timpani'	3	14.7	0.007
	paaniflööt 'pan flute'	2	12.0	0.006
	basskitarrid 'bass guitars'	2	13.5	0.005
	fagott 'bassoon'	2	14.5	0.005
	gong 'gong'	2	14.5	0.005
	bändžo 'banjo'	2	17.0	0.004
	bongod 'bongos'	2	18.5	0.004
	karmoška 'garmoshka'	2	21.5	0.003
	lõõtspill 'concertina'	2	21.5	0.003

4.3 Practitioners

Table 3 shows the results from the subjects who are actively involved in music. Again, we can see the same trio of basic terms with notably higher cognitive salience index values. The inner arrangement has again changed: *klaver* 'piano' has taken the leading position and *kitarr*'s 'guitar' position in the practitioners' group is much weaker. Also there is the transitional group as a link between the basic level terms and the rest of the category. The practitioners' category of musical instruments has as many as 61 members, with an average list length of 20.

Table 3. Practitioners' category of musical instruments.

Group	Instrument	Frequency (F)	Mean position (mP)	CSI (S)
Basic	klaver 'piano'	20	3.6	0.225
terms	viiul 'violin'	22	5.5	0.160
terms	kitarr 'guitar'	17	5.4	0.126
2nd	orel 'organ'	14	6.9	0.081
	kontrabass 'double bass'	20	10.0	0.080
group	tšello 'cello'	17	8.5	0.080
	tuuba 'tuba'	16	10.3	0.062
	trompet 'trumpet'	15	10.3	0.058
ers	akordion 'accordion'	9	6.6	0.055
l qu	saksofon 'saxophone'	17	12.4	0.055
l la	vioola 'viola'	12	9.3	0.051
ry	<i>flööt</i> 'flute'	14	11.3	0.050
oge	tromboon 'trombone'	13	10.6	0.049
cate	oboe 'oboe'	12	10.0	0.048
he	klarnet 'clarinet'	15	12.9	0.046
of t	harf 'harp'	12	10.5	0.046
sst	fagott 'bassoon'	7	8.3	0.034
The rest of the category members	metsasarv 'French horn'	9	11.1	0.032
	kannel 'kantela'	6	7.5	0.032
	trummid 'drums'	8	11.3	0.028
	trumm 'drum'	8	11.5	0.028

Group	Instrument	Frequency (F)	Mean position (mP)	CSI (S)
	torupill 'bagpipe'	2	15.0	0.005
ers	hiiu kannel 'Hiiu kantela'	2	15.5	0.005
l dii	pasun 'horn'	2	17.0	0.005
me	guiro 'guiro'	2	17.5	0.005
ľy	kongad 'congas'	2	17.5	0.005
The rest of the category members	kornet 'cornet'	2	17.5	0.005
	sopransaksofon 'soprano- saxophone' muusiku hääl 'musician's	2	19.0	0.004
	voice'	2	19.5	0.004
	altsaksofon 'alto-saxo-			
	phone'	2	20.5	0.004
	slaidkitarr 'slide-guitar'	2	27.0	0.003

4.4 Comparing basic levels – the traveling nature of *kitarr* 'guitar'

When we split the group in two, an interesting phenomenon appears. While the top three terms (*klaver* 'piano', *kitarr* 'guitar' and *viiul* 'violin') remains the same, the inner order goes through interesting changes. The cognitive salience index values remain relatively the same for *violin* and *piano*, but the index value for *guitar* starts to vary.

As we can see in Table 4, the position of *kitarr* 'guitar' is the most unstable among the basic terms, with the index value varying greatly: listeners emphasize *kitarr* 'guitar' over everything else, with an exceptionally high CSI value of 0.265, while in the practitioners' group it has a low value (0.126), nearly dropping out of the basic level. The other members are curiously stable: neither *klaver* 'piano' nor *viiul* 'violin' varies much in CSI values and they don't change position in respect to each other, i.e. the order remains the same.

