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Towards an analysis of the causative/non-causative alternation in Udmurt

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3 **Abstract:** The paper studies the causative/non-causative alternation in Udmurt. I propose an analysis
4 based on Distributed Morphology (Marantz 1984; 1997): I suggest that the causative and non-causative
5 variants of the alternation in Udmurt are derived from roots and not from each other. The difference in
6 the argument structure of the variants is due to the fact that as with verbs marked with the productive
7 causative morpheme, the structure of causative verbs also always contains a Cause head (in the sense
8 of Pykkänen 2002; 2008). Non-causative verbs, on the other hand, have only a Voice head (in the sense
9 of Kratzer 1996).

10 **Keywords:** causative/non-causative alternation; Udmurt; syntactic derivation; Distributed Morphology;
11 Voice head

12

1. Introduction

13 The present paper deals with the causative/non-causative alternation in
14 the Udmurt language.¹ Its aim is to present new empirical data and to
15 propose a syntactic analysis of the alternation couched in the framework
16 of **Distributed Morphology** (see Marantz 1984; 1997, and Arad 2005). I will
17 claim that the transitive/intransitive verbs taking part in the alternation
18 are not derived from each other, but they are both formed from roots, in
19 the sense of Alexiadou et al. (2006).

20 It will be shown that the causative and non-causative variants have
21 different syntactic structures: the former contain a Cause head, while the

¹ Udmurt is a minority language from the Permic branch of the Uralic language family, spoken in the Russian Federation. According to the 2002 census, the number of the native speakers is ca. 650 000 and the Udmurt population became bilingual in the 20th century (Salánki 2007). Udmurt is a head-final language and it is strongly agglutinative with a very transparent morphology.

22 latter lack the Cause head and contain only Voice in the sense of Pylkkänen
 23 (2002; 2008)² and Kratzer (1994).

24 The paper is organized as follows. Section 2 outlines the causative/non-
 25 causative alternation in Udmurt, listing the different types of alterna-
 26 tions (2.1) and determining the argument structure of causative and non-
 27 causative verbs (2.2). Section 3 deals with two important valence-change
 28 markers in Udmurt, both of which have an important role in the alterna-
 29 tion. Section 4 focuses on the difference between passive and non-causative
 30 constructions. Section 5 zooms in on the main properties of the alternation
 31 (e.g., causer, agentivity) and the inner structure of the alternating verbs.
 32 Finally, section 6 concludes the paper.

33 2. Overview of the causative/non-causative alternation in Udmurt

34 2.1. The data

35 The typological classification of inner causation in Udmurt is still an un-
 36 derstudied area of Udmurt syntax. There are two not very detailed studies
 37 that could be taken as a starting point for the investigation: Haspelmath
 38 (1993) and Kozmács (2004). However, these works only list the types of
 39 the alternation without providing a deeper explanation for the phenomena
 40 at hand.

41 In his typological work on the causative/inchoative alternation, Haspel-
 42 math (1993) examined 31 languages from different language families. The
 43 Uralic family is represented by the Hungarian, Finnish and Udmurt lan-
 44 guages. His typological classification follows Nedyalkov & Silnitsky (1973)³
 45 and it is based on 20 alternating verb-pairs in each language, therefore it
 46 contains several errors. These mistakes were corrected by Kozmács (2004).
 47 The categorization of the alternation presented below is based on Kozmács
 48 (2002).

² For a detailed discussion of CauseP and VoiceP, see section 5.

³ Nedyalkov and Silnitsky (1973) examined the causative alternation in Russian and found the following groups in the language:

- | | | | |
|--------|--|-----------------------------------|---------------|
| (i) a. | smejat'sja 'laugh' | smeshit 'amuse, make laugh' | Anticausative |
| b. | kipet' 'boil, come to a boil' | kipjatit' 'boil, bring to a boil' | Causative |
| c. | goret' 'burn' | zhech' 'burn, ignite' | Suppletive |
| d. | perelomit'sja 'break, get broken in two' | perelomit' 'break in two' | Equipollent |

49 **2.1.1. Causative alternation**

50 In Nedyalkov and Silnitsky's (1973) classification, in the causative alterna-
 51 tion the non-causative verb is the basic form and the causative is marked
 52 by a suffix.

- 53 (1) a. Pinaljos sajka-zy.⁴
 child.PL.NOM wake.up-PAST.3PL
 'The children woke up.'
- 54 b. Anaj pinaljoszy sajka-**t**-iz.
 mother.NOM child.PL.ACC wake.up-CAUS-PAST.3SG
 'The mother woke up the children.'

