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Lithuanian morphological causatives

A corpus-based study

Peter Arkadiev[i,ii,iii,iv] and Jurgis Pakerys[iv]

[i]Institute of Slavic Studies / [ii]Russian State University for the Humanities / [iii]Sholokhov Moscow State University for the Humanities, Moscow / [iv]Vilnius University

We analyse morphological causative verbs in Lithuanian on the basis of an annotated corpus, studying the distribution of different causative suffixes across the valency types of base verbs, as well as the argument structure of the causatives themselves. We show that different causative suffixes are unevenly distributed with respect to the transitivity and agentivity of the base verbs and that morphological causatives in Lithuanian, being no longer productive, tend to pattern in their argument structure and interpretation together with ordinary transitive verbs. The not very numerous causatives based on transitive verbs are investigated, and it is shown that causatives based on "ingestive" verbs like 'eat' or 'drink' behave differently from causatives formed from other semantic types of bases, in particular in that they allow the expression of both participants of the caused event. The non-ingestive transitive verbs derive so called "curative" causatives which are peculiar in that they never allow regular overt expression of the agent of the caused situation and are therefore not valency-increasing in the strict sense of the term. Such causatives are also shown to undergo meaning shifts rendering them partly synonymous with their base verbs, the original causative semantics being lost.

1. Introduction[1]

1.1 Aim of the study and some definitions

In this paper, we aim at three goals, namely (1) to analyze valency patterns and argument marking of morphological causatives in modern Lithuanian, (2) to present corpus data on type- and hapax-based measures of their productivity and

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(3) to determine the distribution of causative-forming suffixes across the semantic and syntactic classes of their base verbs. In this respect our article largely complements the contributions by Nicole Nau and Axel Holvoet (this volume) dealing with the corresponding phenomena in Latvian. Though Lithuanian morphological causatives have been subject to a considerable number of studies (see an overview below), to our knowledge, no comprehensive and typologically informed analysis taking into account a substantial body of real empirical data (not limited to either selected examples from fiction or isolated constructed examples) and addressing some quantitative issues has been presented so far. The largest part of our study focuses on aim (1) and we hope that it (together with somewhat less elaborated discussion of issues related to aim (3)) could be of interest for the language typologists, while data on (2) should inform those interested in corpus-based measures of productivity.

By **morphological causatives**, following much existing typological literature (Xolodovič ed. 1969; Shibatani ed. 1976, 2001; Song 1996), we understand verbs with a schematic meaning 'cause P' morphologically derived from verbs denoting 'P'. By "morphologically derived" we mean not just "formally related to", but also "morphologically more complex than". According to the typology of formal relations between semantically causative verbs and their non-causative ("inchoative") counterparts proposed in Nedjalkov & Sil'nickij (1969: 20–22) and further developed in Haspelmath (1993), the morphological causative is asymmetrically related to the base verb, e.g. by means of an affix present in the causative verb and absent in the non-causative one. As a certain exception to this principle, we have also included non-numerous cases when the causatives are based on *reflexiva tantum*, e.g. *juok-in-ti* 'make laugh' ← *juok-ti-s* 'laugh', *steb-in-ti* 'surprise' ← *steb-ė-ti-s* 'be surprised', etc. Other types of formal correspondences between semantically related intransitive and transitive verbs attested in Lithuanian are excluded from our analysis. These are situations when the non-causative verb is formally more complex than the causative one (e.g. *rengti* 'dress somebody' ~ *rengti-s* 'dress oneself', related by the **anticausative** use of the reflexive marker, see e.g. Geniušienė 1983, 1987; Holvoet, Grzybowska & Rembiałkowska, this volume), or when both verbs show an equal degree of formal complexity (such as the numerous causative-inchoative pairs in Lithuanian related by means of ablaut and inflection-class change without any dedicated overt affixal marking, e.g. *kìlti*

'rise' (Present *kyla* < *ki-n-l-a, Past *kilo*)[2] vs. *kelti* 'raise' (Present *kelia*, Past *kėlė*); for a recent overview of such pairs and further references see Arkadiev 2013). The same is true of a few verbs which exhibit no formal differences between an inchoative and a causative use (the **labile** type), e.g. *degti* (*dega*, *degė*) 'burn (intr.)' vs. 'light (tr.)', *kepti* (*kepa*, *kepė*) 'bake (intr.)' vs. 'bake (tr.)', *virti* (*verda*, *virė*) 'boil (intr.)' vs. 'cook (by boiling)' (it is worth noting that the Latvian cognates of these verbs have either become obsolete or ceased to be labile, see Nau, this volume, Section 2).

This said, for Lithuanian by "morphological causatives" we mean lexemes derived from other verbs by the addition of suffixes, sometimes together with changes in root vocalism (ablaut) and/or syllable intonation (metatony), cf.:

> *dèg-ti* 'burn (intr.)' (*dēg-a*, *dēg-ė*) → *dēg-in-ti* 'make burn' (suffixation, no phonological changes of the root[3]);
> *siřg-ti* (*seřg-a*, *siřg-o*) 'be ill' → *sarg-din-ti* 'sicken (tr.)' (suffixation, vowel change of the root: *i/e → a*);
> *vařg-ti* (*vařg-st-a, vařg-o*) 'suffer' → *várg-in-ti* 'tire, make weary' (suffixation, metatony: circumflex → acute).

For more on the formal side of the causative derivation in Lithuanian, see Section 2.

The deadjectival causative (traditionally called "factitive") and denominal formations using the same formal means as deverbal causativization (most commonly the suffix *-in-*, e.g. *linksm-as* 'happy' → *linksm-in-ti* 'make happy, entertain' or *lietuv-is* 'Lithuanian' → *lietuv-in-ti* 'make (like) Lithuanian, Lithuanize') are also excluded from our database; taking them into account would not add anything substantial to our discussion.

Productivity in our paper is understood as a feature of a given morphological process (MP) which points to (i) the **regularity** of the MP and (ii) **ability** of the MP **to attract new members** to its class (see e.g. Bauer 2001: 40–41 and 54–56 on potential (new) words and regularity). Thus a productive MP in terms of (i) affects a significant majority of the members of the word class X and, in respect of (ii), it is actively employed in derivation or inflection[4] of new lexemes. In the extreme case of regularity, all members of the class X are (or can be) affected by a

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2. We follow the Lithuanian tradition in giving the three basic forms of verbs indicated in dictionaries and showing the three stems from which all the other verbal forms can be derived by regular rules, i.e. the Infinitive, the 3rd person Present and the 3rd person Past. For a theoretical assessment of the Lithuanian verbal stems see Arkadiev (2012).

3. The lengthening of the root vowel /e/ and the assignment of circumflex intonation can be considered automatic for our purposes (see e.g. Ambrazas ed. 1997: 62–63).

4. If the MP in question is, e.g., an inflectional class or a particular inflectional marker.

given MP (thus the type frequency of the MP is only limited by the size of the class affected by the MP). The ability to attract new members does not equal or imply type/token frequency, i.e. productive MPs in this respect do not necessarily have to be frequent (and *vice versa*, cf. Bauer 2001: 48; Baayen 2008: 905). The ability of a given MP to attract new members is usually proven by its co-occurrence with novel formations and borrowings, and in terms of corpus analysis, it has been argued to correlate with the number of **hapaxes**, i.e. words showing a given MP and attested only once in a corpus (Baayen 1993). We will show that in fact morphological causativization in modern Lithuanian is not a productive operation in this sense (Section 3).

From a broader perspective, morphological causatives have to be placed within the array of **valency-changing mechanisms** in Lithuanian, which comprise both valency-increasing and valency-decreasing operations. **Valency-decreasing** operations attested in Lithuanian can be characterized as more productive and grammaticalized compared to the valency-increasing operations. The passivization via participial suffixes *-m-/-t-* (see e.g. Geniušienė 1974, 2006) is fully grammaticalized and productive (including impersonal passives from intransitive verbs, see Timberlake 1982; Wiemer 2006) while reflexivization or middle formation via the variable-position affix *-s(i)-* is somewhat less regular, but still quite wide-spread (though not in all of its various uses, see Geniušienė 1983, 1987, 2007; Holvoet, Grzybowska & Rembiałkowska, this volume; Wiemer & Grzybowska, this volume). **Valency increase** is realized either by causativization (addition of an external agent[5]) via suffixation or by applicativization (addition of a direct object) via prefixation, cf. *eiti per gatvę* 'go across the street' (unprefixed intransitive verb with a prepositional phrase) vs. *per-eiti gatvę* 'cross the street' (prefixed transitive verb with an accusative direct object). Causativization is less frequent than reflexivization, while applicativization is admittedly most restricted and least productive among the valency changing derivations in Lithuanian (see Kozhanov, forthcoming).

1.2   Previous research on Lithuanian causatives

Causative verbs are usually mentioned in all grammars of Lithuanian in introductory chapters on the verb (Senn 1966: 260–261; Ulvydas ed. 1971: 25; Ambrazas ed., 1985: 191–193; Ambrazas ed., 1997: 223–224; Ambrazas ed., 2006: 286–287). More details are given in the sections on word-formation if they are included in

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5.   Note that in the case of causatives based on transitives, the original agent can be suppressed and thus the actual number of arguments explicitly expressed remains the same, see Section 4.2.

the grammar (Ulvydas ed. 1971:244–245, 263–265; Ambrazas ed., 2006:398–399). From the synchronic perspective, the Lithuanian causatives have been treated in quite a number of works (cf. e.g. Galnaitytė 1980; Savičiūtė 1985, 1986; Toops 1989; Rackevičienė 2002, 2005; Naktinienė 2011; Žeimantienė 2011), which will be briefly discussed below, while the main references for the historical analysis of these formations will be given in Section 2.2.

The semantics of Lithuanian causatives is treated in Savičiūtė (1986) with the emphasis on their possible paraphrases and a distinction between active 'purposive' causation (when the subject is animate, active and the action is clearly directed at the object) vs. passive 'purposeless' causation (the subject is not necessarily animate and the action is somewhat less directed at the object), cf. *gir-dy-ti* 'make drink' (← *ger-ti* 'drink') vs. *varg-in-ti* 'make weary, tire' (← *varg-ti* 'suffer'), as in *Įtemptas darbas **vargina** (žmogų)* 'Strenuous work makes (man) weary' (the direct object can be omitted). In Savičiūtė (1985), the semantics of the **curative** formations (i.e. causatives based on transitive verbs, for more details see below) is analyzed and it is noted that these verbs are characterized by the presence of the initiator of the action (the subject of the clause), the often covert mediator (the subject of the base verb), and the fact that the action is caused by the subject indirectly and without the physical contact with the object (i.e. by order, request, etc.), cf. *Karalius **rašy-din-a** raštą* 'The king is having the document written' (← *rašy-ti* 'write'). Savičiūtė (1985:240) also notes that in some cases the slot of the subject can be taken by the NP which is expected to express the mediator (cf. *Kalvis **nukal-d-ė** naujas pasagas* 'The smith forged new horseshoes' ← *nukal-ti* 'forge') and it is clear that such verbs cannot be interpreted as curatives or causatives *sensu stricto*.

Toops (1989) focuses both on syntax and semantics of the curative formations and notes, among other things, the demotion of the original agent (Toops 1989:260–263, cf. also p. 268 in the context of diathesis) and the possibility of expression of the original agent by PPs and the instrumental NPs (Toops 1989:271–275; cf. also Savičiūtė 1985:237, 242–243). Naktinienė (2011) has recently reviewed the problems of defining and describing the curative verbs in the *Dictionary of Standard Lithuanian* (currently under preparation) and has noted some cases when the curatives lose their initial causative semantics and drift towards the meanings of their bases (as is the case of *kaldyti* '(make) forge' mentioned above). The issues raised by Toops (1989) and Naktinienė (2011) will be taken up in our discussion.

A number of papers on Lithuanian causatives focus on the contrastive and comparative aspects and provide some details on these formations in Lithuanian vs. Russian (Galnaitytė 1980), Norwegian and Finnish (Rackevičienė 2002, 2005), German (Žeimantienė 2011). According to the data of Galnaitytė (1980:104–105),

causatives (both non-suffixal and suffixal ones) are much more numerous in Lithuanian than in Russian (in her dataset based on the *Dictionary of Modern Lithuanian* (DŽ2) and the *Dictionary of Russian* (Ožegov, no year indicated), there are ca. 300 vs. ca. 70 deverbal causatives and ca. 250 vs. ca. 70 deadjectival causatives in Lithuanian and Russian, respectively). Rackevičienė (2002, 2005) notes the non-productive character of the Lithuanian curatives and their replacement by periphrastic constructions, and contrasts these formations with the Finnish ones, which in general are more productive than their Lithuanian counterparts, but are nevertheless also sometimes replaced by periphrastic constructions (cf. Rackevičienė 2002: 142, 2005: 60–61 on the loss of the causative semantic component of morphological curatives in Lithuanian and Finnish). Žeimantienė (2011) compares Lithuanian curatives in *-din-* with the German *lassen*-constructions and suggests that the subjects of these constructions in both languages can be interpreted as initiators or recipients (in the case of reflexive curatives) rather than agents proper (cf. Savičiūtė 1985 above).

1.3   The database

Our data is taken from an 82-million-word corpus, consisting mostly of the periodicals ('publicistika') part of the corpus of modern Lithuanian (DLKT). All our examples, unless specified otherwise, are taken from this corpus, and all quantitative data relates to it. The lexemes were extracted by automatic morphological annotation with some manual correction and supplied with the derivational interpretation (base and affix).[6]

In a number of cases, it was hard and perhaps impossible to determine whether a causative verb having a prefix is a prefixal derivative of an unprefixed causative or a causative derivative of a prefixed base, e.g.: *už-auginti* 'raise, grow' ("perfective"[7] prefixal derivative) ← *auginti* 'raise, grow' ("imperfective") vs. *užaug-in-ti* 'raise, grow' (suffixal causative derivative, also "perfective") ← *užaug-ti* 'grow'

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6. The list of the verbs used in our work is a by-product of a project *The derivation of suffixed verbs in modern Lithuanian (part 1)* carried out by Jurgis Pakerys (Vilnius University), Erika Rimkutė, Andrius Utka, and Loïc Boizou (Vytautas Magnus University, Kaunas) funded by a grant No. LIT-2-4 from the Research Council of Lithuania.

7. We use scare quotes for the terms 'perfective' and 'imperfective' with respect to Lithuanian verbs, since this distinction is not sufficiently grammaticalized in Lithuanian, and, as argued in e.g. Arkadiev (2011), the terms themselves are not fully appropriate. Nevertheless, since aspectual considerations do not play an important role in this article, we decided to stick to these traditional terms, which for our purposes are sufficiently adequate and transparent.

(intransitive, "perfective"). We maximized the number of possible causative formations by including cases like this one, and only the cases which clearly disallow the interpretation of the base with the prefix were excluded, e.g. *su-derinti* 'coordinate' ("perfective") ← *der-in-ti* 'coordinate' ("imperfective", causative) ← *der-ė-ti* (*der-a, der-ėj-o*) 'match', because the interpretation *suder-in-ti* ← *suder-ė-ti* is blocked by the meaning of the intransitive ('negotiate (a price)', "perfective"). Our current list includes 767 causative lexemes which are based on ca. 730 base verbs (ca. 60 of them form more than one causative derivative).

1.4   Structure of the article

In Section 2 we provide a general overview of the Lithuanian morphological causatives as they are represented in our database, discussing their formal properties, their historical origin, and their syntactic and semantic features in comparison to their base verbs. Section 3 contains a discussion of the issue of productivity of morphological causatives. In Section 4 we specifically deal with the causatives based on transitive verbs, accounting for the valency patterns they occur in, and distinguishing between causatives based on the ingestive verbs denoting eating and drinking vs. causatives based on other kinds of transitive verbs, showing that this division corresponds to the traditional distinction between causative verbs *per se* and the curatives. In Section 4 we also discuss the non-trivial semantic developments of the curative verbs; on similar issues in Latvian see Holvoet (this volume).

2.   Morphological causatives in Lithuanian: general overview

In this section we present a general overview of the morphological causativization in Lithuanian, discussing the formal properties of morphological causatives and their historical background, frequency of various causative suffixes, exemplifying the basic valency patterns of causative verbs and providing quantitative data (based on our corpus research) on the distribution of causative suffixes according to the transitivity and semantic properties of the base verbs.

2.1   Morphology of causativization

In most cases, Lithuanian causative verbs have one of three clearly identifiable suf-
fixes, i.e. *-in-*, *-din-* and *-d-*, e.g.: *deg-ti* 'burn (intr.)' → *deg-**in**-ti* 'burn (tr.)'; *sprog-ti*
'explode (intr.)' → *sprog-**din**-ti* 'explode (tr.); *gy-ti* 'recover, heal (intr.)' → *gy-**d**-y-ti*
'treat, heal (tr.)'. Each of these suffixes has the same shape (*modulo* morphopho-
nological processes such as affricativization in the 1Sg Past of *gydyti*) in all cells of
the verb's paradigm, cf. partial paradigms of the abovementioned verbs in Table 1.

