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## Corpus-research of morphological causatives in Lithuanian, their productivity and valency patterns

Argument Structure and Argument  
Realization in Baltic  
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### 1. Morphological productivity

#### 1.1. Productivity = **regularity** of the morphological process (MP)

- Productive MP affects significant majority of members of class X.
- Extreme case: all members of the class X are (can be) affected by a given MP.
- High productivity can result in high type frequency, but does not necessarily imply it as it also depends on the size of the class which can be affected by a given MP.

#### 1.2. Productivity = ability of the MP to **attract new members** to its class (Bauer 2001)

- Productivity  $\neq$  type/token frequency of the MP.
- Productive MP does not have to be necessarily frequent (et vice versa), cf. Bauer 2001: 48, Baayen 2008: 905.

#### 1.3. Empirical diagnostics of morphological productivity

- **“Novelty”**
  - Co-occurrence with novel formations / borrowings.
  - Corpus: hapax counts (Baayen 1993).
  - Novel formations in L1/L2 acquisition.
  - Experiments with nonce words.

### 2. Valency changing mechanisms in Lithuanian

#### 2.1. Valency decrease: more productive and grammaticalized

- Passivization via suffixes *-m-/-t-* (participial constructions, see e.g. Geniušienė 1974, 2006)
  - Fully grammaticalized and productive (including impersonal passives from intransitive verbs, see Timberlake 1982, Wiemer 2006).
- Reflexivization via prefix/suffix *-s(i)-*
  - Quite grammaticalized and productive (though not in all of its various uses, see Geniušienė 1983, 1987, 2007).

#### 2.2. Valency increase: less productive and grammaticalized

- Causativization (addition of an external agent) via a number of suffixes
  - Less grammaticalized and less productive than valency decreasing mechanisms.
- Applicativization (addition of a direct object) via certain verbal prefixes (*eiti per gatvę* ‘to go across the street (PP)’ ~ *per-eiti gatvę* ‘to cross the street (DO NP)’)
  - Admittedly most restricted and least productive.

### 3. The main objectives of our research

- Corpus-based measures of productivity of causative suffixes.
- Quantification of causative formation by semantic/syntactic classes of their base verbs.
- Argument marking patterns of causatives.
- Other non-trivial phenomena.

#### 4. Our data

- 82 million word-corpus (mostly periodicals), part of the corpus of modern Lithuanian, <http://tekstynas.vdu.lt/tekstynas/> (all examples are taken from this corpus unless other source is indicated).
- Automatic morphological annotation with some manual correction<sup>1</sup>.
- Some examples from contemporary texts published online or attested in the Dictionary of Lithuanian (*Lietuvių kalbos žodynas*, <http://www.lkz.lt>, further referred to as LKŽe; note that LKŽe is heavily based on dialectal and historical data).
- In total ca. 780 causative lexemes based on ca. 730 base verbs (ca. 60 base verbs form more than one causative derivative), but at the current stage of our project we consider all verbs in *-(d)y-ti* (151 in total) and top half of the most frequent (> 8 tokens) verbs in *-(d)in-ti* (315 in total).

#### 5. Formal properties of Lithuanian morphological causatives

##### 5.1. Suffixation

- Pure derivational suffixation
  - *-d-*, *-in-*, *-din-*:
    - *gy-ti*, *gyj-a*, *gij-o* ‘recover, heal (intr.)’ → *gy-d-y-ti*, *gy-d-o*, *gy-d-ė* ‘treat, heal (tr.)’
    - *deg-ti*, *deg-a*, *deg-ė* ‘burn (intr.)’ → *deg-in-ti*, *-in-a*, *-in-o* ‘burn (tr.)’
    - *sprog-ti*, *sprog-st-a*, *sprog-o* ‘explode (intr.)’ → *sprog-din-ti*, *-din-a*, *-din-o* ‘explode (tr.)’
  - (Re)assignment to inflection class (cf. Pakerys 2011)
    - Class in *-y-*, *-o*, *-ė* (cf. suffix *-d-* above which selects this inflection class)
      - *mirk-ti*, *mirk-st-a*, *mirk-o* ‘soak (intr.)’ → *mirk-y-ti*, *mirk-o*, *mirk-ė* ‘soak (tr.)’
  - For the sake of simplicity, all affixes will be further referred to as suffixes *-y-ti*, *-d-y-ti*, *-in-ti*, and *-din-ti*.