55 In (1a) the non-causative verb *sajkazy* 'to wake up' contains only a root
 56 (in the sense of Marantz 1984) and a null affix responsible for the verbal
 57 category (see Arad 2005).⁵

58 In (1b) the verb also contains the *-t-* inner causative affix. This mor-
 59 pheme is historically related to the productive causative marker *-t-* as in
 60 (2) and it is also the verbalizer as in (3). I come back to this issue in
 61 section 3.

- 62 (2) a. Sasha gozhtetez gozht-iz.
 Sasha.NOM letter.ACC write-PAST.3SG
 'Sasha wrote the letter.'
- 63 b. Sasha Mashajez gozhtetez gozhte-**t**-iz.⁶
 Sasha.NOM Masha.ACC letter.ACC write-CAUS-PAST.3SG
 'Sasha made Masha write the letter.'

⁴ The data in this paper were collected during my fieldwork in three distinct peri-
 ods between 2012–2013. The informants are all Udmurt-dominant native speakers
 between 20 and 50 years of age, living in the territory of the Udmurt Republic.

Abbreviations: ABL = ablative, ACC = accusative, CAUS = causative affix, DET =
 determinate suffix, ERG = ergative suffix, FUT = future tense, INESS = inessive,
 INSTR = instrumental, NOM = nominative, PASS = passive, PAST = past tense, PL =
 plural, PRES = present tense, PX = possessive suffix, REF = reflexive affix, SG = sin-
 gular, VERB = verbalizer.

⁵ In Distributed Morphology words with a lexical category N, V and A are created
 in a way that a lexical category head n/v/a is attached to the root (Arad 2005).

(i)
$$\begin{array}{c} \text{n/v/a} \\ \swarrow \quad \searrow \\ \text{n/v/a} \quad \sqrt{\text{root}} \end{array}$$

The morphological realization may differ from language to language and in some
 languages the verb-creating morphology may be a phonologically null suffix (Arad
 2005).

- 64 (3) a. Sasha vamysh ljog-iz.
 Sasha.NOM step.NOM make-PAST.3SG
 ‘Sasha took a step.’
- 65 b. Sasha vamysh-**t**-iz.
 Sasha.NOM take.a.step-VERB-PAST.3SG
 ‘Sasha took a step.’

66 **2.1.2. Anticausative alternation**

67 Unlike in the causative alternation, in the anticausative alternation the
 68 causative verb is the basic form and the non-causative is marked by a
 69 suffix.

- 70 (4) a. Vaza pyly-**s’k**-iz.
 vase.NOM break-ERG-PAST.3SG
 ‘The vase broke.’
- 71 b. Sasha vazajez pyl-iz.
 Sasha.NOM vase.ACC break-PAST.3SG
 ‘Sasha broke the vase.’

72 As shown in (4a), the non-causative verb is marked by the *-s’k-* morpheme.
 73 Unlike in (1b), the causative verb has only a phonologically null verbal
 74 category marker in the sense of Arad (2005) and no overt causative suffix
 75 appears.⁷

76 The functions of the morpheme *-s’k-* will be discussed in section 3.

77 **2.1.3. Labile alternation**

78 In the so-called labile alternation, the same verb is used both in the non-
 79 causative and in the causative interpretation.

⁶ Transitive based causatives yield a double-object argument structure.

(i) Masha Sasha-jez kniga-jez lydzhy-t-iz.
 Masha.NOM Sasha-ACC book-ACC read-CAUS-PAST.3SG
 ‘Masha made Sasha read the book.’

This is a crucial property of the morphologically marked causative constructions in Udmurt, since Udmurt is not a real double object language; nonderived verbs, even ditransitive verbs, cannot assign two ACC cases. For a more detailed discussion of this topic, see Tánzos (2013).

⁷ See section 5 for the syntactic analysis of the verbs.

- 80 (5) a. Urok kut-**s'k**-iz.
 class.NOM begin-ERG-PAST.3SG
 'The class began.'
- 81 b. Dyshetis' urokez kut-**s'k**-iz.
 teacher.NOM class.ACC begin-ERG-PAST.3SG
 'The teacher started the class.'

82 It is important to note that in the labile alternation both verbs contain a
 83 suffix (either the morpheme *-s'k-* or the morpheme *-t-*).

84 2.1.4. Equipollent alternation

85 In the equipollent alternation, both the causative and the non-causative
 86 forms are derived from the same stem. The stem expresses the lexical
 87 meaning, and the alternation is signalled by means of different suffixes.

- 88 (6) a. Kar umoj azyn-**s'k**-e.
 city.NOM good develop-ERG-PRES.3SG
 'The city develops well.'
- 89 b. Kivaltis' programmajez azyn-**t**-iz.
 director.NOM program.ACC develop-CAUS-PAST.3SG
 'The director developed the program.'

