

Estonian Middle Semantics with Evidence from Discourse

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1. Introduction

The purpose of this paper is two-fold. The argument for recognizing a middle voice in Estonian will first be summarized and reexamined (see Vihman, 2002 for a more detailed investigation), and some new evidence will be brought to bear on it. The claim that the semantics of middle-marked verbs differs substantially from the semantics of other constructions leads us to look at the discourse pragmatics of these constructions, and the relationship between discourse patterns and their valency and argument properties. The discourse behaviour of middle arguments is shown to support the claim that middle constructions form part of the Estonian voice system and differ from ordinary intransitive verbs, despite formal similarities. The results presented here constitute new evidence for the view that middle constructions mark a unique range on the scale of transitivity exhibited by verbs in Estonian.

1.1 *U-* and *ne-*marked verbs

The derivational affixes focused on here, *-u-* and *-ne-*, have not found an adequate, uniform explanation in Estonian linguistics. The *u*-affix is quite common and productive, often appearing on intransitive counterparts to transitive verbs. Verbs marked with the *ne*-affix form a subset of the semantic domain of *u*. The *ne*-affix is less productive and more lexicalized than *u*, and it is always intransitive. Thus, they have both been read to signal detransitivization, from pairs such as those in (1a-b), and reflexivization, from examples such as those in (1c-d):

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|-----|----|----------------------|------------------|---|----------------------|---------------------|
| (1) | a. | kohtama ¹ | ‘meet,’ v.t. | → | koht- u -ma | ‘meet,’ v.i. |
| | b. | vabastama | ‘free,’ v.t. | → | vaba- ne -ma | ‘become free,’ v.i |
| | c. | riietama | ‘clothe,’ v.t. | → | riiet- u -ma | ‘get dressed,’ v.i. |
| | d. | pühendama | ‘dedicate,’ v.t. | → | pühend- u -ma | ‘dedicate oneself’ |

¹ Throughout the paper, the citation form for verbs is the second infinitive, or the supine form of the verb, signified by the *-ma* ending.

Aavik describes the *u*-marker as ‘forming reflexive verbs and changing transitive verbs into intransitive verbs’ (1982: p.lxxvi). Erelt et al. (1997) primarily describe the *u*-affix as a reflexivizing suffix, though *u* also appears in the frequentative and Estonianized loans categories (1997:320-30). Kasik classifies the *u*-verbs in three semantic categories: ‘frequentative,’ ‘reflexive and automative²,’ and ‘denominal translative’ (1996:41, 53-57, 73-76).

None of the above makes any suggestion as to a relationship among the varied semantic categories associated with *u*-verbs (and *ne*-verbs as well). The different meanings are treated separately, and the primary semantic meaning attributed to the affix is reflexivity.

However, several facts about these verbs, including valency contrasts and other contrastive paradigms in which they take part, point to the need for a different account from both detransitivization and reflexivization. The *u*-marker appears on transitive verbs (e.g. *kaaluma*, ‘weigh’; *taluma*, ‘tolerate’), which presents a challenge to the detransitivization case; and these transitive *u*-verbs can also take a reflexive pronoun as direct object, an observation problematic for the reflexivization case. In addition, *u*-marking can appear on verbs which are more basic (semantically and morphologically) than any transitive counterparts, as shown in (2a-c). Finally, verb roots can be multiply *u* or *ne*-marked, as (2d-e), each affix marking a slight difference to meaning.