##### 5.2. Qualitative vowel changes (ablaut)

Non-regular

Suffix	With ablaut	Without ablaut
-y-ti	<i>tik-ti</i> , <i>ti-n-k-a</i> , <i>tik-o</i> ‘suit, fit’ → <i>taik-y-ti</i> ‘adjust’	<i>mirk-ti</i> , <i>mirk-st-a</i> , <i>mirk-o</i> ‘soak (intr.)’ → <i>mirk-y-ti</i> ‘soak (tr.)’
-d-y-ti	<i>ir-ti</i> , <i>yr-a</i> , <i>ir-o</i> ‘disintegrate’ → <i>ar-d-y-ti</i> ‘disassemble, erode’	<i>gim-ti</i> , <i>gim-st-a</i> , <i>gim-ė</i> ‘be born’ → <i>gim-d-y-ti</i> ‘give birth’
-in-ti	<i>skęs-ti</i> , <i>skęs-{s}t-a</i> , <i>skend-o</i> ‘sink, drown (intr.)’ → <i>skand-in-ti</i> ‘sink, drown (tr.)’	<i>deg-ti</i> , <i>deg-a</i> , <i>deg-ė</i> ‘burn (intr.)’ → <i>deg-in-ti</i> ‘burn (tr.)’
-din-ti	<i>sirg-ti</i> , <i>serg-a</i> , <i>sirg-o</i> ‘be ill’ → <i>sarg-din-ti</i> ‘sicken (tr.)’	<i>žel-ti</i> , <i>želi-a</i> , <i>žėl-ė</i> ‘sprout’ → <i>žel-din-ti</i> ‘make sprout’

##### 5.3. Quantitative vowel change (lengthening or shortening)

- Ablaut vs. vowel lengthening/shortening distinguished following Dixon (2000: 34) and because qualitative and quantitative vowel changes are distinct processes in Lithuanian.

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

- Non-systematic and very rare, e.g. *lik-ti*, *liek-a*, *lik-o* ‘remain’ → *lyk-in-ti* / *lyk-y-ti* (*-ija*, *-ijo*) ‘make remain, save’ (both examples are taken from Jakaitienė 1973: 17, 25 and not attested in our sub-corpus).
- Vowel shortening is also possible in some cases, e.g. *žū-ti*, *žūv-a*, *žuv-o* ‘die’ → *žu-dy-ti* ‘kill’ (one would expect *žū-* in antecorsonantal position, cf. *žū-ti*), *kryp-ti*, *kryp-st-a*, *kryp-o* ‘turn (intr.)’ → *krip-dy-ti* ‘make turn (tr.)’ (Jakaitienė 1973: 25, not attested in our sub-corpus)

#### 5.4. Metatony (change in syllable “intonation”)

- Non-regular

Suffix	Examples with metatony	Examples without metatony
-y-ti	<i>tik-ti</i> ‘suit, fit’ → <i>táik-y-ti</i> ‘adjust’	<i>miřk-ti</i> ‘soak (intr.)’ → <i>mirk-ý-ti</i> , <i>miřk-o</i> , <i>-é</i> ‘soak (tr.)’
-d-y-ti	<i>vỹk-ti</i> ‘happen’ → <i>výk-d-y-ti</i> ‘perform’	<i>tiřp-ti</i> ‘melt (intr.)’ → <i>tirp-d-ý-ti</i> , <i>tiřp-d-o</i> ‘melt (tr.)’
-in-ti	<i>vařg-ti</i> ‘suffer’ → <i>várg-in-ti</i> ‘tire, make suffer’	<i>kaīs-ti</i> ‘heat (up) (intr.)’ → <i>kaīt-in-ti</i> ‘heat (up) (tr.)’
-din-ti	<sup>2</sup>	<i>žél-ti</i> ‘sprout’ → <i>žél-din-ti</i> ‘make sprout’