90 In (6), both the non-causative and the causative verbs are derived from
 91 the nominal *azyn-* 'result' by attaching suffixes to the nominal root.

92 2.1.5. Suppletive alternation

93 In the suppletive alternation, both variants have different verb roots and
 94 neither of them contains the causative or anticausative marker:

- 95 (7) a. Sasha kul-iz.
 Sasha.NOM die-PAST.3SG
 'Sasha died.'
- 96 b. Sasha Mashajez vyj-iz.
 Sasha.NOM Masha.ACC kill-PAST.3SG
 'Sasha killed Masha.'

97 Given that there is no syntactic relation between the suppletive verb pairs,
 98 I do not consider them to instantiate a type of causative/non-causative
 99 alternation. This contrasts with the traditional view of these pairs.

100 **2.2. The argument structures of variants**

101 The argument structure of the non-causative variants always contains a pa-
 102 tient and lacks an agent or a causer thematic role. The argument structure
 103 of the causative variants, on the other hand, contains both the agent/causer
 104 and the patient/theme arguments. This is in line with cross-linguistic ob-
 105 servations about the causative/non-causative alternation.

106 **2.2.1. Non-causative verbs**

107 The most common property of the non-causative verbs presented in section
 108 2.1 is that they all lack an agent argument in their structure (see, for
 109 instance, example (7a) in which the only argument of the verb is the theme,
 110 Sasha). Although the causer argument can appear in the structure and it
 111 can be either (i) a non-agent or (ii) a causing event, an agent causer is not
 112 acceptable. The verbs differ in the way in which the causer is encoded in
 113 their argument structure.

114 1. Non-agentive causer. Non-agentive causers are encoded in the argument
 115 structure in two ways: either by the ABL case marker *-lesh* or by the
 116 postposition *seren* ‘by’.

- 117 (8) a. Pinaljos gudyryjaskem-lesh sajka-zy.
 child.PL.NOM thunder-ABL wake.up-PAST.3SG
 ‘The children were woken up by the thunder.’
 118 (Lit.: The children woke up from the thunder.)
- 119 b. Pyzh vyj-iz uragan seren.
 boat.NOM sink-PAST.3SG storm.NOM by
 ‘The boat was sunk by the storm.’
 120 (Lit.: The boat sunk from the storm.)
- 121 c. Vaza pyli-s’k-iz zemljatresenyije seren.
 vase.NOM break-ERG-PAST.3SG draft.NOM by
 ‘The vase was broken by the draft.’
 122 (Lit.: The vase broke from the draft.)
- 123 d. Ös ushti-s’k-iz töl-lesh.
 door.NOM open-ERG-PAST.3SG wind-ABL
 ‘The door was closed by the wind.’
 124 (Lit.: The door closed from the wind.)
- 125 e. Ty kynm-iz kezhyt lyem-lesh.
 lake.NOM freeze-PAST.3SG cold be.PART-ABL
 ‘The lake was frozen by the cold.’
 126 (Lit.: The lake froze from the cold.)

127 As shown by the examples above, the causer argument can appear in the
128 structure regardless of the type of the non-causative verb.

129 2. Causing event. In some languages (e.g., Greek or German) non-agentive
130 causers and causing events are encoded with different suffixes or preposi-
131 tions. In Udmurt, however, causing events are encoded in the same way as
132 non-agentive causers, i.e., by ABL case or by the postposition *seren* ‘by’:

- 133 (9) a. Pinaljos sajka-zy anaj-atajlen kopaskemzy-lesh.
 child.PL.NOM wake.up-PAST.3SG mother-father.GEN fight-ABL
 ‘The children were woken up by the fight of the parents.’
134 (Lit.: The children woke up from the fight of the parents.)
- 135 b. Pyzh vyj-iz pydesys’ pashas’kem seren.
 boat.NOM sink-PAST.3SG bottom hole.NOM by
 ‘The boat was sunk by the hole in the bottom of the boat.’
136 (Lit.: The boat sank from the hole in the bottom of the boat.)
- 137 c. Vaza pyli-s’k-iz pinaljos byzhylem seren.
 vase.NOM break-ERG-PAST.3SG child.PL.NOM run by
 ‘The vase was broken by the running of the children.’
138 (Lit.: The vase broke from the running of the children.)
- 139 d. Ös ushkti-s’k-iz skvoznyak-lesh.
 door.NOM open-ERG-PAST.3SG draft-ABL
 ‘The door was opened by the draft.’
140 (Lit.: The door opened from the draft.)
- 141 e. Ty kynm-iz omyr kezhitskem-lesh.
 lake.NOM freeze-PAST.3SG air.NOM cold.PART-ABL
 ‘The lake was frozen by the cold of the air.’
142 (Lit.: The lake froze from the cold of the air.)