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|-----|---------------------|---------------|---|---------------------|-------------------------|
| (2) | a. <i>välk-u-ma</i> | ‘flash,’ v.i. | → | <i>välg-u-ta-ma</i> | ‘make s.th. flash’ |
| | b. <i>kiik-u-ma</i> | ‘swing,’ v.i. | → | <i>kiig-u-ta-ma</i> | ‘swing,’ v.t. |
| | c. <i>ist-u-ma</i> | ‘sit’ | → | <i>ist-u-ta-ma</i> | ‘plant,’ v.t. |
| | d. <i>kurb-u-ma</i> | ‘become sad’ | → | <i>kurvast-u-ma</i> | ‘become saddened’ |
| | e. <i>are-ne-ma</i> | ‘develop’ | → | <i>arend-u-ma</i> | ‘develop, self-improve’ |

Pihlak (1992) gives a thorough study of the *u*-affix. In addition to an extensive inventory of *u*-verb types, he contributes the observation that “the semantic characteristic of ‘occurring within the subject’ dominates” with these verbs, and that this encompasses such divergent categories as inchoative, continuative, passive, and reflexive.³ Pihlak also notes that there is a sense in

² The ‘automative’ category, used by Kasik (1996), Erelt et al. (1997), as well as Finnish linguists with regard to the *-U-* and *-UtU-* verbs, can be seen to signify the middle voice. However, it is discussed distinctly from reflexive *u*-verbs and others in the literature.

³ Pihlak’s useful generalization over semantic categories is virtually ignored in the later works by Kasik (1996) and Erelt et al. (1997).

‘One-form’ in the table refers to languages which encode the reflexive and middle with the same marker (e.g. French). Two-form languages encode them separately, and can be subdivided into those whose reflexive marker (RM) and middle marker (MM) are cognate and those in which they are unrelated. Finally, the MM can follow regular intransitive marking, as in English.

3. The Estonian Middle

The Estonian verbs considered here fit quite neatly into the cross-linguistic picture of middle-marking. The reflexive marker (RM) and the middle marker (MM) are distinct, and not cognate. Estonian has a full reflexive pronoun, for marking emphasis and reflexive events, which is fully inflected: *ise*, ‘self-NOM,’ *enese/enda* (GEN), *ennast/end* (PAR). The MMs, both *-u-* and *-ne-*, are derivational affixes forming verbal lexical items.

In Estonian, the middle contrasts not primarily with reflexive marking, but with both transitive and unmarked intransitive verbs. The middle marks both a greater ‘distinguishability of participants’ than the prototypical intransitive and a lesser ‘distinguishability of participants’ than the prototypical transitive. In certain languages the middle may primarily mark a lesser distinguishability of participants than the true reflexive. The middle falls in the same place on a scale of transitivity, but focuses attention on a different distinction. In Estonian, the MM is a derivational verbal affix, rather than a participant-marking affix. The MM functions in contrast to transitive/causative-marked verbs and unmarked intransitives, rather than specifically reflexive clauses, as it does in languages with cognate RM/MMs.

The middle voice is a category expressed in various ways across languages. The fact that middle-marked verbs in Estonian are so productive attests to the semantic salience of middle diathesis. Some examples of innovative middles include (4), from a headline in the daily *Postimees* (July, 2001), on a Cuban festival in the town of Pärnu, and (5), observed while someone was grappling with a computer.

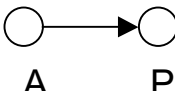
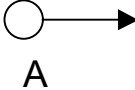
- (4) Pärnu kuubastub!
Pärnu *Cubanizes.3sg.MID*
 ‘Pärnu is becoming Cubanized/ is Cubanizing itself’

- (5) klahv ei vajutu
key.NOM *not* *press.MID*
 ‘the key won’t go down’ / ‘I can’t press the key’

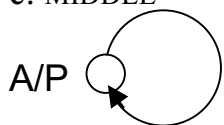
The various uses of the middle are related by virtue of the fact that the participant in middle clauses bears a semantic role blending actor and patient. The middle voice is used to impart some sense of causation or initiation as well as patient-hood to the referent of the subject NP.

Relevant to this discussion are the coding strategies available to an Estonian speaker for describing a situation, in order for us to position the middle event types relative to other options. Estonian provides a few contrastive alternatives to middles, including impersonals and passives, which will not be discussed here, though they are also valency-reducing constructions.