#### 6. Historical background

- Causatives with infinitive stem *-i-ti* are also attested in Slavic (cf. OCS *poj-i-ti* ‘give to drink’ ← *pi-ti* ‘drink’, *sad-i-ti* ‘plant’ ← *sěs-ti* ‘sit down’), but note the difference of the present stem (*-i-* in Slavic vs. *\*-ā-* in Baltic; present stems in *-ja* alongside infinitive in *-y-ti* are also attested in the dialects of Lithuanian), see Stang 1942: 24; Endzelīns 1951: 826f; 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 suffixal element *-d-* are an East Baltic innovation and are not attested in Slavic and Old Prussian, cf. Lithuanian *-dy-ti*, *-din-ti*, Latvian *-dī-t*, *-dinā-t* in *gul-dy-ti* ‘lay down’, *gul-dī-t* ‘put to bed’ ← *gul-ē-ti* ‘lie’, *gul-ē-t* ‘sleep’, *lo-din-ti* (LKŽe), *lā-dinā-t* ‘make bark’ (Endzelīns 1951: 839 (from BW)) ← *lo-ti*, *lā-t* ‘bark’ (Endzelīns 1951: 831, 839).
- 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; grown’ (cf. also OCS *bud-i-ti* alongside Lithuanian *bud-in-ti*, Old Prussian pst.pp *et-baud-in-ts* ‘auferweckt; awaken’).
- Note 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’ (Endzelīns 1951: 807-809).

#### 7. Valency properties

- Causatives from one-argument (intransitive) verbs: regular transitive verbs  
Vbase <S<sub>i</sub>; Sbj> → Vcaus <Causer: Sbj; Causee<sub>i</sub> = P: DO>

<sup>2</sup> No straightforward examples are attested in modern Lithuanian, cf. discussion in Pakerys 2002: 359f.

- (1) a. *J-is dirb-a Sofij-oje, dažniausiai gy-d-o*  
 3-NOM.SG.M work-PRS.3 Sofia-LOC.SG usually heal-CAUS-PRS.3  
*sportinink-ų traum-as.*  
 athlete-GEN.PL injury-ACC.PL  
 'He works in Sofia and usually treats sports injuries.'
- b. *Mūs-ų sportinink-ų traum-os sparčiai gyj-a.* (constructed)  
 we-GEN athlete-GEN.PL injury-NOM.PL quickly heal-PRS.3  
 'Injuries of our athletes are healing quickly.'
- Causatives from two-argument (transitive) verbs: at least two subtypes (see in more detail below)
    1. Vbase <A<sub>i</sub>: Sbj; P<sub>j</sub>: DO> → Vcaus <Causer: Sbj; Causee<sub>i</sub>: IO/Obl; P<sub>j</sub>: DO>
- (2) 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  
 'That [they] give carrot juice to drink to the toddlers.'
- b. *Petr-as ir Jurg-is geri-a mork-ų sult-is.*  
 (constructed)  
 Peter-NOM.SG and Jurgis-NOM.SG drink-PRS.3 carrot-GEN.PL juice-ACC.PL  
 'Peter and Jurgis drink carrot juice.'
- c. *Vis dar tenka sutikti jaunų mamų, kuri-os savo kūdik-į gir-d-o mork-ų sult-imis, valgy-din-a kiaušini-o tryni-u*  
 who-NOM.PL.F RFL.POSS baby-ACC.SG drink-CAUS-PRS.3 carrot-GEN.PL juice-INS.PL eat-CAUS-PRS.3 egg-GEN.SG yolk-INS.SG  
 'We still encounter young moms who give their baby carrot juice and feed yolk.'
- d. *Kūdik-is geri-a mork-ų sult-is* (constructed)  
 baby-NOM.SG drink-PRS.3 carrot-GEN.PL juice-ACC.PL  
*ir valg-o kiaušini-o tryn-į*  
 and eat-PRS.3 egg-GEN.SG yolk-ACC.SG  
 'The baby drinks carrot juice and eats yolk.'
2. Vbase <A<sub>i</sub>: Sbj; P<sub>j</sub>: DO> → Vcaus <Causer: Sbj; Causee<sub>i</sub>: Ø; P<sub>j</sub>: DO>
- (3) a. *Erodas tarė: „Jon-ui aš nu-kirs-din-au galv-q ...“* (Luke 9,9)  
 John-DAT.SG I:NOM PRV-cut-CAUS-PST.1SG head-ACC.SG  
 'Herod said, I had John beheaded ...'
- b. *Budel-is nu-kirt-o Jon-ui galv-q.* (constructed)  
 executioner-NOM.SG PRV-cut-PST.3 John-DAT.SG head-ACC.SG  
 'Executioner beheaded John.'