Table 1. Partial paradigms of causative verbs

		deginti	*sprogdinti*	*gydyti*
Present	3	*deg-**in**-a*	*sprog-**din**-a*	*gy-**d**-o*
	1SG	*deg-**in**-u*	*sprog-**din**-u*	*gy-**d**-au*
	1PL	*deg-**in**-ame*	*sprog-**din**-ame*	*gy-**d**-ome*
Past	3	*deg-**in**-o*	*sprog-**din**-o*	*gy-**d**-ė*
	1SG	*deg-**in**-au*	*sprog-**din**-au*	*gy-**dži**-au*
	1PL	*deg-**in**-ome*	*sprog-**din**-ome*	*gy-**d**-ėme*
Future	3	*deg-**in**-s*	*sprog-**din**-s*	*gy-**d**-y-s*
Converb of simultaneity		*deg-**in**-damas*	*sprog-**din**-damas*	*gy-**d**-y-damas*

As is evident from Table 1, different causative suffixes are associated with different
inflectional classes (conjugations; see Arkadiev 2012 on the paradigmatic classes
and stem allomorphy of Lithuanian verbs). The suffixes *-in-* and *-din-* yield verbs
of the (Present) *a*-conjugation, while verbs formed with the suffix *-d-* fall into
the *o*-conjugation. The latter is characterized by the feature of 'imparisyllabicity',
whereby the semantically empty 'thematic' suffix *-y-* appears in some forms (i.e.
in the infinitive and forms based on it) but is lacking in the present and simple
past subparadigms (thus the infinitive stem is one syllable longer, hence the term
'imparisyllabic').

The discussion of inflectional classes is important because in our database
there are two dozen causative verbs which are formed not by suffixation but by
mere inflectional class change (cf. Pakerys 2011 on inflectional class change as
a derivational means in Lithuanian), and the class which they are assigned to is
precisely the *o*-conjugation (also selected by the formations in *-d-*, as mentioned
above), cf. *mirkti* 'soak (intr.)' → *mirk-y-ti* 'soak (tr.)'. Cf. Table 2 where partial
paradigms of *mirkti* and *mirkyti* are shown;[8] markers characteristic of their respec-
tive inflectional classes are highlighted.

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8.   Note that the Present of *mirkyti* and Past of *mirkti* are fully homophonous. We consider this
fact as synchronically accidental and will not discuss it any further.

Table 2. Partial paradigm of a causative verb of the *o*-conjugation

		mirkti[9]	*mirkyti*
Present	3	mirk-*st-a*	mirk-*o*
	1SG	mirk-*st-u*	mirk-*au*
	1PL	mirk-*st-ame*	mirk-*ome*
Past	3	mirk-*o*	mirk-*ė*
	1SG	mirk-*au*	mirk*i-au*
	1PL	mirk-*ome*	mirk-*ėme*
Future	3	mirk-*s*	mirk-*y-s*
Converb of simultaneity		mirk-*damas*	mirk-*y-damas*

Despite the obvious fact that causative verbs like *mirkyti* are distinguished from their non-causative base verbs by inflectional material only and lack a dedicated derivational marker (thus not differing in any respect from numerous non-causative verbs of the *o*-conjugation like *valgyti* 'eat'), in the further discussion we will treat the *-y-* of such verbs on a par with true causative suffixes, thus speaking about suffixes *-in-*, *-din-*, *-dy-* and *-y-*. This terminological inaccuracy is aimed at the simplification and unification of our discussion.

The four causative-forming suffixes show different degrees of 'productivity' (we use scare quotes because in Section 3 below we will actually argue that neither of them is really productive in Lithuanian; see e.g. Toops 1989:250–252), i.e. variation in type-frequency of their use to derive causatives. The distribution of the four suffixes in our data is shown in Table 3.

Table 3. Distribution of causative suffixes

Suffix	Number of verbs	%
-y-	24	3
-dy-	128	17
-in-	513	67
-din-	102	13
Total	767	

Besides the mere presence of a suffix and/or change of inflectional class, the causative verb may differ from its base verb in the quality or (more rarely) quantity of the root vowel. It is worth noting that ablaut patterns attested in suffixed causative verbs are not the same as those found in the transitivity-related pairs mentioned in

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9. The *-st-* suffix is the present stem formative characteristic of the inflectional class to which many non-agentive intransitive change-of-state verbs belong, see Arkadiev (2013) and references therein.

Section 1 (for an overview of formal relationships between the members of these pairs see Arkadiev 2013), and, most importantly, such ablaut is irregular and its occurrence is unpredictable. Moreover, there exist pairs of causatives formed from the same base, with and without ablaut, e.g. **brink**-*ti* 'swell' → **brank**-*in-ti* (rare) and **brink**-*in-ti* 'soak' (standard Lithuanian), **iž**-*ti* 'hull (intr.)' → **aiž**-*y-ti* (standard) and **iž**-*y-ti* 'hull (tr.)' (rare). In most, though not all, such cases the causative verb with ablaut is more frequent than its doublet without ablaut, which suggests that the latter are more recent and not always fully established innovations. In Table 4 we give some illustrative examples of verbs formed with different suffixes with and without ablaut, and in Table 5 we provide quantitative data on the distribution of the presence vs. lack of ablaut across the four suffixes.

Table 4. Causatives with and without ablaut

Suffix	With ablaut	Without ablaut
-y-	**tik**-*ti* 'suit, fit' → **taik**-*y-ti* 'adjust'	**mirk**-*ti* 'soak (intr.)' → **mirk**-*y-ti* 'soak (tr.)'
-dy-	**ir**-*ti* 'disintegrate' → **ar**-*dy-ti* 'disassemble, erode'	**gim**-*ti* 'be born' → **gim**-*dy-ti* 'give birth'
	ger-*ti* 'drink' → **gir**-*dy-ti* 'make drink'	**tem**-*ti* 'grow dark' → **tem**-*dy-ti* 'darken (tr.)'
	tūp-*ti* 'perch' → **tup**-*dy-ti* 'make perch'[10]	**pyk**-*ti* 'be angry' → **pyk**-*dy-ti* 'make angry'
-in-	**skęs**-*ti,* Past **skend**-*o* 'sink, drown (intr.)' → **skand**-*in-ti* 'sink, drown (tr.)'	**deg**-*ti* 'burn (intr.)' → **deg**-*in-ti* 'burn (tr.)'
	dyg-*ti* 'sprout' → **daig**-*in-ti* 'make sprout'	**jud**-*ė-ti* 'move' (intr.) → **jud**-*in-ti* 'make move'
	kvep-*ė-ti* 'smell (intr.), emit an odor' → **kvėp**-*in-ti* 'make smell'	**ges**-*ti* 'go out' (about light, fire) → **ges**-*in-ti* 'put out' (about light, fire)
-din-	**sirg**-*ti* 'be ill' → **sarg**-*din-ti* 'sicken (tr.)'	**kirs**-*ti* 'cut' → **kirs**-*din-ti* 'make cut'
		žel-*ti* 'sprout, grow' → **žel**-*din-ti* 'make sprout, grow'

Table 5. Distribution of ablaut across causative suffixes

Suffix	+ ablaut	– ablaut	% with ablaut	Total
-y-	4	20	17	24
-dy-	32	96	25	128
-in-	85	428	17	513
-din-	9	93	9	102
Total	130	633	17	767

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10. Note that the Present stem of the base verb also has a short vowel: *tupi-a.*

As Table 5 clearly shows, ablaut accompanies suffixation only in the minority of cases. It is worth noting that the distribution of ablaut across suffixes is not even, with *-dy-* showing a stronger than average preference for ablaut and *-din-* tending in the opposite direction; however, this distribution is not very statistically significant (chi-square p = 0.01327).

In addition to qualitative and quantitative vowel change, causativization may induce metatony, i.e. the change of syllable intonation. Lithuanian has two syllable intonations distinguished on long syllables traditionally called 'acute' and 'circumflex'; their actual phonetic realization is non-trivial and, contrary to commonly held views, is not directly related to rising or falling pitch; however, the precise characterization is irrelevant here (see e.g. Young 1991; Daugavet 2015). Intonation plays an important role in stress placement (see e.g. Young 1991). In verbs, acute intonation usually implies fixed stress on the stem, while circumflex intonation may induce stress shift to inflectional endings. Causativization may sometimes involve acute metatony (*métatonie rude*, see Derksen 1996, esp. pp. 344–353; Pakerys 2002: 346–347, 359–360) resulting in the acute stress on the stem of the causative verb; this process, like ablaut, is attested with all suffixes, see Table 6, though they seem to show different propensity towards metatony (however, we did not mark metatony consistently in our database, so quantitative data is lacking).

Table 6. Causatives with and without acute metatony

Suffix	Examples with metatony	Examples without metatony
-y-	*tìk-ti* 'suit, fit' → *táik-y-ti* 'adjust'	*mir̃k-ti* 'soak (intr.)' → *mirk-ý-ti*, *mir̃k-o, -ė* 'soak (tr.)'
-dy-	*vȳk-ti* 'happen' → *výk-dy-ti* 'perform'	*tir̃p-ti* 'melt (intr.) → *tirp-dý-ti*, *tir̃p-do* 'melt (tr.)'
-in-	*var̃g-ti* 'struggle' → *várg-in-ti* 'tire, make weary'	*kaĩs-ti* 'heat (up) (intr.)' → *kaĩt-in-ti* 'heat (up) (tr.)'
-din-	*ver̃k-ti* 'weep' → *vìrk-din-ti* 'make cry'	*žél-ti* 'sprout' → *žél-din-ti* 'make sprout'

Finally, causative verbs may differ in their stress placement. With verbs formed by the suffixes *-y-* and *-dy-* stress placement is fully determined by the intonation of the stem: if the latter is acute, the stress is fixed on the stem, otherwise the stress is mobile (and shifts to the *-y-* suffix where it is present). With the other two suffixes the situation is more complex (see e.g. Pakerys 2002: 336–362, 460–476); in most cases, causative verbs with the suffixes *-in-* and *-din-* retain the stress placement of the base; instances of stress shifting to the suffix, according to Pakerys (2002: 461, 474), are attested mainly with verbs exhibiting ablaut; however, there are also verbs without ablaut and with the stress on the suffix, e.g. *áug-ti* 'grow (intr.)' → *aug-ìn-ti* 'grow (tr.)' or *šók-ti* 'jump' → *šok-dìn-ti* 'make jump' (Pakerys 2002: 466).

In addition to the above, it is necessary to mention that Toops (1989: 251–253, 258) claims that the suffix *-din-* has two distinct uses differentiated by stress: in the regular causative use attested with bases which are either intransitive or ambitransitive the stress can shift to the suffix, as in e.g. *lěk-ti* 'run, fly' → *lak-dìn-ti* 'make run, fly' (rare) or *válg-y-ti* 'eat' → *valg-y-dìn-ti* 'feed, make eat'; by contrast, in the curative use restricted to transitive bases and meaning 'have the action denoted by the base verb performed (leaving the actual performer of the action unspecified)' the derivative always preserves the stress of the base verb, e.g. *siū́-ti* 'sew smth.' → *siū́-din-ti* 'have smth. sewn'. According to our data, this generalization seems to hold, however, several arguably curative verbs are formed by the stressed suffix *-in-*, e.g. *užmarš-ìn-ti* 'make forget' ← *užmir̃š-ti* 'forget' (see Section 4.2 for more details).

2.2   Brief historical background

Baltic causatives with the infinitive stem in **-ī-t(e)i* correspond to Slavic *-i-ti* (cf. Old Church Slavonic *poj-i-ti* 'give to drink' ← *pi-ti* 'drink', *sad-i-ti* 'plant' ← *sěs-ti* < **sēd-ti* 'sit down'), but note the difference of the present stem (*-i-* in Slavic vs. **-ā-* in Baltic; some present stems in *-ja* alongside infinitive in *-y-ti* are also attested in the dialects of Lithuanian), see Stang (1942: 24), Endzelīns (1951: 826–827), Stang (1966: 325, 329). Old Prussian has present stem in *-ā-* (or even **-āja*, Smoczyński 2005: 210, 449–452) alongside infinitive stem in *-ā-* (cf. 3.PRS *lāiku* 'hold(s)', inf. *laik-ū-t* 'hold' (*ku/kū < *kā*) vs. Lithuanian *laik-o, laik-y-ti*) (Stang 1966: 323).

Causatives with the suffix *-in-* are a Baltic innovation, cf. Lithuanian *aug-in-ti*, Latvian *audz-inā-t* 'grow (tr.)', Old Prussian PST.PP *po-aug-in-ts* 'auferzogen; brought up' (cf. also Old Church Slavonic *bud-i-ti* alongside Lithuanian *bud-in-ti* 'wake (tr.)', Old Prussian PST.PP *et-baud-in-ts* 'auferweckt; awakened'). Causatives with the suffixal *-d-* are considered an East Baltic innovation and are not attested in Slavic and Old Prussian, cf. Lithuanian *-dy-ti*, *-din-ti*, Latvian *-dī-t*, *-dinā-t*, Lithuanian *gul-dy-ti* 'lay down', Latvian *gul-dī-t* 'put to bed' ← Lithuanian *gul-ė-ti* 'lie', Latvian *gul-ē-t* 'sleep', Lithuanian *lo-din-ti*, Latvian *lā-dinā-t* 'make bark' (Endzelīns 1951: 839) ← Lithuanian *lo-ti,* Latvian *lā-t* 'bark' (Endzelīns 1951: 831, 839). This *-d-* has probably arisen as a result of resegmentation of the present stems in *-d-a*, cf. *ver-d-a* 'boil (tr./intr.)' as the sole relic of this stem in Lithuanian (Smoczyński 1987). It has to be noted that Latvian also has causatives in *-(d)ē-t* (*-ēj-u*) which are virtually unknown in Lithuanian and Old Prussian, cf. *aug-t* 'grow (intr.)' → *audz-ē-t* 'grow (tr.), raise', *rūg-t* 'ferment (intr.)' → *raudz-ē-t* 'ferment (tr.)', *dzim-t* 'be born' → *dzem-dē-t* 'give birth' (see Endzelīns 1951: 807–809 and Ostrowski 2006: 28–32 for details).

It has also to be mentioned that the deverbal formations in *-y-ti, -dy-ti* and *-in-ti* (but not in *-din-ti*) can be also iterative, e.g. *mes-ti* 'throw' → *mèt-y-ti* 'throw repeatedly', *šau-ti* 'shoot' → *šau-dy-ti* 'shoot repeatedly', *kark-ti* 'croak' → *kark-in-ti* 'croak repeatedly' (alongside causative 'make croak'); note that the iteratives in *-in-ti* are very rare and may also have a diminutive shade; by contrast, among the cognate Latvian formations in *-inā-t* iteratives are systematically attested alongside with causatives, see Holvoet (this volume).[11]

2.3   Causative verbs in relation to their bases: syntactic aspects

In Lithuanian, morphological causatives can be formed from base verbs with any valency, both intransitive and transitive, though causatives based on intransitive verbs are clearly the overwhelming majority. The distribution of causatives formed from transitive and intransitive verbs in our data is shown in Table 7.

Table 7. Distribution of causatives (number of lexemes) across the valency types of the bases

	Intransitive	%	Ambitransitive	%	Transitive	%	Total
-y-	22	92	2	8	0	0	24
-dy-	125	98	3	2	0	0	128
-in-	486	95	16	3	11	2	513
-din-	48	47	5	5	49	48	102
Total	681	89	26	3	60	8	767

As is clear from Table 7, causatives based on intransitive verbs account for almost 90% of all morphological causatives in our data; their share becomes even higher when a closer look is cast on some of the ambitransitive verbs (see below). This is not surprising, given that cross-linguistically causatives are more frequently formed from intransitive verbs than from transitive ones (cf. Nedjalkov & Sil'nickij 1969: 26). What is less trivial is the evident skewed distribution of causatives derived from transitive and intransitive bases across different causative suffixes. Whereas the suffixes *-y-* and *-dy-* do not attach to exclusively transitive bases at all, and the suffix *-in-* applies to transitive bases only quite marginally, the suffix *-din-* is clearly biased towards transitive bases, accounting for more than 80 percent of all causatives derived from transitives. The distribution in Table 7 is highly statistically significant (chi-square $p < 0.001$, Cramer's $V = 0.42$, i.e. effect size is large). It is not surprising that *-din-* rather than some other causative suffix favours

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11.   See Ulvydas (ed. 1971: 244, 246, 264) and Ambrazas (ed. 2006: 396–398).

transitive bases, since, as Nedjalkov & Sil'nickij (1969: 26–27) show, cross-linguistically formally more complex causative affixes (e.g. those with a larger number of phonological segments) tend to form causatives from transitive verbs, while formally simpler suffixes (e.g. with a smaller number of phonemes) tend to be restricted to intransitive bases.