In Estonian, a scale of transitivity emerges parallel to that given in (3), involving relative distinguishability of participants as well as relative degree of encoding an external agent. The transitive active clause (6a) overtly expresses both the actor and the undergoer. Reflexive clauses, though semantically related to the middle, formally pattern as transitive clauses. Transitive and intransitive clauses are actor-oriented, whereas the impersonal and the passive are patient-oriented. The middle falls between the two sets, with a single participant whose semantic role has a certain scope for variation. Though it is not an actor, it is also not as patient-like as canonical transitive Os. A reviewer points out that in (6c), the argument seems to be an experiencer. The crucial question is how that experiencer argument corresponds to the patient-experiencer argument in (6a). Example (6c) attributes more volitionality to the experiencer than (6a). A response to (6c) might be ‘ära solvu!’ (don’t be insulted/ don’t take offence), but it is much more of a substantial shift in discourse perspective and emotional responsibility assignment to say that in response to the clause in (6a).

(6)	a. TRANSITIVE ⁴	ta	solvas	mind
		<i>s/he. NOM</i>	<i>insult. 3sg. PAST</i>	<i>me. PAR</i>
		‘s/he insulted me’		
				
	b. INTRANSITIVE	ta	rääkis	
		<i>s/he. NOM</i>	<i>talk. 3sg. PAST</i>	
		‘s/he talked’		
				

⁴ The schematic representations in (6) are based on Kemmer’s (1993) event schemas, and illustrate the event with its encoded participants. Reflexives would be represented as (6a), with an additional identification of A with P, and so differ importantly from the middle.

c. MIDDLE 	ma solvusin <i>I.NOM insult. 1sg.PAST.MID</i> ‘I took offense’
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Crucially, the intransitive and the middle (6b and c) are distinguishable, though the formal expression of the two is parallel: a single participant is encoded as S, the nominative subject triggering verb agreement. The middle, however, encodes a semantic role between the actor and patient: more agentive than the transitive O, but less so than the subject in either transitive or intransitive clauses. A reflexive interpretation is not excluded from the middle (e.g. *ma solvusin oma rumala käitumise pärast*, ‘I offended myself with my own silly behavior’), but it is not the only possible one.

The single middle argument thus looks like an intransitive argument, S, but semantically falls between the intransitive actor and transitive patient. Having established this, we turn to the topicality and discourse behaviour of the NP argument of these clause types, in order to investigate what they can tell us about the scale of transitivity, and about the pragmatic choices that are made between the constructions.

4. Discourse Properties

Where a middle verb encodes a lexical contrast with other verb forms, it is a mixture of semantic factors and discourse-pragmatic factors which determines which construction is used, and whether the affected referent is encoded as a middle S or a transitive O. An example of a verb encoding this choice is *viskama*, ‘throw,’ and *viskuma*, ‘throw oneself,’ as shown in (7). The attested version is given in (7a), and the contrasting reflexive construction in (7b) gives a sense of the choice this construction involves.

- (7) (...kuid selle asemel, et end jahimeeste kätte anda,
 (...but instead of giving itself up to the hunters,)
 a. ...visk-u-s hirv järsakust alla
 throw.3sg.PAST.MID deer.NOM cliff.ELA down.ALL
 ‘the deer “threw” over the cliff’
 b. ...viskas hirv ennast järsakust alla
 throw.3sg.PAST deer.NOM self.PAR cliff.ELA down.ALL
 ‘the deer threw itself over the cliff’

The referent of the subject NP in (7a) is an affected undergoer of the event, as well as actor (initiator): this construction falls between the reflexive (7b) and an intransitive (with a word like *hüppama*, ‘jump’) in agentivity, volitionality, and transitivity. The choice between these constructions involves semantic factors, like volitionality, and discourse factors, like topicality.

In order to test the notion that the discourse behaviour of middle constructions will reflect the semantic distinctions discussed, and show its discourse-governed pragmatic dimensions, various measures of topic continuity will be taken into consideration, following Givón (1983). The hypothesis that informs the discourse analysis reported in the rest of this paper is given in (8).