	INTRANS	%	AMBITR	%	TRANS	%	TOTAL
-y-ti	22	96	1	4	0	0	23
-d-y-ti	125	98	3	2	0	0	128
-in-ti	264	95	11	4	3	1	278
-din-ti	<b>24</b>	<b>65</b>	2	5	<b>11</b>	<b>30</b>	37
<b>Total</b>	435		17		14		466
p-value < 2.2e-16, distribution statistically significant							

- Causative predicate based on a three-argument (ditransitive) verb is not possible in modern Lithuanian, but occasional formations are attested in earlier texts, cf. LKŽe: *duo-ti* 'give' → *duo-din-ti* 'order to, let give':

- (4) *duo-din-ki=m*                      *viet-q*                      *miest-uosu*    *taut-os*                      BBSam27,5  
 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, 16<sup>th</sup> cent.)

## 8. Semantic classes of the bases

### 8.1. By event types (see Tatevosov 2002, Arkadiev 2011, 2012)

Affix	State <S,S>	%	Entry into state <-, ES>	%	Process <P,P>	%	Entry into process <-, EP>	%	Telic <P,ES>	%	Total
-y-ti	3	13	11	48	9	39	0	0	0	0	23
-d-y-ti	7	5	82	63	34	26	1	1	7	5	131
-in-ti	24	9	142	51	98	35	7	3	6	2	277
-din-ti	1	3	25	66	11	29	0	0	1	3	38
<b>Total</b>	<b>35</b>	<b>7</b>	<b>260</b>	<b>55</b>	<b>152</b>	<b>32</b>	<b>8</b>	<b>2</b>	<b>14</b>	<b>3</b>	<b>469</b>

p-value = 0.1907, distribution not statistically significant

### 8.2. By animacy and control of subject

Affix	Controllable	%	Non- controllable	%	Ambivalent	%	Total
-y-ti	2	9	21	91	0	0	23
-d-y-ti	14	11	100	78	14	11	128
-in-ti	26	9	234	84	18	6	278
-din-ti	<b>22</b>	<b>59</b>	<b>13</b>	<b>35</b>	2	5	37
<b>Total</b>	<b>64</b>	<b>14</b>	<b>368</b>	<b>79</b>	<b>34</b>	<b>7</b>	<b>466</b>

p-value = 2.151e-14, distribution statistically significant

Affix	Animate subject	%	Inanimate subject	%	Ambivalent	%	Total
-y-ti	7	30	10	43	6	26	23
-d-y-ti	36	28	53	41	39	31	128
-in-ti	83	30	125	45	70	25	278
-din-ti	<b>26</b>	<b>70</b>	<b>5</b>	<b>14</b>	6	16	37
<b>Total</b>	<b>152</b>		<b>193</b>		<b>121</b>		<b>466</b>

p-value = 0.0001024, distribution statistically significant

## 9. Measuring productivity of Lithuanian morphological causatives

- Number of causative lexemes (type frequency, realized productivity).
- Number of hapaxes (hapax-conditioned/expanding productivity, Baayen 1993).
- NB: there are more causative lexemes formed with *-dy-ti* than with *-din-ti* (128 vs. 101), but the latter type has more hapaxes (23 vs. 15) and has to be recognized as relatively more productive.