Now we turn to the relations between base verbs and morphological causatives in terms of valency and argument realization. Since causativization is generally understood as a valency-increasing operation introducing a new highest-ranking argument (Causer) into the argument structure of the verb, it should involve some kind of restructuring of the base verb's diathesis (see e.g. Nedjalkov & Sil'nickij 1969: 49–50; Comrie 1976; Dixon 2000: 41–59). We will discuss the material according to the valency of the base verbs beginning with the most frequent type, viz. the intransitive (2.3.1), then turning to impersonal bases (2.3.2), followed by (mono)transitive (2.3.3), ditransitive (2.3.4), and ambitransitive (2.3.5) bases.

2.3.1   *Intransitive bases*

The simplest case is presented by causatives derived from intransitive verbs (these may be both one-argument and two-argument verbs with an oblique argument), since these in no respect differ from ordinary underived transitive verbs with the Causer realized as the subject and the base subject (Causee) as the direct object, see Example (1) with a causative based on a one-place intransitive verb and Example (2) with a causative from a two-place intransitive verb. The (b) examples show the corresponding base verbs, and the (c) examples schematically present the diathesis change induced by causativization. We use the following symbols in the schemas: S, A and P stand for the cross-linguistic core semantic relations as defined by Comrie (1978; 1989: 110–111); Causer is the new A argument introduced by causativization; Causee is the argument corresponding to the original S or A of the base verb; Sbj, DO, IO, Obl are language-specific grammatical relations 'subject', 'direct object', 'indirect object' and 'oblique object', respectively; co-indexation indicates the semantic correspondences between the arguments of the base verb and those of the causative. In these and further examples, the relevant verbal forms are marked boldface, while the relevant arguments are in small capitals.

(1)   a.   *J-is*   *dirb-a*   *Sofij-oje,*
           3-NOM.SG.M   work-PRS.3   Sofia-LOC.SG
           dažniausiai **gy-d-o**   *sportinink-ų*   TRAUM-AS.
           usually   heal-CAUS-PRS.3   athlete-GEN.PL   injury-ACC.PL
           'He works in Sofia and usually treats sports injuries.'

b. *Ši-uo   met-u   jauči-uo-si   neblogai,*
this-INS.SG.M time-INS.SG feel-PRS.1SG-RFL not.bad
TRAUM-A   *gyj-a…*
injury-NOM.SG heal-PRS.3
'Currently I feel not bad, my injury is healing…'

c. V_{intr} < S_i: Sbj > → V_{caus} < Causer = A: Sbj; Causee = P_i: DO >

(2) a. *J-is   TOKI-AS   MINT-IS   prilyg-in-o*
3-NOM.SG.M such-ACC.PL.F thought-ACC.PL be.equal-CAUS-PST.3
provokacij-ai…
provocation-DAT.SG
'He equated such thoughts to a provocation…'

b. *…ar Jūs-ų   ORKESTR-AS   prilygst-a   geriaus-iems*
Q 2PL-GEN orchestra-NOM.SG be.equal-PRS.3 best-DAT.PL.M
Europ-os   orkestr-ams?
Europe-GEN.SG orchestra-DAT.PL
'…is your orchestra like the best European orchestras?'

c. V_{intr} < S_i: Sbj; IO_j > → V_{caus} < Causer = A: Sbj; Causee = P_i: DO; IO_j >

2.3.2 Impersonal bases

A special and very rare subtype of causativization of intransitive verbs is consti-tuted by cases when the base verb is in fact zero-argument ("impersonal"); Dixon (2000: 43) notes that causativization of impersonal verbs is rare cross-linguistically. In Lithuanian, it is attested by e.g. the verb *lyti* 'rain', which forms the causative *ly-din-ti* 'make rain' (attested only once in our corpus; see also Holvoet, this vol-ume, Section 7, for a discussion of parallel formations in Latvian). This causative is a one-place predicate whose only core argument is the Causer, cf. Example (3), where the verb is used metaphorically rather than in its literal sense; the metaphor is induced by the instrumental adjunct – "with brimstone and fire" in (3a), "with little and large 'stars'" in (3b) – denoting the entity substituted for *rain*.

(3) a. *Tuomet Viešpat-s   ly-din-o   ant Sodom-os   ir*
then   Lord-NOM.SG rain-CAUS-PST.3 on Sodom-GEN.SG and
Gomor-os   sier-a   ir   ugn-imi…
Gomorrah-GEN.SG brimstone-INS.SG and fire-INS.SG
'Then the Lord rained on Sodom and Gomorrah brimstone and fire…'[12]

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12. Genesis 19:24, but note that in the current Lithuanian Catholic translation of the Bible, the simplex *ly-ti* 'rain' is used: *Tuomet Viešpats **lijo** ant Sodomos ir Gomoros siera ir ugnimi* (http://biblija.lt/).

(3) b. *Pirm-ą   rugpjūči-o   savaitgal-į   Druskinink-uose*
         first-ACC.SG August-GEN.SG weekend-ACC.SG Druskininkai-LOC.PL
         lij-o   *maž-omis   ir   didel-ėmis   „žvaigžd-ėmis“.*
         rain-PST.3 small-INS.PL.F and large-INS.PL.F star-INS.PL
         'On the first weekend of August it rained small and large 'stars' in
         Druskininkai.'

     c. V_{impers} < (Obl) > → V_{caus} < Causer = S: Sbj; (Obl) >

It must be noted that the verb *lyti* 'rain' can in fact occur with an overt nominative
cognate subject *lietus* 'rain', and it is therefore not surprising that rare examples of
the causative *lydinti* used as a transitive verb with 'rain' as the direct object are also
attested, however, not in our main corpus, cf. Example (4).

(4) a. *Kaip raš-ė   poet-as,   čia Lietuv-a,*
         as   write-PST.3 poet-NOM.SG here Lithuania-NOM
         *čia LIET-ŪS   **lyj-a**…*
         here rain-NOM.PL rain-PRS.3
         'As a poet wrote, here is Lithuania, here rains rain…'

     b. *…Diev-o,   kur-is …   **ly-din-a**   LIET-Ų*
         God-GEN.SG which-NOM.SG.M rain-CAUS-PRS.3 rain-ACC.SG
         ant teisi-ųjų   ir   neteisi-ųjų.
         on righteous-GEN.PL.DEF and unjust-GEN.PL.DEF
         '… of God, who … pours rain both on the righteous and
         on the unjust.'[13]

2.3.3   *(Mono)transitive bases*

When we turn to the causatives based on two-argument transitive verbs, we find a
much more complex situation, which will be discussed in more detail in Section 4.
A causative derived from a transitive base verb in principle has three arguments:
the newly introduced Causer and the two arguments of the original predicate; the
realization of the latter two is subject to cross-linguistic variation (see e.g. Comrie
1976; Dixon 2000: 48–56; Kulikov 2001). The two cross-linguistically well-attested
options relevant for Lithuanian are the one when the original P retains its status
while the Causee (= original A) is demoted to some non-core function (e.g. an
indirect or an oblique object), and the situation where the causativization of tran-
sitive verbs basically follows the model of the causatives based on two-argument
intransitive verbs, i.e. the Causee is realized as the direct object of the causative
verb, while the original P is demoted. Both options are attested in Lithuanian,

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13. Antanas Maceina, based on Matthew 5:45 (http://maceina.lt/html/nieksybespaslaptis.html).
The current Lithuanian Catholic translation of the Bible uses *siųsti lietų* 'send rain': … **siunčia
lietų** *ant teisiųjų ir neteisiųjų.*

notably, sometimes with the same verb, cf. Examples (5) and (6) with the causativization of *gerti* 'drink'.

(5) a. *Kad* MORK-Ų   SULT-IS   **gir-d-o**   MAŽVAIKI-AMS.
that carrot-GEN.PL juice-ACC.PL drink-CAUS-PRS.3 toddler-DAT.PL
'[Even I know] that [people] give carrot juice to toddlers to drink.'

b. *Daug geriau, kai* VAIK-AS   **geri-a**   PIEN-Ą,   SULT-IS…
much better   when child-NOM.SG drink-PRS.3 milk-ACC.SG juice-ACC.PL
'It is much better when a child drinks milk or juice…'

c. V_{tr} < A_i: Sbj; P_j: DO > → V_{caus} < Causer: Sbj; P_j: DO; Causee$_i$: IO >

(6) a. *…kuri-os*   *savo*   KŪDIK-Į   **gir-d-o**
which-NOM.PL.F RFL.POSS baby-ACC.SG drink-CAUS-PRS.3
MORK-Ų   SULT-IMIS…
carrot-GEN.PL juice-INS.PL
'[young moms] who give their baby carrot juice'

b. V_{tr} < A_i: Sbj; P_j: DO > → V_{caus} < Causer: Sbj; Causee$_i$: DO; P_j: Obl >

Note that Toops (1989: 262–263) argues that the valency pattern of morphological causatives shown in (6) is in fact an instance of the causativization of intransitive variants of verbs like *gerti* 'drink' or *valgyti* 'eat', which, just like their English counterparts, often occur without the direct object realizing the P argument. Further, Toops claims that transitive variants of such verbs do not form morphological causatives at all. We will discuss the possibility of an intransitive-based analysis of examples like (6a) in Section 4.1, but here we want to note that Toops was evidently unaware of examples like (5a), which clearly show that transitive *gerti* can in fact be causativized.

Another option for causativization of transitive verbs in Lithuanian is similar to the one shown in (5) (i.e. when the P argument of the base verb remains in place), but for the fact that the Causee is usually not realized. This pattern, traditionally called curative, is in fact the most common, at least in terms of type frequency; it is shown in Example (7) and will be further discussed in Section 4.2.

(7) a. *Jon-ui*   *aš*   **nu-kirs-din-au**   GALV-Ą …
John-DAT.SG I:NOM PRV-cut-CAUS-PST.1SG head-ACC.SG
'[Herod said] I had John beheaded …' (lit. I had John's head cut off)

b. *…budel-is*   **nu-kirt-o**   *j-am*   GALV-Ą
executioner-NOM.SG PRV-cut-PST.3 3-DAT.SG.M head-ACC.SG
Vilni-uje…
Vilnius-LOC.SG
'… the executioner beheaded him in Vilnius…' (lit. cut his head off)

c. V_{tr} < A_i: Sbj; P_j: DO > → V_{caus} < Causer: Sbj; P_j: DO; Causee$_i$: ∅ >

Note that the dative NP in (7a) can only be interpreted as an external possessor of the direct object (in this case 'head') or, in other cases, as a beneficiary, but never as the Causee, which is usually never overtly realized. Dixon (2000: 47) states that in "virtually every … language all the original arguments may be stated, together with the new argument, the causer", thus, the Lithuanian situation looks cross-linguistically rather unusual. However, Nedjalkov & Sil'nickij (1969: 50) state that they observe in many languages a tendency to omit the Causee with causative verbs with more than two arguments, so it might well be the case that the ban on the expression of the Causee in a subtype of Lithuanian causative constructions with transitive bases is a result of grammaticalization of such a discourse tendency (see e.g. Hawkins 1994 on the relation between text frequency and grammatical-ization of syntactic patterns).

2.3.4   *Ditransitive bases*

Causativization of ditransitive (three-argument) verbs is attested in Lithuanian only marginally. A clear causative based on *duo-ti* 'give' (*duo-din-ti* 'let give') is only attested in Early Lithuanian, cf. Example (8), where the Causee is left unexpressed, while the direct and indirect object of the base verb retain their status and marking.

(8) **duo-din-ki**=m   *viet-ą*   *miest-uosu*   *taut-os* …
     give-CAUS-IMP.2SG=1SG.DAT.CL place-ACC.SG town-LOC.PL people-GEN.PL
     'order to give me a place in the towns of the nation.'
                         (1 Samuel 27: 5, Bible translation of Bretkūnas, 1579–1590;
                                    the example is rendered in modern orthography)

In contemporary Lithuanian, the only ditransitive verbs forming morphological causatives are the verb *siųsti* 'send' and its prefixal derivatives, see Example (9). Note that (9a) is parallel to (8) and (7a) in that the Causee is left unexpressed and the objects of the base verb remain intact.

(9) a. *Už tai j-is*   MAN **par-siųs-din-o**   NAUJAUSI-Ų
         for this 3-NOM.SG.M I:DAT PRV-send-CAUS-PST.3 newest-GEN.PL
         FILOSOFINI-Ų   KNYG-Ų   *vokieči-ų*   *kalb-a*
         philosophic-GEN.PL book-GEN.PL German-GEN.PL language-INS.SG
         iš   *Berlyn-o.*
         from Berlin-GEN.SG
         'In return he had some of the newest philosophy books in German sent to me from Berlin.'
     b. *Tёv-as*   J-AM   **siųs-dav-o**   LAIŠK-US…
         father-NOM.SG 3-DAT.SG.M send-HAB-PST.3 letter-ACC.PL
         'Father used to send him letters.'
     c. $V_{ditr} < A_i$: Sbj; P_j: DO; $IO_k > \rightarrow V_{caus} <$ Causer: Sbj; P_j: DO; IO_k; Causee$_i$: $\varnothing >$

2.3.5   *Ambitransitive bases*

There are about two dozens of verbs in our database which we classify as 'ambi-transitive' or 'labile' (see e.g. Haspelmath 1993:92; Kulikov 2001:887; Letuchiy 2009a; Letučij 2013), i.e. able to appear both in an intransitive (monovalent) and in a transitive (bivalent) valency frame. Such verbs fall into two types, corresponding to the cross-linguistically established categories of 'P-labile' and 'A-labile' verbs. With P-labile verbs, like English *break*, the transitive use is itself a causative of the intransitive use, with the subject of the intransitive variant corresponding to the P (direct object) of the transitive one; A-labile verbs, like English *eat*, show a different pattern, where the subject of the intransitive variant corresponds to the A argument of the transitive one. In Lithuanian, there are very few P-labile verbs, while the class of A-labile verbs is somewhat larger,[14] and both can form morphological causatives. Interestingly, when a P-labile verb is causativized, the causative verb is invariably based on the intransitive variant of the base verb, thus yielding a semantically close equivalent of the latter's transitive use. In fact, for some verbs, such overtly marked causatives seem to actually supplant the transitive variants of the base verbs, which are not frequently used in the contemporary language.[15] Thus, causatives like *deginti* 'burn (tr.)', *virinti* 'boil, cook (tr.)', *kepinti* 'bake (tr.)' together with their prefixal derivatives correspond to the intransitive uses of, respectively, *degti* 'burn', *virti* 'boil', *kepti* 'bake'; cf. Example (10a) showing the morphological causative and (10b) and (10c) illustrating the intransitive and the transitive uses of the base verb.

(10) a. *Žmon-ės*   **deg-in-a**   LAUŽ-US,   *gied-a,*   *dainuoj-a.*
          people-NOM.PL burn-CAUS-PRS.3 fire-ACC.PL chant-PRS.3 sing-PRS.3
          'People burn fires, chant, sing.'

      b. *Dideli-am*   *plot-e*   **deg-a**   LAUŽ-AI.
          large-LOC.SG.M square-LOC.SG burn(INTR)-PRS.3 fire-NOM.PL
          'There are fires burning on the large area.'

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14. In fact, the class of A-labile verbs in Lithuanian cannot be strictly defined since omission of the direct object under appropriate discourse conditions is possible with virtually any transitive verb. However, once we distinguish between what Fillmore (1986) calls 'definite null complements' and 'indefinite null complements', the class of A-labile verbs can be limited to those which, when occurring without the direct object, can be interpreted as implying no specific P argument.

15. For instance, Google searches on February 28 2014 yield 6 hits for *dega laužus* '(he/she/they) light(s) up fires' vs. more than 50 for *degina laužus* 'burn(s) fires'. However, for the verbs *virti* vs. *virinti* 'boil' there was no difference in frequency, at least with the object 'water': *verda vandenį* 19 hits, *virina vandenį* 19 hits.

(10)   c.   *Ei-dam-a   prie savo   sost-o,*
        go-CNV-SG.F   to   RFL.POSS   throne-GEN.SG
        *j-i   **deg-a**   ŽVAK-ES.*
        3-NOM.SG.F   burn(TR)-PRS.3   candle-ACC.PL
        'Walking to her throne, she lights up candles.'

In fact, given that *deginti*, *kepinti* and *virinti* are formed by the suffix *-in-*, which only marginally applies to transitive verbs, one could expect that it would be possible to derive the causative counterparts to the transitive uses of *degti*, *kepti* and *virti* by means of the suffix *-din-*, which, as we have seen, is skewed towards transitive bases. However, the use of *degdinti*, *kepdinti* and *virdinti* is only marginally attested, and, notably, not attested in DLKT at all.[16]

As to the causativization of A-labile verbs, we have already mentioned Toops' (1989) claim that only their intransitive variants form causatives, just as happens with the P-labile verbs. However, this generalization does not hold given the existence of examples like (5a) above, where the original P of the transitive verb is retained in the causative construction alongside the Causee demoted to the indirect object. Moreover, in at least one case the causative seems to be based solely on the transitive rather than on the intransitive use of an A-labile verb, cf. Example (11) with *dirbdinti* 'have smth. produced' from *dirbti* 'work (intr.); do, cultivate (tr.)'. Note that we are evidently dealing with a case of lexicalization here, since the verb *dirbti* seems to be no longer actively used in the meaning 'produce, make' (see also Section 4.3).[17]

(11)   a.   *…**dirb-din-o**   Paryži-uje   Šv. Jon-o   bažnyči-os*
        work-CAUS-PST.3   Paris-LOC.SG   St. John-GEN.SG   church-GEN.SG
        VITRAŽ-US.
        stained.glass-ACC.PL
        '[He] ordered (lit. let produce) stained glass in Paris for St. John's church.'