- (8) HYPOTHESIS: The discourse behaviour of the argument participant in middle clauses falls between that of the sole participant (S) in intransitive clauses and the O of active transitive clauses.

Cooreman (1982) states that “there are at least two aspects involved in measuring the topic status of any referent in the discourse: (i) *the nature of the NP* through which reference is made, (ii) the status of this referent as *given* or *new* information in the discourse register as established between the interlocutors.” (1982:344) This study looks at measurements of topicality, animacy and morphological form, following methodology developed in Givón (1983) for measuring topic continuity and morphological marking.

4.1 Measurements

‘Referential distance’ (RD) is a backward-looking count which assesses the topicality of an NP referent with regard to the already established discourse. RD gives a measure of the accessibility of the referent to the hearer, through assessing “the gap between the previous occurrence in the discourse of a referent/topic and its current occurrence in a clause... The gap is expressed in terms of *number of clauses to the left*.” (Givón 1983:13)

‘Topic persistence’ (TP) is forward-looking, measuring the salience of the referent of the NP for ensuing discourse, “a measure of the *speaker’s* topical intent.” (1983:14) I diverge from Givón’s methodology in measuring the number of clauses mentioning the topic out of the ten subsequent clauses, rather than the number in which the topic “*continues an uninterrupted presence*.” (1983:15)

In addition to these measures of topicality, we should also be able to test the hypothesis through looking at both the morphological marking and semantic type of NPs appearing in various clause types, and comparing this to the hierarchy established in the literature. (Silverstein, 1976; Givón 1981) Givón (1983) breaks the scale of coding devices into a few sub-scales.

We will look at the scales of phonological size and animacy. Both the morphology and the semantics of the referents in these various constructions ought to give an indication of topicality in Estonian, and will be expected to show discourse effects interacting with the transitivity of the clause in which the NP appears. It is quite well established that greater phonological size is linked to lower topicality, and that full NPs are more likely to mark referents low in topicality, whereas pronouns and zero-anaphora are likely to denote highly topical referents. The correlation between highly animate referents, topics, and subjects is just as well established. Human referents are most likely to be subjects, and inanimate entities are least likely. Animacy, then, is expected to show similar effects between transitivity and topicality.

The methodology was applied to Chamorro by Cooreman (1982) in order to look at the interaction between clause type and topicality in a language with five different options for expressing semantic transitivity⁵. Though Givón's project involves looking at topicality and coding with respect to each other, both of these can be used for looking at constructions which involve discourse-pragmatic effects of topic continuity.

Although the middle marker in Estonian is an affix which derives lexical items, it nevertheless marks a voice category and is involved in valency contrasts. Moreover, it is not only those middles which encode a lexical contrast which are expected to show a pattern, but rather all verbs marked with the *u* or *ne* affixes, as the middle markers carry with them a coherent semantics which determines the marking of deponent verbs as well as those with valency contrasts. Deponents, though not marking a lexical contrast, are still expected to pattern with the contrastive middles, as part of a voice category.

⁵ Cooreman (1982) reports that Chamorro has agentless passives, agented passives, middle-voice actives, ergative actives, and anti-passive actives.

4.2 Data

The texts analyzed for this study come from two sources. One set represents folktales,⁶ all of which are from the early 1900s, amounting to a total of 3962 words, and yielding a total of 553 NP arguments counted. This includes the arguments in only three clause types relevant for the study at hand (active transitive, intransitive, and middle), yielding four argument types (transitive A and O, intransitive S, and middle S).

The other data set comes from five newspaper articles,⁷ all of which are classified as commentary and/or background articles, dating from 2001. The newspaper articles number 4406 words, yielding 448 NP arguments, of the same type as for the folktales.