Position	General CSI	Listeners' CSI	Practitioners' CSI
POSITION	value	value	value
	klaver 'piano'	kitarr 'guitar'	klaver 'piano'
I	(0.223)	(0.265)	(0.225)
	kitarr 'guitar'	klaver 'piano'	viiul 'violin'
II	(0.191)	(0.223)	(0.160)
	viiul 'violin'	viiul 'violin'	kitarr 'guitar'
III	(0.168)	(0.177)	(0.126)

Table 4. Comparison of basic levels², CSI – cognitive salience index

4.5 The transitional group in the category

As mentioned in Sections 4.1-4.3, the second group between the basic level terms and the rest of the category is a transitional area that I have chosen to leave out of the basic level. At the same time, one could argue that these members also have the right to be categorized in the basic level.

The decision to include these members is based on a desire for clarity. What I wish to show is the most prototypical basic level: we can say without hesitation that the top three members that occur in the table above are basic terms of the category. When saying *most prototypical* I am referring to Urmas Sutrop (2001: 267), who points out that "sometimes the discrimination must also be made between more and less basic terms" These second group members can be interpreted as simply being less basic, but at the moment I leave out such a fuzzy notion, as it would require further research.

When comparing listeners and practitioners, the constituents of the second group have no membership overlap and, when moving further to the other members, there are also few resemblances between the two groups. Of course, a certain number of members are roughly divided between the same positions, but there are no perceivable regularities.

² The respective cognitive salience index values are given in parentheses next to the terms.

6. Conclusion

Backed up by the cognitive salience index as an indicator of category membership and prototypicality, I have shown the structure and the members of the Estonian category "musical instruments". Also, I have shown the similarities and differences while dividing the subjects' group between listeners and practitioners: the former do not consider themselves actively involved in music, while the latter do.

Both the listeners and the practitioners share the same category model: there are three basic terms – *klaver* 'piano', *kitarr* 'guitar' and *viiul* 'violin' – followed by a second group, which is a connector between the basic terms and ordinary category members and has just a few members with relatively high cognitive salience index values, and these are followed, in turn, by the rest of the members with lower salience.

The two groups share the constituents of the basic level but the inner relations vary greatly. Listeners put *kitarr* 'guitar' above the others, while in the practitioners' group it almost slips out of the basic level. The other two basic terms are very stable and do not vary much in their index values.

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Kokkuvõte. Martin Eessalu: 'Muusikariistade' domeeni põhisõnavara eesti keeles – kuulajate ja tegelejate põhitasandite võrdlus. Artikkel võtab kokku peamised prototüüpsusnähtused eesti keele 'muusikariistade' domeenis. Vaatluse all on kaks katsealuste gruppi: (i) need, kes loevad end aktiivselt muusikaga seotuks (tegelejad), (ii) need, kes ei loe (kuulajad). Põhitasandi välja selgitamiseks kasutatakse kognitiivse esiletuleku indeksit (KEI). Tulemused näitavad, et kahe grupi põhitasand koosneb samadest liikmetest – *klaver*, *kitarr*, *viiul* –, kuid tasandisisene liigendus on erinev. Samal ajal kui *klaver* ja *viiul* on omavahelise paigutuse ja indeksi väärtuste poolest stabiilse iseloomuga, on *kitarri* kognitiivne esilduvus väga varieeruv: kuulajatel tugeval juhtpositsioonil, tegelejatel aga väikese indeksi väärtuse tõttu pea põhitasandilt väljas. Üldiselt on kahel grupil indeksi alusel moodustunud kategooriate struktuur sama: (i) on kolm põhisõna, (ii) sellele järgnev üleminekugrupp, (iii) ülejäänud kategooria liikmed.

Märksõnad: põhitasand, põhisõna, prototüüpsus, antropoloogiline lingvistika, muusikariistad, kognitiivne esilduvus, eesti keel