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16. LKŽe lists *degdinti* as a causative synonym of *deginti*, i.e. derived from the intransitive variant of *degti*. According to the same source and the 2011 edition of the Dictionary of Modern Lithuanian (DŽ6e), *kepdinti* 'have smth. baked' and *virdinti* 'have smth. boiled' are interpreted as "curative" verbs based on the transitive uses of *virti* and *kepti*, and only *kepdinti* as a curative formation will be included in the new Dictionary of Standard Lithuanian, see Naktinienė (2011: 155) (a full list of non-prefixed curative formations to be included in the dictionary) and preliminary (exemplary) data on the website of the dictionary: *Vestùvinius tòrtus **kẽpdinsiu** tetõs kulinãrijoje* 'I will have the wedding cakes baked at the bakery of my aunt', http://bkz.lki.lt/antrastynas/?id=27002).

17. This meaning is included in DŽ6e, but the examples provided look old-fashioned.

b. *Ne iš   ger-o   gyvenim-o pensinink-ai*
    not from good-GEN.SG.M life-GEN.SG pensioner-NOM.PL
    dirb-a.
    work(INTR)-PRS.3
    lit. 'The retired work not because they live well.' (i.e. because their pensions
    are not enough to live on).

c. *Bet daugiausiai **dirb-a**   žem-ę,   kur-i   nėra*
    but   mostly   work(TR)-PRS.3 land-ACC.SG which-NOM.SG.F is.not
    j-ų   nuosavyb-ė.
    3-GEN.PL   property-NOM.SG
    'But mostly [they] cultivate land which is not their own property.'

2.3.6   *Summary*

To conclude, morphological causatives in Lithuanian can be formed from verbs
with one, two or even three arguments, both formally transitive and intransitive
as well as ambitransitive. Causatives of transitive verbs have considerably lower
type frequency and are mainly formed by the longest of the four causative suf-
fixes, which is in line with the cross-linguistic trends observed for morphological
causativization.

2.4   Causative verbs in relation to their bases: semantic aspects

Now let us turn to the semantic properties associated with the subject of the base
verb (which becomes the Causee of the causative derivative), i.e. the parameters
of animacy and control or volitionality, directly related to the important issue of
agentivity (see e.g. Dowty 1991 and Næss 2007 on the semantic components of
agentivity in general, and Nedjalkov & Sil'nickij 1969: 33–34, Shibatani 2001 spe-
cifically on its role in causative constructions). It is important to note that animacy
and control are independent, but asymmetrically related parameters: an animate
participant can be both controlling and non-controlling, but an inanimate one can
only be non-controlling (disregarding the not so simple issue of 'agentive' natural
forces and mechanisms). Besides that, the parameters of animacy and control-
lability are logically independent of transitivity: both intransitive and transitive
subjects can be animate or inanimate or controlling or non-controlling, though,
clearly, the proportion of causative-forming verbs allowing or requiring inanimate
or animate non-controlling subjects is much lower with (ambi)transitive verbs
than with intransitive ones, as is shown in Tables 8 and 9[18] (as these tables reveal,

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18. Note that since we could not fully reliably determine the values for a number of verbs, the
figures in Tables 8 and 9 are smaller than those in Table 7.

Table 8. Relation between transitivity and animacy of the subject of the base verb (number of lexemes)

Affix	+animacy	%	−animacy	%	±animacy	%	Total
−transitive	179	28	276	44	177	28	632
±transitive	14	56	5	20	6	24	25
+transitive	40	67	0	0	20	33	60
Total	233	33	281	39	203	28	717

Table 9. Relation between transitivity and controllability of the subject of the base verb (number of lexemes)

Affix	+control	%	−control	%	±control	%	Total
−transitive	58	9	536	80	71	11	665
±transitive	13	52	8	32	4	16	25
+transitive	41	64	3	5	15	25	59
Total	122	15	547	73	90	12	749

transitive and ambitransitive causative-forming verbs strongly favour animate and controlling subjects, while intransitive verbs slightly favour inanimate subjects and strongly favour non-controlling ones; both distributions are highly statistically significant, chi-square $p < 0.0001$ with a moderate to large effect size, Cramer's $V > 0.20$). Separate and interesting cases are constituted by verbs admitting both animate and inanimate subjects (e.g. *skęsti* 'sink, drown') or both controlling and non-controlling subjects (e.g. *judėti* 'move'), to which we will turn below.

Quantitative data concerning the distribution of the features 'animacy of the subject of the base verb' and 'controllability of the subject of the base verb' across the four causative suffixes are given in Tables 10 and 11. From these tables it is clear that, once again, the distribution of causative suffixes across the semantic parameters is not even, with the suffix *-din-* clearly favouring verbs with controlling and animate subjects (both distributions are highly statistically significant, chi-square $p < 0.0001$, though with controllability the preference for *-din-* is even stronger than with animacy, as evidenced by the larger effect size: Cramer's $V = 0.18$ for animacy and 0.31 for controllability). Of course, such an uneven distribution of causative suffixes with respect to animacy and controllability of the base verbs' subject is related to their skewed distribution with respect to the base verbs' transitivity, shown in Table 7 above: it is clear that most transitive verbs forming causatives with *-din-* have animate and controlling subjects. However, it should be noted that while half of the verbs forming causatives with the help of *-din-* are in fact intransitive, just a quarter of such verbs allow only non-volitional subjects, and less than 10 percent allow only inanimate subjects, which shows that *-din-* not

Table 10. Distribution of causatives according to the animacy of the base verbs' subject (number of lexemes)

Affix	+animacy	%	−animacy	%	±animacy	%	Total
-y-ti	7	31	10	43	6	26	23
-dy-ti	35	27	53	42	40	31	128
-in-ti	136	27	225	44	151	29	512
-din-ti	55	55	9	9	36	36	100
Total	234	31	297	39	232	30	763

Table 11. Distribution of causatives according to the controllability of the base verbs' subject (number of lexemes)

Affix	+control	%	−control	%	±control	%	Total
-y-ti	2	9	21	91	0	0	23
-dy-ti	12	9	100	78	16	13	128
-in-ti	51	10	402	79	59	12	512
-din-ti	50	50	24	24	26	26	100
Total	117	15	547	72	99	13	763

only favours bases with animate and controlling subjects, but also disfavours bases with inanimate and non-volitional subjects.

An important question in connection with the parameters of animacy and especially control/volitionality of the subject of the base verb concerns the degree to which the positive values of these parameters are retained in morphological causatives, where the original subject becomes the Causee. Temporarily taking for granted that causatives formed from verbs allowing just animate / controlling or just inanimate / non-controlling subjects inherit the respective properties of their bases, in the following we will first focus on causatives based on verbs able to take both animate / controlling and inanimate / non-controlling subjects. Since we have not investigated this issue for all verbs in our database, we cannot provide a statistical analysis here.

In many cases causatives derived from a verb allowing both a volitional and a non-volitional subject restrict the interpretation of the Causee to the non-volitional one (cf. similar observations regarding Latvian in Nau, this volume). For example, *plukdyti*, the causative of *plaukti* 'swim, float, move on water' (as well as its prefixal derivatives), denotes only situations when the Causee is non-volitional: either when it is moved by the flow of water itself, Example (12a), or when it is transported by a ship, Example (12b). Causation of volitional swimming like the one shown in Example (13a) can only be expressed by a periphrastic causative construction, cf. Example (13b)

(12) a. *Prie krant-o   su   draug-ais   be-si-maud-a-nt-į*
       at   shore-GEN.SG with friend-INS.PL CNT-RFL-bathe-PRS-PA-ACC.SG.M
       *JAUNUOL-Į   į   jūr-ą   **nu-pluk-d-ė***
       youth-ACC.SG in sea-ACC.SG PRV-move.in.water-CAUS-PST.3
       stipr-i   srov-ė.
       strong-NOM.SG.F current-NOM.SG
       'A youth bathing close to the shore with his friends was dragged into the sea by a strong current.'

   b. *…nu-plauki-au   į   sal-ą,   iš   kur   MAN-E*
         PRV-move.in.water-PST.1SG in island-ACC.SG from where I-ACC
       *draug-ai   valt-imi   **par-pluk-d-ė***
       friend-NOM.PL boat-INS.SG PRV-move.in.water-CAUS-PST.3
       į   baz-ę.
       in base-ACC.SG
       '… I swam to the island, from where my friends brought me back to the base on a boat.'

(13) a. *Mėgst-u   **plauk-ti**, nors **plauki-u**   ne ypač gerai.*
       like-PRS.1SG swim-INF though swim-PRS.1SG not very well
       'I like swimming, though I don't swim very well.'

   b. *…kad [šuo]   bū-tų   PRIVERS-T-AS   **plauk-ti**.*
         that dog:NOM.SG AUX-IRR.3 cause-PST.PP-NOM.SG.M swim-INF
       '… so that [the dog] has to swim (lit. is caused to swim).'

A similar observation can be made about the other causatives with the suffix *-dy-* based on a verb with [±controlling] subject, i.e. *virkdyti* 'cause to cry' ← *verkti* 'cry, weep' and *tupdyti* 'make land' ← *tūpti* 'perch, land'. In many cases *virkdyti* is used with an inanimate object and denotes causation of sound, cf. Example (14a); when the Causee with this verb is animate it is rather interpreted as non-volitional, cf. Example (14b).

(14) a. *…j-is   **virk-d-o**   ARMONIK-Ą…*
         3-NOM.SG.M cry-CAUS-PRS.3 accordion-ACC.SG
       '… he plays (lit. makes cry) accordion…'

   b. *J-am   patik-o   **virk-dy-ti**   „JAUNAMART-Ę".*
       3-DAT.SG.M like-PST.3 cry-CAUS-INF bride-ACC.SG
       'He liked to make the "bride" weep.'

In a similar fashion, while *tūpti* 'perch; land' can co-occur with an animate and volitional subject (e.g. a bird), cf. Example (15a), as well as with an inanimate and non-volitional subject (an airplane, whose motion is controlled by the pilot), cf. Example (15b), its causative *tupdyti* is used almost exclusively to denote the landing of an airplane – either by its own pilot or by external order or force, cf. Example (15c). Thus, the Causee with *tupdyti* is always a non-volitional inanimate entity.

(15) a. *Balandži-ai* **tūp-ė**   *ant apsnig-t-o*
         pigeon-NOM.PL perch-PST.3 on cover.with.snow-PST.PP-GEN.SG.M
         Mokytoj-ų   nam-ų   stog-o   ir palangi-ų.
         teacher-GEN.PL house-GEN.PL roof-GEN.SG and windowsill-GEN.PL
         'Pigeons perched on the snowy roof and windowsills of the Teachers'
         house.'

     b. *…tiek mažai lėktuv-ų   **tupi-a**   Lietuv-oj*
          so few airplane-GEN.PL land-PRS.3 Lithuania-LOC
         tik ekonomin-ės   stagnacij-os   laik-u.
         only economic-GEN.SG.F stagnation-GEN.SG time-INS.SG
         '… so few airplanes land in Lithuania only during the period of
         economic stagnation.'

     c. *Po 20 minuči-ų   pilot-as   vėl atskrid-o*
         after 20 minute-GEN.PL pilot-NOM.SG again fly.to-PST.3
         *prie nusileidim-o   tak-o   ir sėkmingai **nu-tup-d-ė***
         to   landing-GEN.SG path-GEN.SG and successfully PRV-land-CAUS-PST.3
         lėktuv-ą.
         airplane-ACC.SG
         'Twenty minutes later the pilot again flew to the runway and successfully
         landed the aircraft.'

In the relatively large group of causatives with the suffix *-in-* whose base verbs
allow both controlling and non-controlling subjects, we can again observe the
tendency to restrict the interpretation of the Causee to the non-controlling one.
Thus, the causative *grąžinti* 'return (tr.)', which is the most frequent verb of this
type, is based on the verb *grįžti* 'return, come back'. While *grįžti* co-occurs with
both animate and inanimate subjects, cf. Examples (16a) and (16b), and actually
favours animate and controlling subjects, its causative shows an opposite distri-
bution, mostly co-occurring with inanimate and hence non-controlling Causees,
cf. Example (17a); in those rare cases when *grąžinti* co-occurs with an animate
Causee, it denotes a situation when the latter is clearly non-volitional and is under
the control of the Causer, cf. (17b).

(16) a. *…mergait-ė **grįž-o**   namo.*
          girl-NOM.SG return-PST.3 home
         'The girl returned home.'

     b. *Kartu   su didžiuli-u   ekonomini-u   šuoli-u*
         together with great-INS.SG.M economic-INS.SG.M leap-INS.SG
         grįž-o   *optimizm-as…*
         return-PST.3 optimism-NOM.SG
         'Together with the great economic leap optimism (also) returned…'

(17) a. *Tačiau   š-i   moterišk-ė   SKOL-Ą   jau*
          however this-NOM.SG.F woman-NOM.SG loan-ACC.SG already
          grąž-in-o.
          return-CAUS-PST.3
          'However, this woman has already returned the loan.'

      b. *…pabėg-au   iš   vaik-ų   nam-ų …*
          run.away-PST.1SG from child-GEN.PL home-GEN.PL
          *Man-e greitai pagav-o,   **grąž-in-o***   *atgal.*
          I-ACC quickly catch-PST.3 return-CAUS-PST.3 back
          'I ran away from the children's home … I was soon caught and brought
          back.'

However, there exist non-numerous examples when *grąžinti* implies at least some
volitionality on the part of the Causee, e.g. when it is used in the permissive read-
ing 'to allow to return', like in Example (18). Nevertheless, it must be noted that
the Causer in (18) is actually in full control of the overall situation, so that the
volitionality of the Causee is reduced.

(18) *Viešpat-ie, juk Visasąjungin-is   Aukščiausi-asis   Teism-as*
      Lord-VOC PTCL all.union-NOM.SG.M higher-NOM.SG.M.DEF court-NOM.SG
      *man-e reabilitav-o   ir   **grąž-in-o***   *MAN-E į   Vilni-ų.*
      I-ACC rehabilitate-PST.3 and return-CAUS-PST.3 I-ACC in Vilnius-ACC.SG
      'Oh Lord, but the Higher Court of the USSR has rehabilitated me and let me
      return to Vilnius.'

There are, however, some causatives formed with *-in-* from intransitive verbs
that allow more clearly agentive Causees, e.g. *sodinti* ← *sėsti* 'sit down', cf.
Example (19a); nevertheless, according to corpus data, the most common use
of this verb with an animate Causee seems to be 'put in jail', implying hardly any
volitionality and control on the part of the original subject, cf. (19b). Finally, one
of the most salient uses of *sodinti*, i.e. 'plant', cf. Example (19c), in fact does not
seem to correspond to any of the meanings of the base verb at all and is clearly an
instance of lexicalization.[19]

(19) a. *Kubili-ai   SVEČI-US   **sod-in-a***   *už stal-o…*
          Kubilius-NOM.PL guest-ACC.PL sit-CAUS-PRS.3 at table-GEN.SG
          'The Kubilius family invite the guests to sit down at the table…'

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19. Note that the same polysemy is found in East Slavic, cf. Russian *sažat'* 'make sit down; plant',
and in German, cf. *(hin-)setzen* 'id.', but not in Latvian, where the causative *sēdināt* does not
mean 'plant'. In Polish and dialectal and non-standard varieties of Russian the two meanings are
differentiated by the choice of the suffix and inflection class of the verb, cf. Polish *sadzać* 'make
sit down' vs. *sadzić* 'plant'.

    b. *Baltarusij-os*   *valdži-a*   *muš-a*   *demonstrant-us*,
         Byelorussia-GEN.SG authorities-NOM.SG beat-PRS.3 marcher-ACC.PL
         sod-in-a   *J-UOS*   *į* *kalėjim-ą*…
         sit-CAUS-PRS.3 3-ACC.PL.M in jail-ACC.SG
         'The Byelorussian authorities beat the marchers, put them in jail…'

    c. *MED-ELI-US*   ***sod-in-a***   *ir* *prižiūr-i*   *Mišk-ų*
         tree-DIM-ACC.PL sit-CAUS-PRS3 and attend-PRS.3 forest-GEN.PL
         fakultet-o   *student-ai.*
         department-GEN.SG student-NOM.PL
         'The little trees are planted and looked after by the students of the Forests
         Department.'

Among the causatives formed by means of the suffix *-din-* there are also cases when the causative implies non-controllability of the Causee. For example, while the verb *panerti* 'dive' mostly co-occurs with animate volitional subjects, like in Example (20a), its causative *panardinti* means not 'make somebody dive', but rather 'dip something into water or other substance', cf. Example (20b); when *panardinti* occurs with an animate Causee, the latter is clearly non-volitional, as in Example (20c).