143 As with non-agentive causes, causing events also appear with all types
144 of non-causative verbs. This is not surprising since there seems to be no
145 syntactic difference between the non-agentive causer and causing event in
146 Udmurt.

147 3. Agent causer. As will be shown in section 4, passives and non-causative
148 constructions differ in their agentivity. Passives contain an implicit agent
149 while non-causatives do not. Crucially, there are some non-causative verbs
150 that appear with an agentive causer in Udmurt:

- 151 (10) a. [?]Pinaljos anaj-lesh sajka-zy.
 child.PL.NOM mother-ABL wake.up-PAST.3SG
 ‘The children were woken up by the mother.’
152 (Lit.: The children woke up by the mother.)

- 153 b. Vaza pyli-s'k-iz Sasha seren.
 vase.NOM break-ERG-PAST.3SG Sasha.NOM by
 'The vase was broken by Sasha.'
 154 (Lit.: The vase broke by Sasha.)
- 155 c. Ös ushkti-s'k-iz Sasha seren.
 door.NOM open-ERG-PAST.3SG Sasha.NOM by
 'The door was opened by Sasha.'
 156 (Lit.: The door opened by Sasha.)

157 It is important to note again that unlike non-agentive causers and causing
 158 events, the agentive causer can only appear with non-causative verbs that
 159 belong to the anticausative type (see section 2.1.2) and it is only marginally
 160 well-formed with causative types. I come back to this issue in section 5.

161 2.2.2. Causative verbs

162 Causative verbs have a causer argument. This can be an agent (11a), a
 163 non-agentive causer (11b) or a causing event (11c).

- 164 (11) a. Anaj sajka-t-iz pinaljosty. agent
 mother.NOM wake.up-CAUS-PAST.3SG child.PL.ACC
 'The mother woke up the children.'
- 165 b. Gudyryaskem sajka-t-iz pinaljosty. non-agent
 thunder.NOM wake.up-CAUS-PAST.3SG child.PL.ACC
 'The thunder woke up the children.'
- 166 c. Anaj-atajlen kopaskemez sajka-t-iz pinaljosty. causing event
 father-mother.GEN fight.ACC wake.up-CAUS-PAST.3SG child.PL.ACC
 'The fight of the parents woke up the children.'

167 The appearance of the causer and the theme arguments is obligatory re-
 168 gardless of the type of the causative verb.

169 3. The valence-change markers

170 Udmurt has two important valence-changing suffixes: the so-called reflexive
 171 suffix *-s'k-* and the causative suffix *-t-*. As shown in the examples above,
 172 both have an important role in the causative/non-causative alternation.
 173 The non-causative variant – if marked – is always marked by *-s'k-*, while
 174 the causative variant is marked by the morpheme *-t-*, as we have seen in
 175 example (6) repeated below as (12).

- 176 (12) a. Kar umoj azyn-s'k-e.
 city.NOM good develop-ERG-PRES.3SG
 'The city develops well.'
- 177 b. Kivaltis' programmajez azyn-t-iz.
 director.NOM program.ACC develop-CAUS-PAST.3SG
 'The director developed the program.'

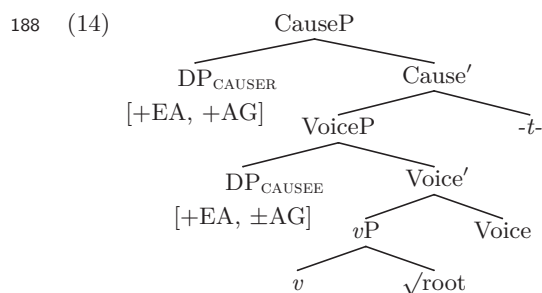
178 3.1. The function of the *-t-* marker

179 As argued above, the morpheme *-t-* marks the causative variant of the
 180 alternation. However, it has two further important functions as well.

181 1. Productive causative marker. It was shown in example (2) repeated
 182 below as (13) that the morpheme *-t-* is the productive causative marker in
 183 Udmurt.

- 184 (13) a. Sasha gozhtetez gozht-iz.
 Sasha.NOM letter.ACC write-PAST.3SG
 'Sasha wrote the letter.'
- 185 b. Sasha Mashajez gozhtetez gozhte-t-iz.
 Sasha.NOM Masha.ACC letter.ACC write-CAUS-PAST.3SG
 'Sasha made Masha write the letter.'

186 As a productive causative marker, *-t-* projects its own Cause head in the
 187 syntactic structure. This is illustrated in (14).⁸



⁸ In this paper, I follow Pylkkänen's (2002; 2008) analysis of the causative construction. Pylkkänen (2002; 2008) argues for separate positions for the agent argument and for the causer argument. In the case of morphological causatives the causative projects its own projection (CauseP). The Cause head is similar to v_{CAUSE} in Harley's (1995) proposal. For a detailed explanation, see Pylkkänen (2002; 2008).