Affix	Realized productivity	% (of all causatives)	Hapax count	% (of lexemes with the suffix X)
-in-ti	526	68	94	18
-din-ti	101	13	23	23
-dy-ti	128	16	15	12
-y-ti	23	3	3	13
<b>Total</b>	<b>778</b>			

- Attraction of new members
  - None, except for some deadjectival formations (cf. *modern-us* ‘modern’ → *modern-in-ti* ‘modernize’) which are not included in our investigation
  - **Periphrastic causatives**, cf. *versti dreifuo-ti* (not *\*dreifuo-din-ti*) ‘make drift’:

(5) *Audr-a*      *kelt-q*      *privert-ė*      *dreifuo-ti*<sup>3</sup>  
 storm-NOM.SG    ferry-ACC.SG    make-PST.3    drift-INF  
 ‘The storm made the ferry drift’

## 10. Causativization of transitives

10.1. Marking of the A and O(P) arguments of the original verb in the causative construction, 5 types (Dixon 2000: 48):

Type	Causer	Original A (Causee)	Original O (P)
(i)	A	special marking	O
(ii)	A	retains A-marking	O
(iii)	A	has O-marking	has O-marking
(iv)	A	<b>O</b>	<b>non-core</b>
(v)	A	<b>non-core</b>	<b>O</b>

10.2. **Type (iv)**: “original A becomes new O, original O moves out of the core. In this variety of morphological causative of a transitive verb each of the arguments shifts its function, the original A (the causee) taking on O function within the causative construction and the original O moving out of the core into a peripheral function” (Dixon 2000: 52)

- Causatives of ingestive verbs (Amberber 2002) denoting feeding and giving to drink (*gir-dy-ti* ‘give to drink’, *valgy-din-ti* ‘give food, feed’, *les-in-ti* ‘feed birds’, etc.) follow this pattern and mark the original O by the Instrumental case.
- E.g. *valgy-din-ti* (including all prefixed lexemes):
  - 325 examples in our corpus, 35 of them have original O marked by the Instrumental, cf. *girdyti* and *valgydinti* in the same sentence:

(6) (= 2c) *Vis dar tenka sutikti jaunų mamų,*  
*kuri-os*      *savo*      *kūdik-į*      ***gir-d-o***      *mork-ų*      *sult-imis,*  
 who-NOM.PL.F    RFL.POSS    baby-ACC.SG    drink-CAUS-PRS.3    carrot-GEN.PL    juice-INS.PL  
***valgy-din-a***    *kiaušini-o*    *tryni-u*  
 eat-CAUS-PRS.3    egg-GEN.SG    yolk-INS.SG

‘We still encounter young moms who give their baby carrot juice and feed yolk.’

NB: cf. Kammu (Austroasiatic, Laos) where “the original O is often omitted but can be included for some verbs, marked by the **instrumental** preposition (Dixon 2000: 53 based on Svantesson 1983: 103–105, emphasis added)

<sup>3</sup> The example is shortened, cf. the original excerpt: *Ties Vokietijos krantais užklupusi audra bendrakeleivių keltą privertė dreifuoti bemaž šešias valandas* (<http://www.turizmas.lt/ru/puslapiai/naujienos/Kult%C5%ABros-mainai-%E2%80%93-sunkve%C5%BEimi%C5%B3-mar%C5%A1rutais/9451>).

**10.3. Type (v):** “original O stays as O, original A moves out of the core. There are two subtypes here:

(a) where the original A goes into the first empty slot on a hierarchy of clausal functions;  
 (b) where the original A goes into a fixed function. The first has been made much of in the literature but is in fact rather rare” (Dixon 2000: 54).

For Lithuanian, the distinction between the types (a) and (b) looks artificial due to the low number of relevant cases and, moreover, because valency patterns superficially falling under one of the two subtypes seem to be semantically/lexically determined.