(20) a. *Netoli*   *laiv-o*   *įjung-ęs*   *kvėpavim-o*
         not.far.from ship-GEN.SG switch.on-PST.PA.NOM.SG.M breathing-GEN.SG
         aparat-ą,   *J-IS*   ***panėr-ė***   *į* *gilum-ą*…
         device-ACC.SG 3-NOM.SG.M dive-PST.3 in depth-ACC.SG
         'Having switched on the breathing device not far from the ship, he dove
         into the deep water…'

    b. *svajon-ė*   ***panar-din-ti*** *KOJ-AS*   *į* *jūr-os*   *vanden-į*
         dream-NOM.SG dip-CAUS-INF foot-ACC.PL in sea-GEN.SG water-ACC.SG
         'the dream of dipping one's feet into seawater'

    c. *Krikšty-dam-as*   *šventik-as*   *tr-is*   *kart-us*
         baptize-CNV-SG.M priest-NOM.SG three-ACC time-ACC.PL
         panar-din-a   *KŪDIK-Į*   *į* *vanden-s*   *pripildy-t-ą*
         dip-CAUS-PRS.3 baby-ACC.SG in water-GEN.SG fill-PST.PP-ACC.SG
         kubil-ą…
         tub-ACC.SG
         'During baptism the priest three times dips the baby into the tub filled
         with water…'

We have seen that Lithuanian causatives often imply non-volitionality of their Causees and, perhaps more importantly, often change the semantic profile of the base verb by selecting those of its meanings or uses which imply reduced or altogether absent controllability of the subject. Besides that, there are clear cases of

lexicalization whereby some salient meanings of the causative verb do not have a counterpart among the meanings of the base verb (like with *sodinti* 'plant'). This legitimizes the question of whether there are causatives from [+control] base verbs which nevertheless allow or require non-controlling or non-volitional Causees. Some such cases indeed occur in our database. Thus, the causative *klupdyti* 'make kneel' mostly implies a low degree of volitionality on the part of the Causee, cf. Example (21a), while the base verb *klauptis* 'kneel' is normally used with a volitional subject, cf. Example (21b).

(21) a. *Vis-us   KALINI-US   su-klup-d-ė.*
       all-ACC.PL.M prisoner-ACC.PL PRV-kneel-CAUS-PST.3
       'All the prisoners were made to kneel.'
   b. *Š-IS   SPORTININK-AS neretai   klaup-ė-si*
       DEM-NOM.SG.M athlete-NOM.SG not.rarely kneel-PST.3-RFL
       ant keli-ų.
       on   knee-GEN.PL
       'This athlete knelt (lit. on the knees) often.'

Thus we may conclude this necessarily preliminary discussion by saying that Lithuanian morphological causatives, at least those formed from intransitive verbs (causatives based on transitive verbs will be discussed in more detail in Section 4), behave like ordinary transitive verbs not only morphosyntactically, but also semantically, tending to correspond to the semantic prototype of transitivity (Hopper & Thompson 1980; Næss 2007), according to which the Patient (Causee) is an inanimate entity manipulated by the Agent (Causer), and if the Patient is animate it is deprived of volitionality and control over the situation. One of the clearest manifestations of this tendency is the numerous instances of recategorization of the base verb's semantics and selectional properties in such a way that the resulting causative conforms to the prototype of transitivity, such as the systematic increase of the frequency of inanimate Causees/Patients occurring with morphological causatives.

3. Measuring the productivity of Lithuanian morphological causatives

The productivity of morphological causatives in Lithuanian can be measured on the basis of our corpus by the type frequency (also known as realized productivity, Baayen 2008: 904–905) and by the number of hapaxes (hapax-conditioned/expanding productivity, Baayen 1993, 2008: 905–906), cf. Tables 1 and 12. The suffix *-in-* is clearly predominant while *-y-* plays only a very marginal role. As far as the suffixes *-din-* and *-dy-* are concerned, they are employed in 13 and 17 percent of the formations, respectively, but *-din-* has a higher count of hapaxes (22 vs. 15). However, this difference is not statistically significant according to the two-tailed Fisher's exact test (p > 0.1).

Table 12. Corpus productivity measures of Lithuanian morphological causatives

Affix	Realized productivity	% (of all causatives)	Hapax count	% (of lexemes with the suffix X)
-in-ti	513	67	89	17
-dy-ti	128	17	15	12
-din-ti	102	13	22	22
-y-ti	24	3	3	13
Total	767	100	129	17

Neither of the causative suffixes is used to derive new deverbal formations in modern Lithuanian (cf. Toops 1989: 250; Rackevičienė 2002: 138 on curatives) and only few deadjectival formations are derived from loans, cf. *modern-us* 'modern' → *modern-in-ti* 'modernize'. On the other hand, the suffix *-in-ti* is widely used to morphologically integrate new verbal loans from English, cf. *seiv-in-ti < save* (a file), *kop-in-ti < copy*, etc. (Pakerys 2013), which demonstrates that the suffix *-in-ti* is a productive loan accommodation device.

When a morphological causative for a given verb is lacking or is semantically specialized, the causative meaning is expressed by complex clauses with matrix verbs whose lexical meaning includes the causative value combining with the infinitive of the base verb, as e.g. factitive *(pri-)versti* 'make' and permissive *leisti* 'let', *duoti* 'id. (< give)', cf. Examples (22)–(24).

(22) *K-as*   ***pri-vert-ė***   *valstyb-ės*   *vadov-ą*   ***pakeis-ti***
      what-NOM   PRV-cause-PST.3   state-GEN.SG   head-ACC.SG   change-INF
      savo   *nuomon-ę…?*
      RFL.POSS   opinion-ACC.SG
      'What made the head of the state change his opinion?'

(23) *Mes   j-iems   leid-o-me   pradė-ti   visk-ą*
      we:NOM 3-DAT.PL.M let-PST-1PL begin-INF everything-ACC
      iš   nauj-o …
      from new-GEN.SG.M
      'We let them start everything again…'

(24) *Marčiulioni-ui   dav-ė-me   pailsė-ti* po *dideli-ų   krūvi-ų.*
      Marčiulionis-DAT.SG give-PST-1PL rest-INF after big-GEN.PL load-GEN.PL
      'We let Marčiulionis rest after a heavy workload.'

It has to be noted that neither of the lexical causative verbs in Lithuanian shows signs of grammaticalization and that constructions in (22)–(24) are clearly biclausal; therefore we are reluctant to speak about 'syntactic' or 'periphrastic' causativization in Lithuanian.

4.   Argument structure of causatives from transitive verbs

In this section we will concentrate on the argument structure and argument realization in Lithuanian causatives based on transitive verbs. In Section 2.3 we have already pointed out that there is no single or general valency frame for Lithuanian transitive-based causatives. Instead, at least three types of argument structure patterns systematically occur, differing in the realization of the A and the P of the base verb, and sometimes a single causative verb may participate in more than one valency frame. These types are schematically represented in Table 13 and exemplified by Examples (25)–(27).

Table 13. Valency patterns of Lithuanian causatives from transitive verbs

Type	original A	original P	Example
Causee-oriented	direct object	oblique	*girdyti* 'make drink' (26)
P-oriented	dative	direct object	*girdyti* 'give to drink' (27)
Causee-suppressing	∅	direct object	*statydinti* 'have built' (28)

(25) *…vis-us   susirink-usi-us   gir-d-ė   kokteili-u…*
      all-ACC.PL.M gather.RFL-PST.PA-ACC.PL.M drink-CAUS-PST.3 cocktail-INS.SG
      '… all the people present were given a cocktail to drink…'

(26) *Gydytoj-a   patar-us-i   gir-dy-ti*
      doctor(F)-NOM.SG recommend-PST.PA-NOM.SG.F drink-CAUS-INF
      mažyli-ui   daug arbat-os…
      baby-DAT.SG a.lot tea-GEN.SG
      'The doctor, they say, recommended giving the baby a lot of tea to drink…'

(27) …*kad j-ie   galė-tų   pradė-ti   **staty-din-ti**   but-us*
      that 3-NOM.PL.M can-IRR.3 begin-INF build-CAUS-INF flat-ACC.PL
      išsimokėtinai.
      with.loans.
      '… so that they can start having apartments built with loans'

The three types of valency patterns shown above are distributed in a systematic way according to the semantic class of the base verb. The Causee-oriented and the P-Oriented types are almost exclusively attested with causatives based on the so-called 'ingestive' verbs denoting consumption, such as 'eat' and 'drink' (on ingestive verbs and their special behaviour in causative constructions due to their subject being an 'affected agent' see Saksena 1980, Amberber 2002 and Næss 2011), and we discover a non-trivial link between the choice of the valency pattern and pre-fixation of the causative (see Section 4.1). By contrast, the Causee-suppressing type, corresponding to the traditional notion of curative verbs, is attested with other semantic classes of transitive verbs, more closely conforming to the transitive prototype than the ingestive verbs (see Section 4.2). It has to be noted that, as we have already said above, the existence of the clearly three-argument P-oriented argument structure for Lithuanian causatives of transitive ingestive verbs contradicts Toops's (1989) claim that causatives of transitive verbs may only appear in the Causee-suppressing curative frame in Lithuanian.

4.1   Causatives from ingestive verbs

Ingestive verbs prototypically denote an event with an A ('consumer') and a P ('food' or 'drink'), such that the consumption of the P by the A has a salient effect on the A him/herself, and this effect, rather than the mere 'destruction' of the P, is the ultimate goal of the A. Some verbs not denoting consumption in the strict sense of the word, such as 'read' or 'learn', nevertheless share some characteristics of this class, because they denote situations which affect the agentive participant more saliently than the patientive one. This semantic peculiarity of ingestive verbs' event structure is reflected in that they are often A-labile and occur intransitively when the P is irrelevant or unspecified. With respect to causativization, ingestive verbs also often behave in a special manner, e.g. admitting causative morphology otherwise specialized for intransitive verbs (as e.g. in Amharic, see Amberber 2002) or forming causatives whose semantic and syntactic properties differ from those characteristic of causatives based on other kinds of transitive verbs (as e.g. in Japanese, see Matsumoto 2000; or Hindi-Urdu, see Ramchand 2011: 58–59).

Lithuanian causatives from ingestive verbs show both morphological and syntactic particularities (on causatives from ingestive verbs in Latvian see Nau, this

volume). Morphologically, ingestive verbs are the only (ambi)transitive verbs in Lithuanian whose causatives can be formed by the suffixes *-y-* and *-dy-*, which otherwise co-occur only with strictly intransitive bases. These verbs are *žįs-ti* 'suck' (Present *žind-a*) → *žind-y-ti* 'nurse, breastfeed', *ger-ti* 'drink' → *gir-dy-ti* 'make drink' and *ry-ti* 'swallow, gulp' → *ry-dy-ti* 'cram, feed' (the latter is a *hapax legomenon* in our corpus and very rare in standard Lithuanian). Syntactically, as we have already said above, causatives from ingestive verbs in Lithuanian show valency patterns usually not occurring with causatives based on other kinds of transitive verbs.

The event structure of ingestive verbs allows two possible construals of the 'consumption' event: the one similar to that of regular transitive verbs with the effect on the P profiled, like in Example (28a), where the P is clearly in focus, and the one with an affected agent when the effect on the A him/herself or consumption as a social act is highlighted, as in Example (28b), where the P is not overtly realized at all. It must be noted, however, that with an "affected agent" interpretation P can certainly be overtly expressed, as in Example (28c).

(28)   a.   *K-ą   aš   valgi-au,   t-ą   ir   vaik-as   valg-ė.*
            what-ACC I:NOM eat-PST.1SG that-ACC.SG and child-NOM.SG eat-PST.3
            'What I ate, that was eaten by the child as well.'

      b.   *Kiekvien-as,   su   kuri-uo   valgi-au,   gėri-au,*
            each-NOM.SG.M with which-INS.SG.M eat-PST.1SG drink-PST.1SG
            kalbėj-au…
            talk-PST.1SG
            'Everyone with whom I have eaten, drunk or talked…'

      c.   *… vien-ą   po   kit-o   valgi-au   LED-US,*
            one-ACC.SG after other-GEN.SG.M eat-PST.1SG ice-ACC.PL
            kol   pajut-au   pagerėjim-ą.
            until feel-PST.1SG improvement-ACC.SG
            'I ate ice-creams one after another until I felt better.'

Given the two different semantic profiles of ingestive verbs it is no surprise that they reveal themselves in the different argument realization patterns of the causatives formed on the basis of these verbs. In fact, causativization makes the difference between the P-oriented and the A-oriented profiles of ingestive verbs much more pronounced than with the base verbs themselves, since they yield two different argument structure patterns, the P-oriented one and the Causee-oriented one, respectively (it is worth noting that Nau, this volume, reports that in Latvian only the Causee-oriented pattern is attested with the causatives of ingestive verbs). The assignment of one of the semantic roles of an ingestive verb to the privileged syntactic function of the direct object of the causative iconically reflects the profiling

of one of these semantic roles as the affected and pragmatically salient participant (see e.g. Dowty 1991 and especially Ackerman & Moore 1999). Consider Examples (29a) and (29b) with the causative *lesinti* 'make peck, feed to birds', which illustrate how the focus on the Causee or on the P yields different argument realizations: in (29a) the focus is on the effect of a certain kind of food on the birds, while in (29b) it is the food that is the primary locus of attention.

(29)   a.   ***Les-in-ki-me***   *PAUKŠT-ELI-US*   *saus-u*   *maist-u.*
            peck-CAUS-IMP-1PL bird-DIM-ACC.PL dry-INS.SG.M food-INS.SG
            'Let's feed birds with dry food.'

       b.   *PUS-Ę*   *PAR-OS*   *DAVINI-O*   ***les-in-a-me***
            half-ACC.SG day-GEN.SG ration-GEN.SG peck-CAUS-PRS-1PL
            saus-u   *pavida[l]-u…*
            dry-INS.SG.M form-INS.SG
            'half of the day's ration is given dry (lit. is had pecked)'

Interestingly, parallel duality of valency patterns with causatives of ingestive verbs is attested in Finnish, cf. Example (30).

       Finnish (Kittilä 2009: 77–78)
(30)   a.   *Henkilö*   *syö-tt-i*   *LAPSE-N*   *(puuro-lla).*
            person:NOM.SG eat-CAUS-PST.3SG child-GEN.SG porridge-ADE.SG
            'A person fed the child (with porridge).'

       b.   *Henkilö*   *syö-tt-i*   *PUURO-N*   *lapse-lle.*
            person:NOM.SG eat-CAUS-PST.3SG porridge-GEN.SG child-ALL.SG
            'A person fed the porridge to the child.'

Our corpus investigation reveals that the distribution of the Causee-oriented and the P-oriented argument structures with causatives of ingestive verbs in Lithuanian is uneven, see Table 14.

     With unprefixed causatives, the Causee-oriented pattern clearly predominates and with some verbs, like *valgydinti* 'feed' and *žindyti* 'breastfeed', it is actually the only pattern attested. However, at least with two unprefixed ingestive causative verbs in our corpus, i.e. *girdyti* 'make drink, give to drink' and *lesinti* 'feed (birds)' the P-oriented frame is also attested, though as a clearly marginal option (both patterns for both verbs have been illustrated above). Notably, prefixation changes the situation, since prefixed verbs fall into two types: verbs with prefixes *pa-* and *pri-* invariably follow the Causee-oriented model, see Examples (31a, b), while verbs with prefix *su-*, by contrast, admit only the P-oriented pattern, see Examples (32a, b).

Table 14. The distribution of valency patterns with causatives from ingestive verbs[20]

Verb	Causee-oriented		P-oriented		Total
	Total	P expressed	Total	Causee expressed	
girdyti 'make drink'	375	188	25	9	400
lesinti 'feed (birds)'	272	113	2	1	274
žindyti 'breastfeed'	183	8	0	0	183
valgydinti 'feed'	84	25	0	0	84
lakinti 'make lap'	8	0	0	0	8
pavalgydinti 'feed till satisfied'	175	12	0	0	175
pagirdyti 'make drink till satisfied'	100	47	0	0	100
prigirdyti 'make drink till satisfied'	33	16	0	0	33
palesinti 'feed birds'	42	2	0	0	42
pažindyti 'breastfeed till satisfied'	9	1	0	0	9
palakinti 'make lap till satisfied'	5	1	0	0	5
sugirdyti 'give to drink'	0	0	134	76	134
sulesinti 'feed to birds'	0	0	7	4	7
suvalgydinti 'feed (to somebody)'	0	0	5	1	5
sužindyti 'feed to somebody by breastfeeding'	0	0	1	1	1

(31) a.   *Iš-viri-au*   *vakarien-ę,*   **pa-valgy-din-au**   VAIK-US
PRV-cook-PST.1SG supper-ACC.SG PRV-eat-CAUS-PST.1SG child-ACC.PL
ir   *nuėj-au*   *pas kaimyn-ę*   *Veronik-ą.*
and go.away-PST.1SG to   neighbour(F)-ACC.SG Veronika-ACC.SG
'I cooked the supper, fed the children, and went to my neighbour Veronika.'

   b.   *Aleks-as*   *vis dėlto*   *spėj-a*   *aug-in-ti*
Aleksas-NOM.SG nevertheless have.time-PRS.3 grow-CAUS-INF
rož-es   *ir*   **pa-les-in-ti**   PAUKŠČI-US.
rose-ACC.PL and PRV-peck-CAUS-INF bird-ACC.PL
'Nevertheless, Aleksas has time to grow roses and feed birds.'