189 The Cause head selects a VoiceP⁹ that introduces the external argument.
 190 This argument functions as the Causee and it has either a [+agentivity]
 191 or a [-agentivity] feature. The Causer argument, on the other hand, sits
 192 in the specifier position of the CauseP and only bears an [+agentivity]
 193 feature.

194 2. Verbalizer. It was shown in example (3) repeated below as (15) that the
 195 morpheme *-t-* also functions as verbalizer in Udmurt.

- 196 (15) a. Sasha vamysh ljog-iz.
 Sasha.NOM step.NOM make-PAST.3SG
 ‘Sasha took a step.’
 197 b. Sasha vamysh-t-iz.
 Sasha.NOM take.a.step-VERB-PAST.3SG
 ‘Sasha took a step.’

198 As is shown in the example in (15) the morpheme *-t-* is responsible for the
 199 verbal category in the sense of Arad (2005), and syntactically it sits in the
 200 head position of the verbal projection.

201 3.2. The functions of the *-s’k-* marker

202 In addition to serving as the non-causative marker (see the previous sec-
 203 tion), the morpheme *-s’k-* has other functions, too. According to Kozmács
 204 (2008), this morpheme has at least four different derivational functions in
 205 the grammar.

206 1. It creates verbs with an implicit object:

- 207 (16) a. Pisej aste achiz korma-∅.
 kitty.NOM self.NOM self.ACC scratch-PRES.3SG
 ‘The kitty scratches itself.’
 208 b. Pisej korma-s’k-e.
 kitty.NOM scratch.oneself-ERG-PRES.3SG
 209 ‘The kitty scratches itself.’ (Kozmács 2008, 153)

210 The argument structure of the verbs in (16a–b) contains an agent and a
 211 theme, and both arguments are obligatory. However, while in the argument
 212 structure of the verb in (16a) the agent and the theme do not have to be

⁹ Kratzer’s Voice head is called **little v** in Chomsky’s (1995) proposal.

213 coreferent with each other, in (16b) the implicit theme has to be coreferent
 214 with the agent, and so it does not need to be visible.

215 2. It creates unergative verbs:

216 (17) a. Petyr bakchaze kopa- \emptyset .
 Peter.NOM garden.ACC.PX3SG hoe-PRES.3SG
 ‘Peter hoes his garden.’

217 b. Petyr kopa-s’k-e.
 Peter.NOM hoe-ERG-PRES.3SG

218 ‘Peter hoes.’ (ibid., 154)

219 In (17a) the verb *kopany* ‘to hoe’ is a transitive verb with an agent and
 220 a theme argument. The verb *kopas’kyny* ‘to hoe’, on the other hand, is
 221 an intransitive-unergative verb with no theme argument. Similarly to the
 222 verb *kormas’kyny* ‘to scratch’ in (16b), *kopas’kyny* ‘to hoe’ prohibits the
 223 appearance of the theme argument. Unlike in (16b), there is no implicit
 224 object in the sentence. The direct object of the transitive variant can (but
 225 does not have to) occur in the sentence as a locative adjunct (18).

226 (18) Petyr bakchayn kopa-s’k-e.
 Peter.NOM garden.INESS hoe-ERG-PRES.3SG

227 ‘Peter hoes in the garden.’ (idem.)

228 3. It creates unaccusative verbs:

229 (19) a. Soje todmo vrach emja- \emptyset .
 he.ACC known doctor.NOM cure-PRES.3SG
 ‘It is a known doctor, who cures him.’

230 b. So todmo vrach doryn emja-s’k-e.
 he.NOM known doctor.NOM at heal-ERG-PRES.3SG

231 ‘It is at the known doctor, where he heals.’ (ibid., 153)

232 The “surface” subject of unaccusative verbs is the “deep” object (Levin
 233 & Rappaport Hovav 1995, henceforth: L&R-H 1995). This can be seen in
 234 (19a) and (19b), *emjany* ‘to cure’ has an agent and a patient argument.
 235 However, in (19b) which contains the verb *emjas’kyny* ‘to heal’, only the
 236 patient of (19a) may appear, while the agent *vrach* ‘doctor’ is not allowed.

237 4. Passivization:¹⁰

238 (20) Soku kyk choshen busyyn luozy: odigez bas'ti-s'k-oz,
 then two together.INSTR field.INESS be.FUT.3PL one.DET take-ERG-FUT.3SG
 239 nosh muketyz kel'ti-s'k-oz.
 and other.DET leave-ERG-FUT.3SG
 240 'Then two men will be in the field: one will be taken and the other left.'¹¹
 241 (Matthew 24,40; Kozmács 2008, 159)

242 Passivization with *-s'k-* is very common in the text of the Bible (see (20),
 243 which is a sentence from the new translation of the Gospel by Matthew).
 244 In the Udmurt passive sentence either the agent remains unexpressed or
 245 it appears with the postposition *pyr* 'by'.