**(a) “Marking of original A is motivated by a hierarchy.** [...] subject – direct object – indirect object – oblique – genitive – object of comparison

He [Comrie 1975] suggested that in one group of languages the causee goes into the first available slot in the hierarchy” (Dixon 2000: 54).

**(b) “Original A is assigned a fixed non-core function** (irrespective of whether the underlying clause is simple transitive or ditransitive). The possibilities here include: (i) **dative.** [...]” (Dixon 2000: 55).

- In some cases, this pattern can be followed by the causatives of ingestive verbs denoting feeding and giving to drink, e.g.:

(7) *vaikas sirguliavo,*

[*mam-a*]            *gir-d[ė]*            *j-am*            *vaistuk-us*  
 mother-NOM.SG    drink-CAUS-PST.3    3-DAT.SG.M    medicine-ACC.PL

‘the child had a minor illness, [the mom] gave him medicine to drink<sup>4</sup>

- Note that the marking of original A as DO (accusative) and original O as oblique (instrumental) is much more frequent; corpus data: prs.3 *girdo*, pst3 *girdė*, 112 tokens, just 2 cases with dative; cf. (8) vs. (9).

(8) *gydytoj-ai    jau    gir-d-ė    j-į    ryži-ų    vandeni-u*  
 doctor-NOM.PL    already    drink-CAUS-PST.3    3-ACC.SG.M    rice-GEN.PL    water-INS.SG

‘the doctors were already giving him rice water to drink’

(9) (= 2a) *Kad    mork-ų    sult-is    gir-d-o    mažvaiki-ams*  
 that    carrot-GEN.PL    juice-ACC.PL    drink-CAUS-PRS.3    toddler-DAT.PL

‘That [they] give carrot juice to drink to the toddlers’

- *su-valgydinti*: Allows only the initial P as the direct object (Accusative or partitive Genitive), the Causee being marked by Dative:

(10) *Todėl    Agripin-a    su-valgy-din-o    j-am    užnuodyt-ų*  
 therefore Agrippina-NOM.SG    PRV-eat-CAUS-PST.3    3-DAT.SG.M    poisoned-GEN.PL

*gryb-ų*  
 mushroom-GEN.PL

‘Therefore Agrippina fed him [Nero] poisoned mushrooms<sup>5</sup>

vs. \**suvalgydino jį* [Acc] *grybais* [Ins]

- Note that argument marking of *suvalgydinti* can be also interpreted as a result of the applicativization of the causative (i.e. *valgydinti* [NP Acc] [NP Ins] > *su-valgydinti* [NP Dat] [NP Acc]).

#### 10.4. Suppression of the original A

In the case of *-din-ti* derivatives based on transitives (except for the ones based on ingestive verbs), the original A is usually left unexpressed (Žeimantienė 2011: 129) and is interpreted as backgrounded, cf. (11), (13) vs. the plain transitives in (12) and (14):

<sup>4</sup> <http://www.infolex.lt/portal/start.asp?act=disk&fwd=komentarai.asp%3FdiskID%3D54623%26view%3D28&groupID=1>

<sup>5</sup> The example is taken from the corpus of modern Lithuanian, but lies outside of our sub-corpus.

- (11) *Radvil-a Našlaitėl-is staty-din-a šventov-ę Nesvyži-uj*  
 Radvila-NOM.SG Orphan-NOM.SG build-CAUS-PRS.3 sanctuary-ACC.SG Nesvyžius-LOC.SG  
 ‘Radvila The Orphan is having a sanctuary built in Nesvyžius.’
- (12) *Meistr-ai stat-o šventov-ę Nesvyži-uje* (constructed)  
 worker-NOM.PL build-PRS.3 sanctuary-ACC.SG Nesvyžius-LOC.SG  
 ‘Workers are building a sanctuary in Nesvyžius.’
- (13) *Pilotas paleido Barabą, o Jėz-ų nu-plak-din-o*  
 and Jesus-ACC.SG PRV-scourge-CAUS-PRS.3  
*ir atidavė nukryžiuoti* (Mk 15,15)  
 ‘Pilate released Barabbas and had Jesus scourged and let him be crucified.’
- (14) *Kareivi-ai nu-plak-ė Jėz-ų.* (constructed)  
 soldier-NOM.PL PRV-scourge-PST.3 Jesus-ACC.SG  
 ‘Soldiers scourged Jesus.’