(32) a.   *… liep-dav-o*   *tarn-ams*   J-UOS   **su-les-in-ti**
order-HAB-PST.3 servant-DAT.PL 3-ACC.PL.M PRV-peck-CAUS-INF
kalakut-ams
turkey-DAT.PL
'[….] [they] used to order the servants to feed them [= precious stones] to turkeys.'

_____

20. Note that some of these verbs are or can be prefixal derivatives, see remarks regarding prefixes below.

    b. *Kažk-as   man-ęs   pasigailėj-o   ir   **su-gir-d-ė***
        someone-NOM I-GEN.SG take.pity-PST.3 and PRV-drink-CAUS-PST.3
        [*man*] ANTIALERGINI-Ų   VAIST-Ų.
        I:DAT   antiallergic-GEN.PL medicine-GEN.PL
        'Someone took pity on me and gave me antiallergic medicine to drink.'

The link between particular prefixes and valency patterns is not accidental: with non-causative ingestive verbs, the prefix *pa-* is used to express the attainment of the effect on the A participant, while the prefix *su-*, in contrast, highlights the effect on the P. This is evidenced by the differences in co-occurrence preferences of such verbs; while ingestive verbs with the prefix *pa-* favour the intransitive use, often accompanied by adverbs such as *sočiai* 'full' or *iki soties* 'to satiety', cf. Example (33), verbs with the prefix *su-* always imply a definite P participant describing the entity eaten, which normally cannot be omitted, cf. Example (34).

(33) *Ir   vis-i   **pa-valg-ė**   iki sot-ies.*
     and all-NOM.PL.M PRV-eat-PST.3 till satiety-GEN.SG
     'And everyone ate till satiety.'

(34) *Vaik-ai …   paėm-ė   iš   šaldytuv-o   ir   **su-valg-ė***
     child-NOM.PL take-PST.3 from fridge-GEN.SG and PRV-eat-PST.3
     DEŠR-Ą   bei   POMIDOR-US.
     sausage-ACC.SG and tomato-ACC.PL
     'The children … took from the fridge the sausage and tomatoes and ate them.'

It would be tempting to analyze the prefixed causative verbs like *pavalgydinti* 'feed somebody till satisfaction' or *suvalgydinti* 'feed something to somebody' as formed not by prefixation of the causatives, but rather by causativization of prefixed ingestive verbs, as shown in (35).

(35) X_{NOM} *su-valgė* Y_{ACC} → Z_{NOM} [*su-valgy-*]*dino* Y_{ACC} X_{DAT}

However, a similar distribution of the P-oriented and the Causee-oriented frames is attested with a morphologically underived (inherent, semantic) causative ingestive verb *šerti* 'feed (animals)', which is predominantly used in the Causee-oriented pattern with an optional instrumental denoting the 'food', cf. Example (36a), and also marginally attested in the P-oriented pattern with the dative-marked Causee, cf. Example (36b). With the prefix *pa-* this verb admits only the Causee-oriented pattern, Example (37a), while with the prefix *su-* only the P-oriented valency frame is possible, Example (37b).

(36) a. *Daržov-ėmis   žemdirbi-ai   **šeri-a**   KARV-ES,   KIAUL-ES.*
        vegetable-INS.PL farmer-NOM.PL feed-PRS.3 cow-ACC.PL pig-ACC.PL
        'Farmers feed cows and pigs with vegetables.'

(36) b. …*SĖKL-AS*   *šėr-ė*   *galvij-ams.*
           seed-ACC.PL feed-PST.3 cattle-DAT.PL
           '… they fed the seeds to cattle.'

(37) a. *Greitai pasistat-ė-m*   *palapin-ę,*   **pa-šėr-ė-me**   *ARKLI-US*
           quickly build:RFL-PST-1PL tent-ACC.SG PRV-feed-PST-1PL horse-ACC.PL
           ir   po   varginanči-os   kelion-ės   sumig-o-m.
           and after exhausting-GEN.SG journey-GEN.SG fall.asleep-PST-1PL
           'We quickly pitched a tent, fed the horses and fell asleep after an exhaust-
           ing journey.'

     b. *KOPŪST-US*   **su-šėr-ė-m**   *karv-ėms.*
           cabbage-ACC.PL PRV-feed-PST-1PL cow-DAT.PL
           '… We fed the cabbage to the cows.'

The behaviour of *šerti* shows that prefixation can applicativize the causative inges-
tive verb assigning the direct object status to the participant denoting the con-
sumed object, so verbs like *suvalgydinti* can be derived not only by (35), but by
(38) as well.

(38) X_{NOM} *valgy-din-o* Y_{ACC} (Z_{INS}) → X_{NOM} *su-[valgy-din-]o* Z_{ACC} Y_{DAT}

Further evidence for applicativization of causative verbs by means of the prefix
rather than causativization of prefixed ingestive verbs comes from the fact that
the causative verb *sugirdyti* 'give to drink' does not correspond semantically to
its non-causative counterpart *sugerti* 'imbibe, absorb', which is either used with
inanimate subjects, as in Example (39a), or metaphorically, as in Example (39b),
and so can hardly be considered as a base for *sugirdyti*.

(39) a. *Gamini-ai   iš   gryn-o   medviln-ės   pluošt-o   gerai*
           article-NOM.SG from pure-GEN.SG.M cotton-GEN.SG fibre-GEN.SG well
           su-geri-a   *drėgm-ę.*
           PRV-drink-PRS.3 moisture-ACC.SG
           'Articles made of pure cotton fibre absorb moisture well.'

     b. *J-is   ger-te   **su-gėr-ė**   vis-us   pasakojim-us…*
           3-NOM.SG.M drink-ADV PRV-drink-PST.3 all-ACC.PL.M story-ACC.PL
           'He literally absorbed all the stories…'

While it is obvious that the causatives showing the P-oriented argument frame
with the original P expressed as the direct object and the Causee expressed as the
dative indirect object are based on transitive verbs, this is not so obvious in case
of the causatives showing the Causee-oriented pattern. As we have seen, with the
latter, the original P can be expressed by a noun phrase in the instrumental case,
cf. Example (40).

(40) *Moter-ys   bet koki-omis   aplinkyb-ėmis   žin-o,*
woman-NOM.PL whichever-INS.PL.F circumstance-INS.PL know-PRS.3
*K-UO   **pa-valgy-din-ti**   vaik-us.*
what-INS PRV-eat-CAUS-INF child-ACC.PL
'In any circumstances, women know with what to feed children.'

Such instrumental phrases denoting the consumed object or substance (note that they occur with causative verbs with a greatly varied frequency, cf. Table 14 above) can be analysed as optional adjuncts denoting the means of feeding rather than genuine arguments. In favour of such an analysis speaks the fact that an instrumental NP with a causative based on an ingestive verb need not be interpreted as 'food' or 'drink', but may well be a more typical instrument, as in Example (41).

(41) *„Suaug-ę   vaik-ai"   myl-i   mam-yt-ę   Hezel,*
grown.up-NOM.PL.M child-NOM.PL love-PRS.3 mother-DIM-ACC.SG Hezel
*ypač   džiaugi-a-si,   kai   j-i   j-uos   **valgy-din-a***
especially rejoice-PRS.3-RFL when 3-NOM.SG.F 3-ACC.PL.M eat-CAUS-PRS.3
ŠAUKŠT-UK-U.
spoon-DIM-INS.SG
'The "grown-up children" love Mother Hezel and especially rejoice when she feeds them with a spoon.'

Two instrumental phrases – one corresponding to the P and the other to the instrument – can even co-occur in the same sentence, cf. Example (42).

(42) *… per   piet-us   šaukšt-eli-u   **valgy-din-o-te***
through lunch-ACC.PL spoon-DIM-INS.SG eat-CAUS-PST-1PL
KOŠYT-E   iš   lietuvišk-ų   daržovi-ų…
gruel-INS.SG from Lithuanian-GEN.PL vegetable-GEN.PL
'… for lunch you fed [the child] with a spoon, giving [the child] a gruel made of Lithuanian vegetables…'

Realization of the P-argument of ingestive verbs in the same way as instruments or means is well attested cross-linguistically. First of all, this is the normal pattern with causative ingestive predicates in the neighbouring Slavic languages, cf. Example (43) from Polish and its Russian translation in (44), as well as in the Germanic languages, cf. the English translation of (43) and a German example in (45). Note that in Slavic and Germanic the verbs meaning 'feed' are inherently causative and not formally related to the verb 'eat'.

Polish

(43) …***karmi-ł***   *klacz*   CUKR-EM   *i*   *pieści-ł*   *się*
      feed-PST(SG.M) mare(ACC.SG) sugar-INS.SG and caress-PST(SG.M) RFL
      z   *ni-ą.*
      with 3-ACC.SG.F
      '[he] fed the mare with sugar and caressed it.'
                        (Bolesław Prus. Lalka (t. 1) (1887–1890), quoted after PRPC)

Russian

(44) …***kormi-l***   *lošad'*   SAXAR-OM   *i*
      feed-PST(SG.M) horse(ACC.SG) sugar-INS.SG and
      laska-l   *ee.*
      caress-PST(SG.M)   3.ACC.SG.F
                        '= (44)' (Russian translation, 1949, quoted after PRPC)

German

(45) *Sie **fütterte** das Kind* MIT BREI.
      'She fed the child with porridge.'   (example by courtesy of Nicole Nau)

Similar patterns are found in the languages in other parts of the world as well, cf. Kammu (Khmu) Examples (46a, b):

Kammu (Austro-Asiatic > Mon-Khmer, Laos; Svantesson 1983: 103–105 via Dixon 2000: 53)

(46) a. *kɔ́ɔn tɛ́ɛk màh któŋ*
          child Teek eat   egg
          'Teek's children eat eggs.'
      b. *tɛ́ɛk **pń-màh** kɔ́ɔn tèe ɣλλ ктóŋ*
          Teek CAUS-eat child RFL INS egg
          'Teek gave his children eggs to eat (lit. Teek fed his children with eggs)'

Even more support for the treatment of the Lithuanian Causee-oriented causative ingestive verbs as derived from the intransitive variant of the base comes from the ergative polysynthetic Circassian languages (see e.g. Kumakhov & Vamling 2009), where the transitive and intransitive variants of verbs such as 'eat' are distinguished formally by the antipassive suffix as well as by the cross-referencing prefixes they take and cases they assign to the subject, cf. Examples (47a, b) from Adyghe. With ingestive verbs, the causative prefix is more often applied to the intransitive variant yielding a monotransitive verb, which can optionally take an instrumental adjunct (never cross-referenced in the verb) corresponding to the original P, cf. Example (47c).

Adyghe (North-West Caucasian > Circassian, Russia; Peter Arkadiev and
Alexander Letuchiy's fieldwork data)

(47) a. *he-m*   ʟə-ʀ   *∅-j-e-šxə*
      dog-OBL   meat-ABS 3SG.ABS-3SG.ERG-DYN-eat
      'The dog is eating meat.'

   b. *he-r*   *∅-ma-šx-e*
      dog-ABS 3SG.ABS-DYN-eat-AP
      'The dog is eating.'

   c. *č'ale-m*   *he-r*   *(ʟə-č'ᴇ)*   *∅-j-e-ʁa-šx-e*
      boy-OBL dog-ABS meat-INS 3SG.ABS-3SG.ERG-CAUS-eat-AP
      'The boy is feeding the dog (with meat).'

In Lithuanian the transitive and intransitive ('antipassive' or 'deobjective') variants
of the same verb are not formally distinct, but causativization, as we propose, pro-
ceeds like in Adyghe, cf. (48a). Note that for most ingestive verbs the derivation in
(48a) is the only possible option, while *gerti* 'drink' and *lesti* 'peck' also allow their
transitive variants to be causativized as in (48b), and for the invariably transitive
su-prefixed verbs the derivation in (48b) is the only option.

(48) a. X_{NOM} *valgo* 'X eats' → Y_{NOM} *valgydina* X_{ACC} (Z_{INS}) 'Y feeds X (with Z)'
   b. X_{NOM} *geria* Z_{ACC} 'X drinks Z' → Y_{NOM} *girdo* Z_{ACC} X_{DAT} 'Y gives Z to X
       to drink'

A possible objection to this analysis comes from the fact that the non-causative
ingestive verbs, when used intransitively, never allow the expression of the P
by means of the instrumental noun phrase, which, when present, can only be
interpreted as the instrument of eating, cf. Example (49). However, this fact can
be explained semantically: the participant denoting the consumed object, when
present at all in the semantic representation of the ingestive situation, is affected
enough to be invariably construed as the direct object.

(49) *J-i*   ***valg-o***   šAUKŠT-U / *SRIUB-A.
      3-NOM.SG.F eat-PRS.3 spoon-INS.SG / soup-INS.SG
      'She is eating with a spoon / *with soup.'   (constructed)

Before closing this section we would like to briefly discuss two special cases of
causatives, which, strictly speaking, do not belong to the core domain of ingestive
verbs as defined above, but are close to them semantically and turn out to be quite
instructive for the understanding of their valency properties. The first of these
causatives, *ėsdinti*, is based on the verb *ėsti* 'eat (of animals); devour, corrode', and
Lithuanian dictionaries invariably give 'feed animals' as the first meaning of this
verb; however, *ėsdinti* as 'feed animals' seems obsolete in modern Lithuanian, and

'cause to corrode/smart' is in fact the only meaning in which it is attested in our corpus (this is again a case of lexicalization, since the base verb *ėsti* has the meaning 'eat (about animals)' as the basic one); for this reason we did not include *ėsdinti* into our basic list of ingestive causatives. The valency properties of *ėsdinti* are quite unexpected from the point of view of what we already know about Lithuanian causatives from ingestive verbs, since it occurs in a variant of the P-oriented frame not attested with other such causatives: while the original P (what is corroded) is encoded as the direct object, the original A (the corroding substance) is expressed as an instrumental noun phrase; consider Examples (50a) with the base verb and (50b) with the causative (here it is passivized with the P expressed as the nominative subject).

(50)   a.   [A]*ugal-o*   SULT-YS   *ėd-a*   *ak-is*   *kaip dūm-ai.*
            plant-GEN.SG juice-NOM.PL smart-PRS.3 eye-ACC.PL as   smoke-NOM.PL
            '[This] plant's juice smarts the eyes like smoke.'
      b.   *Galvanizuot-i*   *pavirši-ai*   *papildomai*
            galvanized-NOM.PL.M surface-NOM.PL additionally
            ės-din-a-m-i …   *pasyvinim-o*   SKYSČI-U.
            corrode-CAUS-PRS-PP-NOM.PL.M passivation-GEN.SG liquid-INS.SG
            'Galvanized surfaces are additionally corroded by the passivation liquid.'

As far as we know, *ėsdinti* is the only causative in Lithuanian with which the notional Causee is expressed by the instrumental case. However, such morphological encoding of the Causee is not unexpected, since with this causative the participant corresponding to the subject of the base verb is semantically the means of performing the action of corroding and is therefore encoded according to the general pattern of marking means in Lithuanian. Comparison of the behaviour or *ėsdinti* with that of, e.g. *valgydinti* 'feed' shows that realization and encoding of participants with morphological causatives in Lithuanian is determined by semantic considerations and that the participant not assigned to the privileged role of direct object is formally assimilated to the semantically closest relation, e.g. to the expression of means in the case of inanimate objects or substances or to dative recipients in case of animates.

   The second special case we would like to discuss concerns the verb *pažindinti* 'make acquainted', based on *pažinti* 'get to know, become acquainted'. That this verb is discussed among the verbs denoting eating and drinking should not be surprising, since, as we have already mentioned, the class of ingestive predicates cross-linguistically includes other semantic types of verbs denoting events of taking something into the body or mind (cf. Masica 1976: 46, who lists such verbs as 'eat', 'drink', 'hear', 'learn' and 'read'). Since the object of mental activity is not affected in any literal sense of this notion, it is not surprising that *pažindinti* admits only the

Causee-oriented valency frame with the original subject (cognizer) expressed as the direct object. What is peculiar about this causative verb is the encoding of the (obligatory) participant denoting the object of cognition, i.e. the original P (direct object) of the base verb: it is expressed as a comitative phrase with the preposition *su* 'with' governing the instrumental case (the same concerns the Latvian counterpart of this verb, see Nau, this volume). Consider Examples (51a) with the base verb *pažinti* and (51b) with the causative. Note that the base verb does not admit the comitative marking of the object of cognition, cf. (51c).