246 As we have seen, the *-s'k-* morpheme has different functions in Ud-
 247 murt. The following assumption suggests itself: the different functions of
 248 the morpheme can be traced back to one basic function, namely the re-
 249 duction of the theme argument.

250 4. Distinguishing passives from non-causatives

251 Before turning to the decomposition of the verbs taking part in the
 252 causative alternation, the passive forms of the transitive verbs need to
 253 be distinguished from their non-causative counterparts. What passive and
 254 non-causative verbs have in common is the lack of an external argument.
 255 This contrasts with the properties of transitive verbs derived from the
 256 same root. However, the difference relates to the presence of agentive fea-
 257 tures only in the former case (Alexiadou et al. 2006). This similarity is
 258 reflected by the empirical fact that there are languages where the passive
 259 marker can function as the non-causative marker as well. Traditionally,
 260 the difference is explained by the reduction of the arguments, since in the
 261 passive form of the transitive verb there is no explicit agent, as opposed to
 262 non-causative verbs, where there is no agent or causer at all. According to
 263 Alexiadou et al. (2006), the difference between passives and non-causatives

¹⁰ The most common suffix of passivization in Udmurt is the *-(e)myn* participial marker:

(i) So zale pydloges intyja-myn.
 it hall.ILL back place-PASS

'It is placed to the back into the hall.' (Kozmács 2008, 163)

¹¹ The English translation is from the *New King James Version*.

264 depends on the properties of the Voice head introducing the agent, and its
 265 combinations with the causer introduced by the Cause head and various
 266 types of roots.

267 This difference between passives and non-causative verbs has been
 268 studied extensively in languages like English (e.g., Manzini 1983; Marantz
 269 1984; Reinhart 2000; Schäfer 2008, among many others).

270 There are two differences between these types of verbs: (i) modification
 271 or control, and (ii) verb restrictions.

272 As far as modification is concerned, passives can be modified by (i) *by*-
 273 phrases (21a), (ii) agent-oriented adverbs (21b), and (iii) they allow control
 274 into purpose clauses (21c). Non-causatives do not share any of these prop-
 275 erties (21d–f):

- 276 (21) a. The boat was sunk by Bill.
 277 b. The boat was sunk on purpose.
 278 c. The boat was sunk to collect the insurance.
 279 d. *The boat sank by Bill.
 280 e. *The boat sank on purpose.
 281 f. *The boat sank to collect the insurance. (Schäfer 2008, 116)

282 As for **Verb Restriction**, all transitive verbs have a passive counterpart, but
 283 not all of them have a non-causative variant (22a–f).

- 284 (22) a. The baker cut the bread.
 285 b. The bread was cut by the baker.
 286 c. *The bread cut.
 287 d. Bill broke the glass.
 288 e. The glass was broken by Bill.
 289 f. The glass broke. (*idem.*)

290 L&R-H (1995) argue that in addition to Verb Restriction there is also
 291 **Selectional Restriction**: intransitive verbs taking part in the alternation
 292 have a selectional restriction on their internal arguments. This restriction
 293 can be formulated as follows (L&R-H 1995; Reinhart 2000; 2002):

- 294 (23) The transitive verbs that cannot form anticausatives restrict their subjects to
 295 **agents** or **agents** and **instruments** and disallow **causers**.¹² (L&R-H 1995, 106)

¹² Since the causer argument does not need to be agentive, distinguishing between the causer and the agent argument is necessary.

296 In Udmurt, two suffixes, *-s'k-* and *-emyn*, can be used as passive markers
 297 (24a–b).¹³

298 (24) a. Sasha jyr's'ize kvas't-iz.
 Sasha.NOM hair.ACC dry-PAST.3SG
 'Sasha dried his hair.'

299 b. Jyrs'i kvas'ti-s'k-iz.
 hair.NOM dry-ERG-PAST.3SG
 'The hair was dried.'

300 c. Jyrs'i kvas't-emyn.
 hair.NOM dry-PASS
 'The hair was dried.'

301 The sentences in (24b–c) are both passive variants of the active sentence
 302 in (24a). The agent is optional in them; if it does appear, then it bears an
 303 INSTR marker:

304 (25) a. Jyrs'i kvas'ti-s'k-iz Sashaen.
 hair.NOM dry-ERG-PAST.3SG Sasha.INSTR
 'The hair was dried by Sasha.'