Two points ought to be made regarding these texts. First of all, the folktales all come from spoken narratives, whereas the newspaper articles are of a written format. The amount of data collected is roughly equivalent. The written versus spoken distinction is important for measures of topicality, as the element of planning in the two text types is quite different.

However, another factor must also be taken into account. The folktales are from the turn of the 19th to 20th centuries. The newspapers date to a century later. That century saw a significant period of linguistic innovation, which had effects on language use, and where the middle affix became much more productive. The number of accepted middle verbs is now greater than a hundred years earlier. Nevertheless, both types of texts yield results that are telling for the discourse behaviour of the middle construction.

4.3 Results

These results are preliminary, and more detailed analysis of a larger set of data is required to substantiate them. However, they do support the hypothesis in (8), providing some independent confirmation of the claim made here that Estonian has a middle voice.

Table 1 shows the proportions of the various types of arguments. Arguments which do not fall under the four classes listed (Transitive A and O, Intransitive S, and Middle S) are accounted for by “Other”, and are not included in subsequent analysis and figures, as they are irrelevant for this

⁶ The folktales are taken from three internet sources, compiled by the Estonian Language Institute. The websites are listed in the references.

⁷ Newspaper articles come from the archives of the weekly newspaper *Eesti Ekspress* and the daily *Postimees*, also listed as references.

study. As these results show, the proportion of middles in the newspapers is more than double that in the folktales: compare 12% middles among NPs counted in the newspapers (2001) to 5% in the folktales (ca. 1900).

Results of the four measures taken are given in tables 2-5. Discussion of these results follows. Note that in Table 4, the percentages do not add up to 100%. This is because relative, interrogative, and indefinite pronouns were not included in this count.

TABLE 1 PROPORTIONS OF MIDDLES: FOLKTALES NEWSPAPERS

	N=	%	N=	%
Trans A	189	33%	137	30%
Intrans S	153	28%	105	24%
Middle S	25	5%	52	12%
Trans O	147	27%	118	26%
Other	39	7%	36	8%