(51) a. *Juk   ret-as   dvimet-is   mažyl-is*
          PTCL rare-NOM.SG.M two.year.old-NOM.SG.M baby-NOM.SG
          pažįst-a   RAID-EL-ES   *ir*   SKAIČI-UK-US.
          know-PRS.3 letter-DIM-ACC.PL and number-DIM-ACC.PL
          'Rarely a two-year-old baby knows letters and numbers, does it?'

      b. *Įvairi-as   metodik-as   pasitelk-ę   mokytoj-ai*
          various-ACC.PL.F method-ACC.PL engage-PST.PA.NOM.PL.M teacher-NOM.PL
          pažin-din-a   *vaik-us*   SU RAID-ĖMIS   BEI SKAIČI-AIS.
          know-CAUS-PRS.3 child-ACC.PL with letter-INS.PL and number-INS.PL
          'Using various methods, teachers acquaint the children with letters and numbers.'

      c. *****Pažįst-a***   *su*   *raid-ėmis   bei skaiči-ais.*
          know-PRS.3 with letter-INS.PL and number-INS.PL
          lit. 'is acquainted with letters and numbers'   (constructed)

The rationale for this quite peculiar argument marking appears to be revealed by the similar constructions attested with the prefixed derivatives of *pažinti*. In addition to *pažinti* 'come to know' there is the verb *susipažinti* 'get acquainted' formed by the combination of the prefix *su-* in its comitative meaning 'together' and the reflexive marker; *susipažinti* belongs to a large group of 'comitative-reciprocal' verbs formed by the combination *su-si-*, cf. Geniušienė (2007: 653–658), like *susikalbėti* 'to come to (mutual) understanding' from *kalbėti* 'talk'; all these verbs take an object introduced by the preposition *su* 'together'. Cf. Example (52) with *susikalbėti* and (53) with *susipažinti*.

(52) *O   kaip tu   SU J-AIS   **su-si-kalbė-jai?***
      and how 2SG.NOM with 3-INS.PL.M PRV-RFL-talk-PST.2SG
      'And how did you come to understanding with them?'

(53) *Čia j-i   **su-si-pažin-o**   SU   MOKYKL-OS*
      here 3-NOM.SG.F PRV-RFL-know-PST.3 with school-GEN.SG
      DIREKTOR-E.
      director(FEM)-INS.SG
      'Here she got acquainted with the school's head-mistress.'

From *susipažinti* 'get acquainted' the causative *supažindinti* 'make acquainted' is formed, which inherits the marking of the oblique participant of the base verb, cf. Example (54).

(54) **Su-pažin-din-ki-te**   SU   ŠI-UO   DARB-U   mūs-ų
      PRV-know-CAUS-IMP-2PL   with   this-INS.SG.M   work-INS.SG   we-GEN
      skaitytoj-us.
      reader-ACC.PL
      'Make our readers acquainted with this work.'

Since *supažindinti*, being a prefixed verb, is perfective and cannot be used to denote an ongoing situation, it is correlated with the unprefixed *pažindinti*, which is used in durative contexts and takes over the valency pattern of its prefixal counterpart. The derivational chain linking the verbs in question is schematically shown in Figure 1.
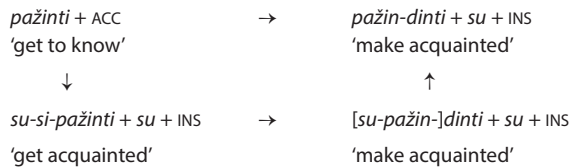
pažinti + ACC	→	*pažin-dinti* + *su* + INS
'get to know'		'make acquainted'
↓		↑
su-si-pažinti + *su* + INS	→	[*su-pažin-*]*dinti* + *su* + INS
'get acquainted'		'make acquainted'

Figure 1.

Besides that, the comitative marking of the object of cognition is attested in constructions with the passive participle of the verb *pažinti* itself. The passive participle of this verb can occur both in a regular construction with the object of cognition realized as the subject and the cognizer (experiencer) as the dative indirect object, the common option with passives of mental verbs, cf. Example (55a), as well as in a special inverse construction roughly synonymous to the active voice of the same verb, where the subject is the cognizer and the object of cognition is realized as a comitative PP, cf. Example (55b).

(55) a. *Ar Jums*   **pažįst-a-m-as**   KALT-ĖS   JAUSM-AS?
          Q   2PL.DAT   know-PRS-PP-NOM.SG.M   guilt-GEN.SG   feeling-NOM.SG
          'Are you acquainted with the feeling of guilt?'
      b. *…j-is*   *buv-o*   **pažįst-a-m-as**   SU   VIS-AIS
          3-NOM.SG.M   AUX-PST.3   know-PRS-PP-NOM.SG.M   with   all-INS.PL.M
          ŠI-O   *TRAUKINI-O*   *PALYDOV-AIS.*
          this-GEN.SG.M   train-GEN.SG   attendant-INS.PL
          '… he was acquainted with all attendants in this train.'

Since *pažindinti* as the causative semantically corresponds not only to the active voice of *pažinti* but also to the passive constructions of the type shown in (56b), the latter could have influenced the valency pattern of the causative.

Summing up the discussion of the Lithuanian causatives with ingestive bases, we arrive at a conclusion that their valency patterns are not determined by any general syntactic principle, like those discussed by Dixon (2000:54–55), but rather by the semantic properties of participants, which are in turn partly restricted by such morphological operations as prefixation. We have seen that in principle both the original A (Causee) and the original P of the base ingestive verb may be assigned to the grammatical function of the direct object of the causative, depending on which of the two participants is construed as more affected; the default choice for direct object assignment is the Causee, but this default is systematically overridden when the verbal prefix *su-* is attached to the verb. The formal realization of the remaining participant with the causative verb is determined by its semantic properties: the original P in the Causee-oriented frame is naturally construed as the means of the transitive action denoted by the causative and is marked by the instrumental case, whereas the most natural interpretation of the Causee in the P-oriented frame if the recipient or beneficiary, expressed by the dative case. The special behaviour of *ėsdinti* 'make corrode' and *pažindinti* 'make acquainted' only confirm this thesis, since the coding of their arguments is again determined by semantic or constructional factors.

4.2   Causatives from non-ingestive transitive verbs

Lithuanian causatives formed from non-ingestive transitive verbs uniformly occur in the Causee-suppressing curative valency pattern (cf. Savičiūtė 1985:242; Toops 1989:260–275; Žeimantienė 2011:129), consider Examples (56) and (57), where the (a) examples show the transitive base verb with an overt subject and the (b) examples illustrate the corresponding causative with no overt Causee.

(56) a. *Vien-as*   ***stat-o***   *daugiaaukšči-us*   *nam-us,*
one-NOM.SG.M build-PRS.3 multi.storied-ACC.PL.M house-ACC.PL
kit-am –   *šuni-o*   *būd-a*   *be-stat-o-m-a*
other-DAT.SG.M dog-GEN.SG kennel-NOM.SG CNT-build-PRS-PP-NOM.SG.F
sugriūv-a.
collapse-PRS.3
'One builds multi-storied buildings, while the other's dog kennel collapses during construction.'

(56) b. *Radvil-a*   *Našlaitėl-is*   ***staty-din-a***   *šventov-ę*
       Radvila-NOM.SG Orphan-NOM.SG build-CAUS-PRS.3 sanctuary-ACC.SG
       Nesvyži-uj.
       Nesvyžius-LOC.SG
       'Radvila the Orphan has a sanctuary built in Nesvyžius.'

(57) a. *Tada* TĖV-AS   *sūn-ų*   *rykšt-ėmis* ***nu-plak-ė…***
       then father-NOM.SG son-ACC.SG rod-INS.PL PRV-flog-PST.3
       'Then the father flogged the son with rods…'
   b. *Pilot-as*   *paleid-o*   *Barab-ą,*   *o* *Jėz-ų*
       Pilate-NOM.SG release-PST.3 Barabbas-ACC.SG and Jesus-ACC.SG
       nu-plak-din-o   *ir* *atidav-ė*   *nukryžiuo-ti.*
       PRV-flog-CAUS-PST.3 and deliver-PST.3 crucify-INF
       'Pilate released Barabbas and had Jesus scourged and let him be crucified.'

The unexpressed Causee with such causatives is usually non-referential and back-grounded; it can be inferred from general world knowledge or context that the Causee in (56b) is architects and workers while in (57b) it is soldiers, but the identity of the particular people executing the action is unknown and irrelevant. The cases when the Causee is clearly referential, as in Example (58), are rather infrequent; note that even in cases like (58) the Causee cannot normally be overtly expressed.

(58) *Pasišventus-i*   *moter-is …* *pasamdži-us-i*   MEISTR-US
     devoted-NOM.SG.F woman-NOM.SG hire-PST.PA-NOM.SG.F craftsman-ACC.PL
     pa-dirb-din-o   *kelet-ą*   *medini-ų,*   *metalini-ų*
     PRV-work-CAUS-PST.3 several-ACC.SG wooden-GEN.PL metallic-GEN.PL
     kryži-ų…
     cross-GEN.PL
     'The devoted woman … hired craftsmen and ordered (them) to make several wooden and metal crosses.'

Semantically, the curative causative verbs in Lithuanian focus not on making or forcing particular people perform the action denoted by the base verb, but on the causal distance between the agent (Causer) and the event, which occurs not due to the immediate involvement of the participant encoded as the agent but through an intermediate performer (Causee) (cf. Savičiūtė 1985). The relation between the causing and caused events in this case is not that of direct manipulative causation, as is often in the case of the causatives based on ingestive verbs, but that of indirect causation through verbal orders (see Nedjalkov & Sil'nickij 1969: 28–29; Shibatani 2001: 11–14).

Indirect causatives with Causee suppression are attested cross-linguistically, cf. Nedjalkov & Sil'nickij (1969: 50) who report that with causatives based on transitive verbs the Causee tends to be left unexpressed. Consider Hindi-Urdu, whose indirect causatives have received quite a lot of attention (see e.g. Kachru 1976; Bhatt & Embick 2003; Ramchand 2011; Srishti 2014). Here, causativization by means of the suffix *-vaa* is a productive process and normally yields verbs superficially similar to the Lithuanian curatives, cf. Examples (59a) and (59b). However, the crucial difference between the Lithuanian and the Hindi-Urdu indirect causatives lies in the fact that while in Lithuanian the Causee cannot normally be expressed by any conventionalized linguistic means (see more discussion below), in Hindi-Urdu there is always an option of expressing the Causee as an adjunct in the instrumental case, cf. Example (59c).

Hindi-Urdu (Indo-Aryan; Ramchand 2011: 50)

(59) a. *Anjum-ne   makaan   **ban-aa-yaa**.*
          Anjum-ERG house   make-TR-PRF.M.SG
          'Anjum built a house.'

      b. *Anjum-ne   makaan   **ban-vaa-yaa**.*
          Anjum-ERG house   make-CAUS-PRF.M.SG
          'Anjum had a house built.'

      c. *Anjum-ne   MAZDURŌ-SE   makaan   **ban-vaa-yaa**.*
          Anjum-ERG labourers-INS house   make-CAUS-PRF.M.SG
          'Anjum had the labourers build a house.'

The Lithuanian curative causatives correspond to the type of non-valency increasing causatives that Kittilä (2009: 75–79) calls covert causativization; however, Kittilä (2009: 78) argues that "covert causativization is especially typical of ditransitive verbs", which already involve three participants and so their causatives have to accommodate four arguments, which is beyond the limit of arguments per one clause available for many languages (see also Babby 2009: 45–51; however, as is argued in Arkadiev 2014, the putative universal constraint against more than three arguments per clause proposed by Babby seems to be wrong, see e.g. Maldonado & Nava 2001 on multiple-argument causatives in Tarascan, or Letučij 2009b on Adyghe). Languages not allowing overt expression of the Causee with causatives based on monotransitive verbs, as we have already noted above, seem to be very infrequent.

In fact, the situation in Lithuanian is more complex. There are some curative verbs that occur with locative phrases which, while not expressing the Causee in the strict sense of this word, nevertheless delimit its reference to a

lesser or greater extent.[21] In our corpus, such phrases are mostly attested with the causative *siūdinti(s)* 'have something sewn (for oneself)' from *siūti* 'sew', see Examples (60)–(61), though sporadic examples with other verbs are found as well, cf. Example (62). The (b) examples show the corresponding base verb with an agent of the semantic type matching the one expressed as a locative phrase in the causative (a) examples.

(60) a. *Reng-ė-si*   *labai rūpestingai, **siū-din-o-si***
          dress-PST.3-RFL very   neatly   sew-CAUS-PST.3-RFL
          PAS GER-US   SIUVĖJ-US.
          at   good-ACC.PL.M tailor-ACC.PL
          'He dressed very neatly and ordered his clothes at good tailors.'

      b. *…praktiškai visk-ą*   *j-ai*   ***pa-siuv-a***
          practically everything-ACC 3-DAT.SG.F PRV-sew-PRS.3
          PAŽĮSTAM-AS   SIUVĖJ-AS.
          known-NOM.SG.M tailor-NOM.SG
          '… practically everything is sewn for her by a tailor she knows.'

(61) a. *Mūsų Prezident-as …*   ***siū-din-o-si***   *frak-ą*
          our   president-NOM.SG sew-CAUS-PST.3-RFL tailcoat-ACC.SG
          kin-o   *studij-os*   *SIUVYKL-OJE.*
          film-GEN.SG studio-GEN.SG costume.shop-LOC.SG
          'Our president … had his tailcoat sewn at the film studio costume shop.'

      b. *Mūsų personal-o   uniform-as*   ***siuv-a***
          our   staff-GEN.SG uniform-ACC.PL sew-PRS.3
          Lietuv-os   *SIUVYKL-OS…*
          Lithuania-GEN   costume.shop -NOM.PL
          'Our staff's uniforms are sewn by Lithuanian costume shop…'

(62) a. *Pastar-ieji*   *eur-ų*   *monet-as*   *planuoj-a*
          latter-NOM.PL.M.DEF Euro-GEN.PL coin-ACC.PL plan-PRS.3
          kal-din-ti   *SUOMIJ-OJE.*
          mint-CAUS-INF Finland-LOC
          'The latter (Estonians) are planning to order the minting of the Euro coins in Finland.'

      b. *RESPUBLIK-A*   *turėj-o*   *savo*   *herb-ą,*   *vėliav-ą,*
          republic-NOM.SG have-PST.3 RFL.POSS coat.of.arms-ACC.SG flag-ACC.SG
          *… bei **kal-ė**   monet-as.*
          and mint-PST.3 coin-ACC.PL
          'The republic had its own coat of arms, flag … and it minted coins.'

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21. On the possibilities of the putative expression of the Causee, see e.g. Savičiūtė (1985: 242) (PPs with *su* 'with', *per* 'through', *prie* 'at', instrumental NPs), Toops (1989: 271–275) (PPs with *pas* 'at', *per*, instrumental NPs), Žeimantienė (2011: 129) (PP with *pas*, locative adverbials).

Despite the fact that it is possible to find matching examples of the use of the base verbs with the agent similar to that expressed by a locative phrase with the causatives, as shown in Examples (60b), (61b) and (62b), we doubt whether it is appropriate to interpret the locative phrases in (60a), (61a) and (62a) as genuine expressions of the Causee. In fact, only the *pas* + animate NP construction in (60a) can be reasonably conceived as a Causee, i.e. as a person who performs the action. The locative phrases in (61a) and (62b) denote institutions and countries, i.e. places **where** the action can be performed. Though, as (61b) and (62b) show, institutions and states can be metonymically construed as agents, such an interpretation only arises when such nominals are assigned the grammatical function of the subject. There is no reason to infer such a metonymic interpretation in the locative phrases in the Examples (61a) and (62a).

Other types of the potential expression of the Causee with the Lithuanian causatives based on non-ingestive transitive verbs are also sporadically attested. All of them can be interpreted as adjuncts specifying the way the causative event is performed rather than genuine expressions of a syntactic argument. Thus, with the verb *atvesdinti* 'have somebody brought' (← *atvesti* 'bring') a comitative phrase is attested, cf. Example (63).

(63) a. *Teism-as*   *priėm-ė*   *sprendim-ą*   ***at-ves-din-ti***
court-NOM.SG take-PST.3 decision-ACC.SG PRV-lead-CAUS-INF
D. Lideikien-ę   *SU*   *POLICIJ-A.*
D. Lideikienė-ACC with police-INS.SG
'The court decided to have D. Lideikienė brought by (lit. with) police.'

b. *Kai*   *POLICIJ-A*   *j-į*   ***at-ved-ė***   *akistat-ai,*
when police-NOM.SG 3-ACC.SG.M PRV-lead-PST.3 confrontation-DAT.SG
Mindaug-as   *ne-ištar-ė*   *nė*   *žodži-o.*
Mindaugas-NOM.SG NEG-utter-PST.3 not.a word-GEN.SG
'When the police brought him for the confrontation, Mindaugas did not utter a word.'

An even more Causee-like expression is found with the causative *siųsdinti* 'have something sent' based on the ditransitive *siųsti* 'send', cf. Example (64). Here the prepositional phrase with *per* 'through, via' denotes a particular person directly involved in the performance of the action. However, the actual interpretation of this expression is in fact not the Causee, i.e. the agent of the event 'send the letter'; the person denoted by this phrase does not 'send' the letter, but rather brings it to the addressee and thus cannot be considered as a genuine instance of a Causee.