305 b. Jyrs'i kvas't-emyn Sashaen.
 hair.NOM dry-PASS Sasha.INSTR
 'The hair was dried by Sasha.'

306 INSTR case is used as an agent marker only in passives; it never occurs
 307 with non-causatives:

308 (26) a. Jyrs'i kvasti-s'k-iz Sashaen. passive
 hair.NOM dry-ERG-PAST.3SG Sasha.INSTR
 'The hair was dried by Sasha.'

309 b. *Jyrs'i kvasti-s'k-iz Sashaen.¹⁴ non-causative
 hair.NOM dry-ERG-PAST.3SG Sasha.INSTR
 '*The hair dried by Sasha.'

¹³ There is a morphological difference between the two markers; *-s'k-* is an affix and it can function as a passive marker only with the 3rd person marker attached to it. The morpheme *-emyn*, on the other hand, is a suffix and it is used without person markers. Historically, *-emyn* can be decomposed into the *-em* participle ending and the *yn* inessive case marker.

¹⁴ To clarify the difference between the two sentences with the same word-formation *kvasti-s'k-iz* two different contexts were used. In the first context only the passive

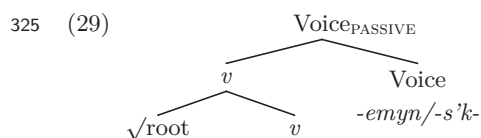
310 The ability of the verb to control into purpose clauses is also a good test
 311 to tease apart passives and non-causative verb-formations. Evidence for
 312 the hidden agentivity of passives comes from the fact that they can be
 313 modified by purpose clauses (27).

- 314 (27) a. Jyrs'i kvas'ti-s'k-iz med vyl' jyrs'i oktet les'toz.
 hair.NOM dry-ERG-PAST.3SG part new hair.NOM style make.FUT.3GS
 'The hair was dried to make a new hairstyle.'
- 315 b. Jyrs'i kvas't-emyn med vyl' jyrs'i oktet les'toz.
 hair.NOM dry-PASS part new hair.NOM style make.FUT.3GS
 'The hair was dried to make a new hairstyle.'

316 This type of modification is not possible with non-causative verbs (28).

- 317 (28) *Jyrs'i kvas'ti-s'k-iz med vyl' jyrs'i oktet les'toz.
 hair.NOM dry-PASS-PAST.3SG part new hair.NOM style make.FUT.3GS
 '*The hair dried to make a new hairstyle.'

318 The fact that agents are licensed in passives but not in non-causatives
 319 suggests that the difference between the two has to do with agentivity, thus
 320 agentivity and causation should be syntactically represented by distinct
 321 functional heads (see also Pylkkänen 2002; Alexiadou et al. 2006). The
 322 syntactic structure of Udmurt passive forms marked by *-emyn* or *-s'k-*
 323 contains a Voice head in the sense of Kratzer (1994); this head hosts the
 324 agent argument. The structure of passives is modeled in (29):



326

5. Analyzing the alternation

327 The main proposal in this section draws on work by Alexiadou (2010; Alex-
 328 iadou et al. 2006), and others: bare and morphologically marked causative
 329 and non-causative verbs have the same structure. Alexiadou et al. (2006),
 330 modifying Kratzer (2003), assume the following core syntactic structure for
 331 all types of change of state verbs, causatives, non-causatives and passives
 332 (30).

variant could be interpreted as a correct answer and in the second context only
 the non-causative variant. (I thank the reviewers for pointing this out.)

333 (30) [(Voice) [CAUS/v [Root + Theme]]]

334 The structure is built on a category-neutral root which is merged either
 335 with a verbalizer head (v) or a causative-verbalizer head (CAUS). Voice
 336 is a lexical head that introduces the external argument for any predicate
 337 (see Kratzer 1996; 2003) and merges with a vP/CAUSP layer.

338 5.1. Non-causative verbs

339 As was illustrated by (1a) and (4a), repeated below as (31a–b), non-
 340 causative verbs have the following two types.

341 (31) a. Pinaljos sajka-zy.
 child.PL.NOM wake.up-PAST.3PL
 ‘The children woke up.’

342 b. Vaza pyly-s’k-iz.
 vase.NOM break-ERG-PAST.3SG
 ‘The vase broke.’

343 In (31a) the non-causative verb does not contain the morpheme *-s’k-*. In
 344 (31b), on the other hand, the ergative morpheme *-s’k-* occurs in the verb.