TABLE 2

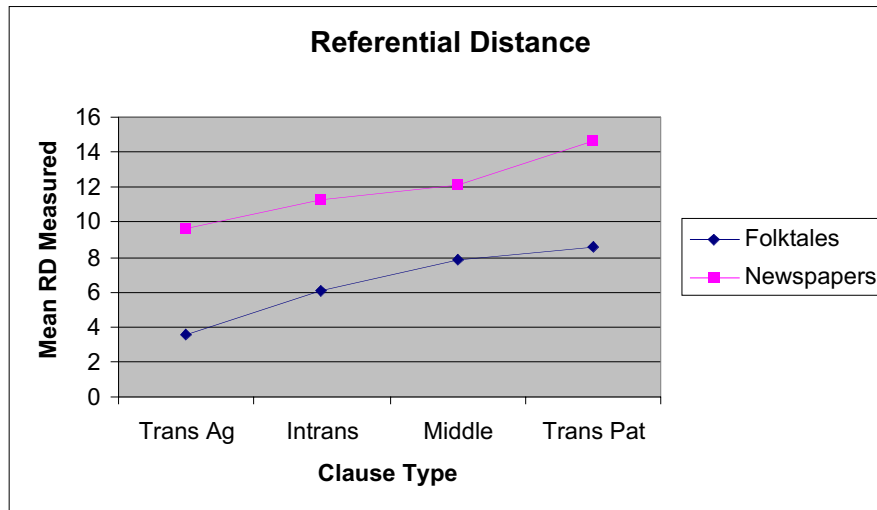


TABLE 3

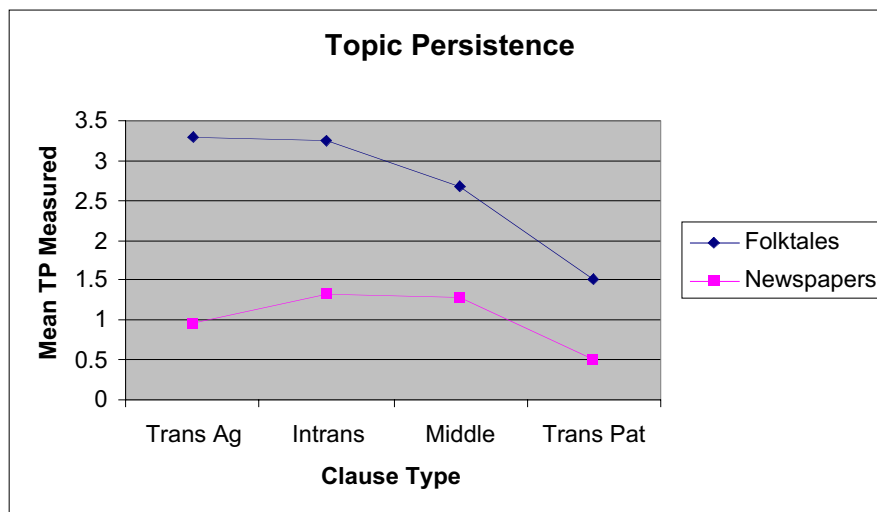


TABLE 4 MORPHOLOGICAL MARKING

	Folktales			Newspaper Articles		
	Ø-An	Pron.	Full NP	Ø-An	Pron.	Full NP
Trans. A	34%	24%	36%	13%	18%	63%
Intrans. S	22%	22%	50%	11%	11%	68%
Middle S	12%	8%	72%	8%	4%	76%
Trans. O	8%	24%	68%	0%	11%	89%

TABLE 5 ANIMACY

	Folktales		Newspaper Articles	
	Animate	Inanimate	Animate	Inanimate
Trans. A	96.8%	3.2%	70.8%	29.2%
Intrans. S	83%	17%	80%	20%
Middle S	80%	20%	26.9%	73.1%
Trans. O	32.7%	67.3%	16.1%	83.9%

5. Discussion

Tables 2 and 3 show the results using Givón's measurements⁸, applied to four types of arguments in the Estonian texts. It is expected for the tables to show opposite slopes. For the referential distance count, a higher number means greater distance between the topic and its last mention, and therefore lower topicality; for topic persistence, a higher number indicates higher topicality, and so we would expect a highly topical NP to receive a low count for referential distance and a high count for topic persistence. These tables show that in both genres examined, on the whole, the most likely participant role for highly topical NP referents is transitive A, and then with decreasing degrees of topicality: transitive A > intransitive S > middle S > transitive O.

In folktales, these results are more clear-cut than in the newspapers. The newspapers have much less topic continuity overall, as the subject matter jumps quite a bit, even between paragraphs. This is unlikely to happen in a folktale, where the activities of a few main characters are followed from beginning to end. The line for topic persistence in newspapers is also

⁸ It should be mentioned that one weakness of the studies using Givón's methodology is the lack of statistical analysis. Few of the scores in the study in this paper show statistical significance, but the methodology is not supported in Givón (1983) with statistical analysis either. The ordering effect is as predicted, but it seems to be a flaw with the measurements used that they are not amenable to statistical evaluation.

interesting, in that the transitive A exhibits less topic continuity than the intransitive (and even middle) S, contrary to expectations. However, what is relevant for this paper is the location of the middle arguments, which are shown to consistently behave in a relatively coherent manner, between the intransitive S and transitive O.

A reviewer points out a few valid concerns regarding these tables⁹. The primary concern raises the question of whether the results in tables 2-3 do not merely “reflect the well-known fact that subjects in general... show a tendency to be topics.” The reviewer suggests relying on “the differences in topicality among the subject categories in tables 2-3.” A closer look shows that even among subjects, the pattern described here holds. In table 2, the RD of middle S clearly shows lower topicality than either transitive A or intransitive S, and it is relevant that the middle S falls between intransitive S and transitive O. The TP measurements in table 3 are not as easily interpreted, but they too support the distinct behaviour of middle S. The folktales show a decisive break between the subjects of both intransitive and transitive clauses and those of middles, which indicates that it is not just subjecthood which accounts for topicality. The TP count in newspapers is more problematic, but it is evident that topic persistence is blurred in the text of newspapers, as transitive As, the canonical topics, receive a lower topicality rating here than either of the S arguments.