(64)   … *IV Europ-os* *lietuvišk-ųjų* *studij-ų* *savait-ės*
        IV Europe-GEN Lithuanian-GEN.PL.DEF study-GEN.PL week-GEN.SG
        dalyvi-ams *rašy-t-ame* *laišk-e* *iš*
        participant-DAT.PL write-PST.PP-LOC.SG.M letter-LOC.SG from
        Niujork-o *ir* **siųs-din-t-ame** *PER* …
        New.York-GEN and send-CAUS-PST.PP-LOC.SG.M through
        PROF. ZENON-Ą *IVINSK-Į.*
        prof. Zenonas-ACC.SG Ivinskis-ACC.SG
        '… in the letter from New York written to the participants of the IV European
        Week of Lithuanian studies and sent through … Professor Zenonas Ivinskis'

Therefore we have to confirm the observation made by Toops (1989) that Lithu-
anian causatives from non-ingestive transitive verbs do not admit the overt expres-
sion of the Causee and are thus in fact not valency increasing but rather valency
rearranging (cf. Kittilä 2009): their semantic contribution consists in creating an
additional link in the causal chain of the event (see Croft 1991: Ch. 5; 2012: 198–
217), implying that the agent participant does not really perform the event but
only instigates its performance by some other actor that remains unspecified, cf.
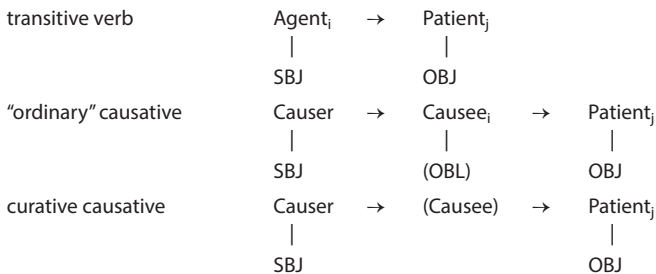Figure 2.

transitive verb	Agent$_i$	→	Patient$_j$		
	|		|		
	SBJ		OBJ		
"ordinary" causative	Causer	→	Causee$_i$	→	Patient$_j$
	|		|		|
	SBJ		(OBL)		OBJ
curative causative	Causer	→	(Causee)	→	Patient$_j$
	|				|
	SBJ				OBJ

Figure 2.

Though our corpus data seems to confirm the traditional intuition that cura-
tive verbs constitute a special subtype of morphological causatives in Lithuanian
due to the cross-linguistically non-trivial obligatory suppression of the Causee,
it does not confirm the claim by Toops (1989: 258) that only causatives formed
with the suffix *-din-* show these properties. In our corpus we find several cura-
tive verbs with the suffix *-in-*, e.g. *užmaršinti* 'make forget' ← *užmiršti* 'forget', cf.
Example (65), *išperinti* 'have hatched' ← *išperėti* 'hatch (tr.)', cf. Example (66) and
a couple of others. Neither of these verbs allows the overt expression of the Causee.
In the pair *išperėti ~ išperinti* 'hatch' the semantic difference between the base verb
and the causative is mainly revealed in that while *išperėti* denotes the bird's hatch-
ing of its own young and thus takes mainly names of birds as its subject, *išperinti*

is used for hatching poultry as part of the farming activities and mainly co-occurs with subjects denoting humans and institutions.

(65) a. …*laik-as*   *t-as*   *dain-as*   **užmarš-in-o**.
          time-NOM.SG that-ACC.PL.F song-ACC.PL forget-CAUS-PST.3
          '… time made (us) forget these songs.'

      b. *Kaim-as*   **užmirš-o**   *sen-ąsias*   *dain-as*…
          village-NOM.SG forget-PST.3 old-ACC.PL.F.DEF song-ACC.PL
          'The village has forgotten the old songs…'

(66) a. …*ferm-oje*   *dabar* *per*   *met-us*   *ūkinink-ai*
          farm-LOC.SG now   through year-ACC.PL farmer-NOM.PL
          išper-in-a   *apie* *10 tūkst.*   *kalakučiuk-ų*.
          hatch-CAUS-PRS.3 about 10.thousand turkey.poult-GEN.PL
          '… at this farm, farmers have about ten thousand turkey poults hatched in a year.'

      b. *Susisuk-o*   *strazd-as*   *lizd-el-į*   *aukšt-oj*
          roll.up:RFL-PST.3 thrush-NOM.SG nest-DIM-ACC.SG high-LOC.SG.F
          egl-ėj   *ir* **išperėj-o**   *vaik-uči-us*.
          fir.tree-LOC.SG and hatch-PST.3 child-DIM-ACC.PL
          'The thrush built its nest on a high fir-tree and hatched nestlings.'

Some causative verbs of the curative type seem to have changed their suffix from *-in-* to *-din-* during the written history of Lithuanian. For instance, the verb *padirbinti* 'have something produced' is found in some 19th century texts, cf. Example (67), while in modern Lithuanian this verb has been lexicalized (see below) and the curative meaning has been overtaken by *padirbdinti*, cf. Example (58) above.

(67) *Vyskup-as* … **pa-dirb-in-o**   *katedr-os*   *bažnyči-oj*
      bishop-NOM.SG PRV-work-CAUS-PST.3 cathedral-GEN.SG church-LOC.SG
      nauj-us   *altori-us*   *su* *vargon-ais*.
      new-ACC.PL.M altar-ACC.PL with organ-INS.PL
      'The Bishop … ordered the new altar with an organ for the cathedral.'

4.3   Semantic developments in curative verbs

Lithuanian morphological causatives of transitive verbs are peculiar not only because of their cross-linguistically rare restriction on the overt expression of the Causee, but also because of the semantic shifts many of them have undergone (or rather, are undergoing). Similar, though not identical, semantic developments of curative verbs in Latvian are discussed in detail by Holvoet (this volume). It has been noted by Naktinienė (2011: 158) that some curative verbs in Lithuanian are

often used in contexts when their base verbs could have been used instead, i.e. denoting actions performed by an agent rather than indirect causation. As far as we can judge from our data, there are two types of such 'deviant' uses: the one where the causative verb has become virtually synonymous with its base verb, and the other where the causative verb implies that the action is performed because some external causer has ordered it. This 'do by order' use is attested with most curative verbs in our corpus; consider several examples. The (a) examples illustrate the 'do by order' use of the causative verb, while the (b) examples show the corresponding use of the base.

(68) a. *Varin-es   monet-as   **kal-din-o**   ir   Maskv-os*
          copper-ACC.PL coin-ACC.PL mint-CAUS-PST.3 and Moscow-GEN.SG
          kalykl-a.
          mint-NOM.SG
          'The Moscow mint also minted copper coins (by the order of the princes).'

      b. *Respublik-a   turėj-o   savo   herb-ą,   vėliav-ą,*
          republic-NOM.SG have-PST.3 RFL.POSS coat.of.arms-ACC.SG flag-ACC.SG
          *… bei **kal-ė**   monet-as.*
             and mint-PST.3 coin-ACC.PL
          'The republic had its own coat of arms, flag … and it minted coins.' =(61b)

(69) a. *Įtariam-ąjį   **at-ves-din-ęs**   policij-os*
          suspect-ACC.SG.M.DEF prv-lead-CAUS-PST.PA.NOM.SG.M police-GEN.SG
          pareigūn-as   band-ė   sutramdy-ti 160 kilogram-ų
          officer-NOM.SG try-PST.3 restrain-INF 160 kilogram-GEN.PL
          sveriant-į   vyr-ą.
          weighing-ACC.SG.M man-ACC.SG
          'The police officer who brought in the suspect tried to restrain that 160-kilogram man.'

      b. *Moksleivi-us į   kap-us   **at-ved-ė**   j-ų*
          pupil-ACC.PL in grave-ACC.PL prv-lead-PST.3 3-GEN.PL
          istorij-os   mokytoj-as.
          history-GEN.SG teacher-NOM.SG
          'The pupils were brought to the cemetery by their history teacher.'

(70) a. *Viena kaimynė, bene vienintelė visame kaime turėjusi siuvimo mašiną,*
          *pasisiūl-ė   **pa-siū-din-ti**   man   toki-us*
          volunteer-PST.3 prv-sew-CAUS-INF I:DAT such-ACC.PL.M
          šimtasiūli-us   bat-us.
          textile-ACC.PL.M shoe-ACC.PL
          'A lady nearby, who was almost the only person in the village who has a sewing-machine, volunteered to sew such shoes for me.'

b. *Keli-as   suknel-es   per   por-ą   dien-ų*
several-ACC.PL.F dress-ACC.PL through pair-ACC.SG day-GEN.PL
    pa-siuv-o   siuvėj-a   iš   Kaun-o.
PRV-sew-PST.3 tailor(F)-NOM.SG from Kaunas-GEN
'Several dresses were sewn in two days by a woman tailor from Kaunas.'

From the point of view of argument structure, the 'do by order' uses of the causative verbs show the mirror-image diathesis pattern from that found in the ordinary curative uses: now it is the Causer that is backgrounded and left unexpressed, while the subject position is occupied by the Causee, cf. the schematic representations in (71) and Figure 3. The difference between this use of the morphological causative and the ordinary transitive verb is therefore purely semantic and resides in the rather subtle implication that the action is performed by the agent due to some unspecified external causation.

(71) V_{TR} < A_i: Sb; P_j: DO > → V_{CAUS} < Causer: $\varnothing$; $Causee_i$: Sb; P_j: DO >

transitive verb $Agent_i$ → $Patient_j$
                                          | |
                                        SBJ   OBJ
'do by order' causative   (Causer)   → $Causee_i$ → $Patient_j$
                                                                | |
                                                             SBJ   OBJ

Figure 3.

It is no surprise that in some cases even this implication of external causation has faded and the morphologically causative verb is used just as a transitive predicate with a fully controlling agent. Interestingly, some verbs attest all three uses: the normal 'curative' one, the 'do by order' one and the purely transitive one, cf. *liedinti* based on *lieti* 'cast (metal)' in Examples (72a) (curative), (72b) ('do by order') and (72c) (pure transitive).

(72) a. **Lie-din-o**   *Varp-ą   taut-os   laisvinink-ai…*
cast-CAUS-PRS.3 bell-ACC.SG nation-GEN.SG liberators-NOM.PL
'The liberators of the nation had the bell cast…'
    b. …*Maskvoje jau trejetą šimtų metų žinoma fabrikantų ir pirklių giminė,*
        lie-din-a-nt-i   *varp-us,   gamin-a-nt-i*
cast-CAUS-PRS-PA-NOM.SG.F bell-ACC.PL produce-PRS-PA-NOM.SG.F
        vis-ą   cerkvi-ų   įrang-ą.
all-ACC.SG church-GEN.PL equipment-ACC.SG
'… a family of manufacturers and merchants famous in Moscow for three hundred years already, that was casting bells and producing all equipment for churches.'

(72) c. *Auks-as …   rand-a-m-as   gryn-as   ir   j-į*
gold-NOM.SG find-PRS-PP-NOM.SG.M pure-NOM.SG.M and 3-ACC.SG.M
lie-din-ti   *ne-sudėtinga.*
cast-CAUS-INF NEG-difficult
'Gold … is found pure and casting it is easy.'.'

It is clear that the semantic difference between uses like (72b) and (72c) is very
subtle and that it is often very hard if at all possible to reliably classify a particular
instance of a morphologically causative verb as a 'do by order' case. Therefore we
did not attempt any statistical analysis of the frequency of different kinds of uses
of such verbs.

In some cases it is fairly obvious that one of the possible reasons for the
semantic shift of causatives described above lies in the fact that the corresponding
base verbs are fairly polysemous, so the causative derivation helps to narrow down
the range of possible uses of the verbal stem, even if the meaning of causation itself
has nearly bleached. Thus, the verb *kalti* can be used in various contexts, such as
'strike', 'hammer (nails)', 'forge metal', while *kaldinti* has specialized in the mean-
ing 'forge, mint' (cf. Naktinienė 2011: 158); *dirbti* is an ambitransitive (in the mod-
ern language almost exclusively intransitive) verb with the general meaning 'work',
while *dirbdinti* denotes professional production of certain kinds of objects; *atvesti*
means 'leading (a person), bring him/her to some place', while *atvesdinti* mostly
denotes very specific situations of police bringing somebody to court. Similarly,
nukirsdinti (< *nukirsti* 'cut, chop off') is specialized in the meaning 'behead' (cf.
Naktinienė 2011: 159) and usually takes as its object the person, and not the 'head',
cf. Example (73a), which is impossible with the base verb, cf. (73b).

(73) a. *PAULI-US   buv-o   **nukirs-din-t-as**   Rom-oje.*
Paul-NOM.SG AUX-PST.3 cut.off-CAUS-PST.PP-NOM.SG.M Rome-LOC.SG
'St. Paul was beheaded in Rome.'
b. *Budel-is   **nukirt-o**   Pauli-ui   GALV-Ą / *PAULI-Ų.*
executioner-NOM.SG cut.off-PST.3 Paul-DAT.SG head-ACC.SG / Paul-ACC.SG
'The executioner cut Paul's head off / *cut off Paul.'   (constructed)

This kind of lexicalization of morphological causatives, involving the gradual
bleaching of the causation component (which first is backgrounded and then vir-
tually fades), has not, to our knowledge, been reported in the literature, including
the few works on the non-causative uses of causative morphology (Kittilä 2009;
Aikhenvald 2011), and so might constitute a typological peculiarity of Lithuanian
causative verbs.

5.   Conclusions

Let us briefly summarize the main points of our paper.

Though morphological causativization in Lithuanian does not seem to be a synchronically productive process any more, it has definitely been fairly productive in the past, having created hundreds of causative verbs from a variety of base verbs of different semantic and syntactic types, with one or more arguments, both intransitive and transitive. Note that the closed, but relatively representative class of morphological causatives from transitive verbs in Lithuanian, not limited to ingestive verbs like 'eat' and 'drink', is something usually not expected from a non-productive causative derivation, since cross-linguistically non-productive causatives are usually limited to non-agentive intransitive and probably also ingestive bases.

Our corpus-based study has revealed a statistically highly significant uneven distribution of the four causative suffixes across syntactic and semantic types of base verbs, with one suffix, namely *-din-* showing a clear tendency to be used with bases denoting agentive events with an animate subject, including transitive bases. Such behaviour of *-din-* conforms to the cross-linguistic tendency of causative affixes occurring with transitive base verbs to be phonologically longer.

Lithuanian causatives based on intransitive verbs in all respects behave as ordinary transitive verbs, not only syntactically, but also semantically in that they tend to induce semantic shifts with respect to the meaning or polysemy of the base verb in such a way that the causative conforms to the semantic prototype of transitivity. This is revealed in the differences between the intransitive base verbs and the corresponding causatives in their co-occurrence with animate and volitional participants (causatives tend to take inanimate or non-controlling Causees even when the base verb favours animate and controlling subjects).

Causatives of transitive verbs, despite being marginal and on decline, show non-trivial valency patterns. They fall into two groups: the one with ingestive bases, where, depending on the presence of particular valency-affecting verbal prefixes, either the Causee-oriented or the Patient-oriented argument structure pattern is chosen (and some causative verbs may even occur in both patterns), and the one with other transitive bases, yielding the curative diathesis with the obligatory suppression of the Causee. The existence of the P-oriented frame with the Causee marked by the dative case contradicts some earlier claims (e.g. Toops 1989) that in Lithuanian transitive verbs do not form non-curative causatives. As to curative verbs, it has to be noted that although a cross-linguistic tendency to omit the Causee with causatives from verbs with more than one argument is reported in the literature, Lithuanian is typologically peculiar in that this discourse

preference has been 'constructionalized' to the degree of obligatory omission of the Causee, which cannot be expressed by any conventional means (some marginal instances of PPs and locative NPs corresponding to the 'mediator' participant cannot be considered regular means of expressing the Causee). Finally, the non-trivial semantic developments of the Lithuanian curative verbs, such as the backgrounding of the causing situation ('cause to V' > 'V by order') and even its complete fading, are also peculiar from the typological perspective.

Abbreviations

1	1st person		INF	infinitive
2	2nd person		INS	instrumental
3	3rd person		INTR	intransitive
ABS	absolutive		IRR	irrealis
ACC	accusative		LOC	locative
ADE	adessive		M	masculine
ADV	adverb		NEG	negation
ALL	allative		NOM	nominative
AP	antipassive		OBL	oblique
AUX	auxiliary		PA	active participle
CAUS	causative		PL	plural
CL	clitic		POSS	possessive
CNT	continuative		PP	passive participle
CNV	converb		PRF	perfect
DAT	dative		PRS	present
DEF	definite		PRV	preverb
DIM	diminutive		PST	past
DYN	dynamic		PTCL	particle
ERG	ergative		Q	question particle
F	feminine		RFL	reflexive
GEN	genitive		SG	singular
HAB	habitual		TR	transitive
IMP	imperative		VOC	vocative

Sources

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PRPC – Polish-Russian Parallel Corpus, part of the Russian National Corpus, http://www.rus-corpora.ru/search-para-pl.html

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