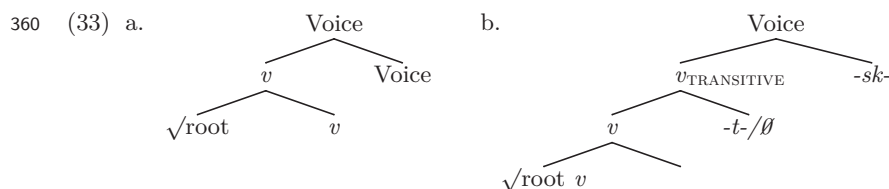
345 As observed in subsection 2.2.1, non-causative verbs can be divided
 346 into two groups on the basis of whether they allow the optional causer to
 347 appear. Non-causative verbs without the causative/transitive morpheme
 348 *-t-* cannot appear with the agentive causer. This contrasts with non-
 349 causative verbs with *-t-*, for instance *ush-ti-s’kyny* ‘to open’ in (32c), which
 350 can co-occur with an agentive causer. Consider the examples in (10), re-
 351 peated below as (32).

352 (32) a. [?]Pinaljos anaj-lešh sajka-zy.
 child.PL.NOM mother-ABL wake.up-PAST.3SG
 ‘The children were woken up by the mother.’
 (Lit.: The children woke up by the mother.)

354 b. Vaza pyli-s’k-iz Sasha seren.
 vase.NOM break-ERG-PAST.3SG Sasha.NOM by
 ‘The vase was broken by Sasha.’
 (Lit.: The vase broke by Sasha.)

355 c. Ös ushkti-s’k-iz Sasha seren.
 door.NOM open-ERG-PAST.3SG Sasha.NOM by
 ‘The door was opened by Sasha.’
 (Lit.: The door opened by Sasha.)

358 Based on the empirical data, I propose that non-causative verbs have two
 359 different structures (33a–b).



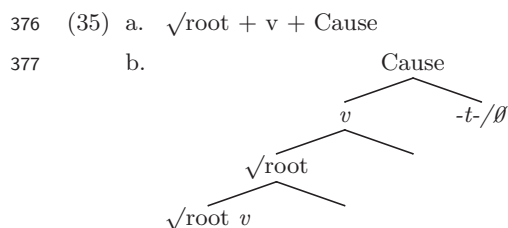
361 I suggest that non-causative verbs that cannot appear with an agentive
 362 causer (e.g., *sajkany* ‘to wake up’) have the structure in (33a). Those that
 363 can appear with an agentive causer have the structure in (33b). These
 364 verbs have an extra layer, and this layer is responsible for the agentivity
 365 of the causer.

366 5.2. Causative verbs

367 As observed above, causative verbs can be divided into two groups on
 368 the basis of whether they contain the morpheme *-t-* or not. Consider the
 369 examples in (1b) and (4b) repeated below as (34).

- 370 (34) a. Anaj pinaljoszy sajka-t-iz.
 mother.NOM child.PL.ACC wake.up-CAUS-PAST.3SG
 ‘The mother woke up the children.’
- 371 b. Sasha vazajez pyl-iz.
 Sasha.NOM vase.ACC break-PAST.3SG
 ‘Sasha broke the vase.’

372 In spite of this fact, however, all causative verbs have the same argument
 373 structure, and the causer can be: (i) an agent, (ii) a causing event, and
 374 (iii) a non-agentive causer. Based on these properties, I propose the follow-
 375 ing syntactic structure for the causative variants of the alternation (35).



378 Unlike non-causative verbs, causative verbs are associated with a Cause
 379 head that hosts the causer argument of the verb. The Causer argument
 380 is not necessarily agentive. This means that the Causer that sits in [spec,
 381 CauseP] can have either a [+Agentivity] or a [−Agentivity] feature.

382

6. Conclusion

383 In this paper I discussed new empirical data of the causative/non-causative
 384 alternation in Udmurt.

385 In my proposal, the alternation takes place in the syntax rather than
 386 in the lexicon. Using the framework of Distributed Morphology (Marantz
 387 1984; Arad 2005), I suggested that both causative and non-causative verbs
 388 are derived from roots in the course of Narrow Syntax.

389 Causative verbs contain either the overt causative morpheme *-t-* or a
 390 phonologically null suffix, while non-causative verbs can have a phoneti-
 391 cally null suffix or the ergative morpheme *-s'k-*.

392 The syntactic structures of the alternants differ in size: causative verbs
 393 contain an extra layer, the CauseP, which introduces the causer argument.
 394 As argued in the paper, the Causer is not necessarily agentive, and so
 395 the Cause head attached to the vP can bear either the [−Agentivity] or
 396 the [+Agentivity] feature. The structure of non-causative verbs lacks the
 397 Cause layer; it contains only the verbalizer layer and VoiceP (the latter
 398 introduces the external argument).

399 Interestingly, some non-causative verbs allow an agentive causer
 400 (a property that has not been observed for non-causatives cross-linguisti-
 401 cally). I suggested that the structure of these verbs contains an extra layer
 402 that can host the agent causer.

403

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