The data in Table 4 show similar behaviour for folktale clauses as for newspaper articles. Transitive Os are not as likely to be realized as \emptyset as As, not only because of lower topicality, but also as subjects are marked in verbal morphology, whereas objects are not, and so a deleted subject is more easily recoverable than a \emptyset object. Where subject NPs can be realized with either \emptyset -anaphora or pronouns, even highly topical transitive Os are less amenable to this choice. This accounts for the fact that both folktales and newspaper articles show middle arguments patterning between intransitive arguments and transitive Os for all but the pronouns. Once again, the results show the middle S exhibiting patterns quite apart from the intransitive S.

Finally, Table 5 shows the results for a simple animacy count. The transitive As in newspaper articles show a much lower animacy percentage than in the folktales, perhaps explaining the odd shape of the line for topic persistence in newspapers in Table 3. On the whole, newspapers show lower

⁹ I cannot go into as thorough a revision of this analysis as perhaps is needed. The data presented here is not conclusive, especially with the small sample of middle arguments, but it is indicative of a cline of transitivity. This, and no more, is the extent of my claim.

animacy across all NPs than folktales, which tend to focus on animate beings. The patterning of middle S in this table shows a particularly interesting effect, however. In the folktale texts, the animacy of middle arguments looks nearly identical to intransitives, with only a 3% difference. In the newspaper texts, on the other hand, the middle S shows exactly the opposite effect, patterning very closely to the transitive O. This drastic difference could be an effect of (a) more inanimate and abstract referents of NPs in the newspapers overall, (b) changing and expanding usage of middles over the course of the century, or (c) the genre of the texts. Regardless, again the measure for middle arguments is clearly located between intransitive S and transitive O, supporting the working hypothesis.

6. Conclusion

The claim that the *u* and *ne*-marked verbs are involved in the voice system of Estonian is reinforced by evidence from discourse analysis. Pihlak (1992) also claims that *u*-marked verbs have something to do with the voice system of Estonian, but his description of them still requires him to discard a portion of the *u*-verbs from his analysis, as not quite fitting his description. The middle is a useful category insofar as it allows for a somewhat diverse group of verbs which are morphologically marked in the same way to be given a unified analysis. This unified analysis is supported by the evidence from discourse.

The verbs included in the middle category for the data collected for this paper were as broad as possible. The only criterion for inclusion was the morpheme *u* or *ne*, rather than semantic or syntactic features. Hence, the fact that this liberally defined group of verbs exhibits discourse behaviour as unified as it is in the texts examined here provides compelling support for defining a broad category of middle voice in Estonian. Some of the verbs marked with the *u*-affix prove to be exceptions to the rule, but on the whole the group behaves in a manner distinct from (semantically related) reflexives as well as (formally similar) intransitives. The middle S is not an actor, but it is also not a patient. It is a middle clause argument, which defines a semantic role crossed between the canonical actor and patient protoroles. The evidence presented here strongly supports the claim that these verbs participate in the voice paradigm of Estonian and that effects in semantics are matched by discourse and pragmatic effects.