Original A can be inferred from the general world knowledge (workers in (11), soldiers in (13)), but can be also explicitly expressed by a PP or a Locative NP (Žeimantienė 2011: 129), cf. corpus data of *siūdinti(s)* ‘have smth. sewn (for oneself)’:

- 73 tokens all in all;
  - PP (*pas*): 7 examples (one sentence occurs twice), cf. (15)
  - Locative: 6 examples, cf. (16)
  - One adverb (*čia* ‘here’) referring to the NP of the preceding sentence, cf. (17)
- (15) *Rengėsi labai rūpestingai, siū-din-o-si pas ger-us siuvėj-us.*  
 sew-CAUS-PST.3-RFL at good-ACC.PL.M tailor-ACC.PL  
 ‘S/he dressed very neatly and had his/her clothes sewn at good tailors.’
- (16) *Mūsų Prezidentas ... siū-din-o-si frak-ą kino studij-os*  
 our president-NOM.SG sew-CAUS-PST.3-RFL tailcoat-ACC.SG film studio-GEN.SG  
*siuvykl-oje.*  
 dressmakers-LOC.SG  
 ‘Our president ... had his tailcoat sewn at the film studio dressmakers.’
- (17) *ir išlipę iš traukinio pasipildavo po mūsų nedidelį miestą.*  
*J-ie čia siū-din-o-si kostium-us, remontav-o-si automobili-us.*  
 3-NOM.PL.M here sew-CAUS-PST.3-RFL suit-ACC.PL repair-PST.3-RFL car-ACC.PL  
 ‘and after leaving the train they would overflow our little town. Here they had their suits sewn, repaired their cars.’
- It has to be noted that some verbs of this group also demonstrate a semantic shift from the causative meaning ‘have smth. done’ to ‘do something by order, etc.’ (the causee moves to the position of the causer which is suppressed), cf. (18) causative vs. (19) non-causative (‘do by order’) (see also Naktinienė 2011: 158):
- (18) [...] *kunigaikšči-ai* [...] *kal-din-a monet-as*  
 duke-NOM.PL mint-CAUS-PRS.3 coin-ACC.PL  
 ‘The dukes have coins minted’ (the causee is suppressed)
- (19) *Varin-es monet-as kal-din-o ir Maskv-os kalykl-a*  
 copper-ACC.PL coin-ACC.PL mint-CAUS-PST.3 and Moscow-GEN.SG mint-NOM.SG  
 ‘The Moscow mint (A, “causee”) also minted copper coins.’
- (20) Vcaus <Causer: Ø; Causee: Sb; P: DO>

In the case of some verbs, this sense seems to dominate, e.g. *atvesdinti* ‘bring in by force (to the court, etc.)’, cf. real causative in (21) vs. ‘do by order’ meaning in (22):



- (21) *Toki-ais atvej-ais policij-os pareigūn-as j-į gal-i*  
 such-INS.PL.M case-INS.PL police-GEN.SG officer-NOM.SG 3-ACC.SG.M can-PRS.3

**at-ves-din-ti**

PRV-bring-CAUS-INF

‘In such cases the police officer [investigator, the causer] can order compulsory attendance.’

- (22) *Įtariam-qji at-ves-din-ęs policij-os pareigūn-as*  
 suspect-ACC.SG.M.DEF PRV-bring-CAUS-PST.PA.NOM.SG.M police-GEN.SG officer-NOM.SG  
*bandė sutramdyti 160 kilogramų sveriantį vyrą*

‘The police officer who brought in the suspect tried to restrain that 160-kilogram man.’