ABBREVIATIONS USED

<u>NOMINAL</u>		<u>VERBAL</u>	
NOM	Nominative	v.t.	verb transitive
GEN	Genitive	v.i.	verb intransitive
PAR	Partitive	3sg	3 rd person singular
ELA	Elicative; out of	1sg	1 st person singular
ALL	Allative; onto	IMP	Impersonal
ADE	Adessive; on, at	MID	Middle
ABL	Ablative; off of	PPRT	Past Participle
COM	Comitative; with		

RM Reflexive Marker

MM Middle Marker

APPENDIX

Small Sample of Middle Verbs in Estonian

(following Kemmer, 1993:xxx, Appendix A: Checklist for Middle Semantics)

	U	NE
Reciprocal Events	abielluma <i>marry</i> sünkroniseeruma <i>synchronize</i>	erinema <i>differ</i> ühinema <i>join</i>
Grooming	maskeeruma <i>mask oneself</i> riietuma <i>clothe oneself</i>	
Non-Translational Motion	kalduma <i>tend, incline</i> painduma <i>bend</i>	
Other Body Actions	kiikuma <i>swing</i> istuma <i>sit</i>	
Translational Motion	irduma <i>distance, detach oneself</i> kukkuma <i>fall</i>	minema <i>go</i> põgenema <i>escape</i>
Positional	leiduma <i>be found</i> rippuma <i>hang</i>	
Mental Events:		
Perception	kuulduma <i>be rumored</i> piiluma <i>peek</i>	
Cognition	keskenduma <i>concentrate</i> meenuma <i>come to mind, be remembered</i>	ununema <i>fade, be forgot</i>

Emotion: Speech	<i>vanduma</i> <i>vow, swear, v.t.</i>	
	<i>vinguma</i> <i>whine</i>	
2-person	<i>armuma</i> <i>fall in love</i>	
	<i>taluma</i> <i>tolerate, v.t.</i>	
1-person	<i>üllatuma</i> <i>become surprised</i>	<i>häbenema</i> <i>be shy</i>
	<i>ärrituma</i> <i>become annoyed</i>	<i>rahunema</i> <i>calm down</i>
Spontaneous Events		
Motion	<i>kiikuma</i> <i>swing, rock</i>	<i>laienema</i> <i>widen</i>
	<i>vajuma</i> <i>sink</i>	<i>lähenema</i> <i>approach</i>
Position	<i>alluma</i> <i>be subordinate, beneath</i>	<i>ripnema</i> <i>dangle, sag</i>
	<i>asetuma</i> <i>be placed</i>	
Animate Beings	<i>karastuma</i> <i>become refreshed</i>	<i>kohanema</i> <i>adjust</i>
	<i>venestuma</i> <i>Russify</i>	
Inanimate beings associated with...		
a. change of shape	<i>paisuma</i> <i>swell</i>	<i>vähenema</i> <i>lessen</i>
	<i>muutuma</i> <i>change</i>	
b. physico-chemical change	<i>jäätuma</i> <i>freeze</i>	<i>mädanema</i> <i>rot</i>
	<i>tarduma</i> <i>congeal</i>	<i>soojenema</i> <i>warm up</i>
c. partial disruption of object's material integrity	<i>murduma</i> <i>break, split</i>	<i>rebenema</i> <i>rip</i>
	<i>imbuma</i> <i>soak in, be absorbed</i>	<i>segunema</i> <i>blend in</i>
d. global disruption of object's material integrity	<i>plahvatuma</i> <i>explode</i>	<i>lagunema</i> <i>disintegrate</i>
	<i>purustuma</i> <i>shatter</i>	<i>purunema</i> <i>crumble</i>
e. existential change/ denaturation	<i>haihtuma</i> <i>vanish</i>	<i>paranema</i> <i>get better</i>
	<i>kustuma</i> <i>be extinguished</i>	<i>vabanema</i> <i>become free</i>
f. object-specific	<i>käänduma</i> <i>decline (of nouns)</i>	
	<i>sulguma</i> <i>close</i>	
g. property of activities	<i>käivituma</i> <i>start</i>	
	<i>juhtuma</i> <i>happen</i>	
h. inanimate state		<i>hargnema</i> <i>fork</i>
		<i>jagunema</i> <i>divide</i>
State/ activity affecting human senses or cognition	<i>hõõguma</i> <i>glow</i>	<i>helenema</i> <i>become brighter</i>
	<i>piiksuma</i> <i>beep</i>	

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