Further semantic development may make the meaning of the derivative pretty much the same as that of its base, see Naktinienė (2011: 158) on *megz-din-ti* = *megz-ti* ‘knit’, *stady-din-ti-s* = *staty-ti-s* ‘build for oneself’, *kal-din-ti* = *kal-ti* ‘mint’.

**11. Other notes****11.1. Causativization of impersonal verbs** (Dixon 2000: 43)

- Occasionally possible: *šal-ti* ‘freeze (intr., also impersonal)’ → *šal-dy-ti* ‘freeze (tr., impersonal)’, cf. examples from LKŽe:

- (23) *Šimet šal-d-ė, pa-šal-d-ė visk-q Aps*  
 this.year freeze-CAUS-PST.3 PRV-freeze-CAUS-PST.3 everything-ACC  
 ‘(literally) This year it was freezing, it froze everything to some extent’.

**11.2. Causativization of the copula verb** (Dixon 2000: 43)

- Not possible, cf. only *buv-in-ti* (← *bū-ti*, *yra*, *buv-o* ‘be’) in the locative sense (‘make someone be somewhere’ (attested in LKŽe):

- (24) *Kol būv-in-o-m, tol j-is dar prieg mūs laik-ė-s Lš*  
 while be-CAUS-PST-1PL so.long 3-NOM.SG.M still at we:GEN hold-PST.3-RFL  
 ‘While we were making/encouraging [him] to stay, he still stayed with us’.

**11.3. Double causatives**

- Not used in modern Lithuanian and not found in our corpus material, but attested in LKŽe (note that the first stage causative can be lexicalized to a certain degree, the second stage causative suffix is *-din-ti*):

- mokė-ti*, *mok-a* ‘know’ → *(iš-)mok-y-ti* ‘teach’ → *(iš-)moky-din-ti* ‘cause to teach’

- (25) *Ar ne aš vaikūs išleisdinau į mokyklą,*  
*ar ne aš j-uos iš-mok-ý-din-au?* Skr.  
 Q NEG I.NOM 3-ACC.PL.M PRV-know-CAUS-CAUS-PST.1SG  
 ‘Wasn’t it me who let the children go to school, wasn’t it me who took care that they would be taught?’

- žū-ti* ‘die’ → *žu-dy-ti* ‘kill’ → *žudy-din-ti* ‘have smb. killed’

- (26) *Erod-as kūdiki-us žu-dy-din-o.* brš  
 Herod-NOM.SG baby-ACC.PL die-CAUS-CAUS-PST.3  
 ‘Herod had babies killed.’

- (už-)aug-ti* ‘grow (intr.)’ → *(už-)aug-in-ti* ‘raise’ → *(už-)augin-din-ti* ‘take care to raise’

- (27) *Kit-u du [sūn-u] j-is karališkai už-aug-in-din-o.* Jrk.  
 other-ACC.DU.M two.M son-ACC.DU 3-NOM.SG.M in.a.royal.way PRV-grow-CAUS-CAUS-PST.3  
 ‘He took care to raise the other two [sons] in a royal way.’

## Summary

- 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. Note the existence of a closed, but relatively representative class of causatives from transitive verbs (not limited to ingestive verbs like ‘eat’ and ‘drink’) — something usually not expected from a non-productive causative derivation.
- Of four causative suffixes, *-din-* shows a clear tendency to be used with bases denoting agentive events with an animate subject, including transitive bases.
- Causatives of transitive verbs, despite being marginal and on decline, show non-trivial valency patterns, including one with the suppressed Causee, giving rise to interesting semantic developments. Note that omission of Causee also does not seem to be a cross-linguistically frequent phenomenon.

## Abbreviations in glosses

ACC – accusative, CAUS – causative, CL – clitic, DAT – dative, DEF – definite, DU – dual, GEN – genitive, IMP – imperative, INF – infinitive, INS – instrumental, LOC – locative, M – masculine, NEG – negation, NOM – nominative, PA – active participle, PL – plural, PP – passive participle, PRS – present tense, PRV – preverb, PST – past tense, Q – question particle, RFL – reflexive, SG – singular

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