Slavic Reflexive Decausative

Славянский возвратный декаузатив

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Abstract One of the uses of the reflexive marker in Slavic is to signal Decausatives—unagentively interpreted predicates formed from transitive verbs allowing non-volitional Causers as external arguments. The paper proposes an account treating Decausatives in a unified manner with other uses of the reflexive marker in Slavic. Building on the minimal system of reflexive markers presented in previous work, Decausatives are analysed by analogy with genuine Reflexives. The reflexive marker blocks the internal argument, the unbound semantic variable is identified with the external argument at the level of Conceptual Structure. The characteristic Decausative interpretation arises due to the internal argument being a non-volitional Causer rather than an Agent. The present analysis exploits an independently motivated representation of the marker, no additional means or operations are necessary.

Аннотация Возвратная клитика (refl) в славянских языках употребляется, в числе прочего, для сигнализации декаузативов—неагентивно интерпретируемых предикатов, образованных от переходных глаголов, которые могут употребляться с именной

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группой, выполняющей синтаксическую функцию подлежащего (внешнего аргумента) и семантическую роль непроизвольного производителя действия (causer). В настоящей статье декаузативы анализируются согласно единому подходу к refl в ее различных употреблениях. Исходя из минимальной системы маркеров возвратности, представленной в предыдущей публикации, анализ декаузативов производится по аналогии с конструкциями с настоящей возвратной интерпретацией. В случае декаузатива refl блокирует внутренний аргумент. На уровне концептуальной структуры соответствующая семантическая переменная, которая до этого уровня оставалась свободной, отождествляется с внешним аргументом. Характерная для декаузативов интерпретация достигается на основе того, что внешний аргумент является не агенсом (agent), а непроизвольным производителем действия (causer), т.е. интерпретация достигается именно ввиду этой специфической семантической роли. В анализе используется репрезентация refl, которой естественные языки располагают и вне функции декаузативов и которая, таким образом, является независимо мотивированной. В анализ не вовлекаются дополнительные средства и операции.

1 Introduction

Reflexivization strategies yielding various interpretations are attested in many Indo-European languages. With respect to Slavic, traditional grammars typically refer to the outcome of reflexive marking as genuine Reflexive, reflexive Passive and Impersonal. In the linguistic literature, much attention has been paid to another cross-linguistically attested use of reflexive marking, which we will refer to as Decausative, following the terminology of Paducheva (2001, 2003) and Kaufmann (2004), among others.[1] Decausatives are formed from a subclass of transitive verbs and denote situations with unagentive interpretation. The paper will deal with Decausatives in Slavic focusing on East and West Slavic, as represented by Russian (Ru), Polish (Po), and Czech (Cz).

The phenomenon has been characterized in the literature (see the references in this section) as follows: (i) Decausative interpretation as in (1) arises if the reflexive marker (refl) combines with transitive causative verbs denoting a change-of-state—(2).[2] (ii) The subject of the resulting intransitive structure intuitively corresponds to the internal argument of the transitive counterpart, as with reflexive Passive—(3). It is interpreted as undergoing (or being affected by) the process denoted by the predicate. (iii) The sentences can be modified by a prepositional phrase (PP) or a nominal phrase (NP) expressing an external, non-volitional causing eventuality (natural Force)—as illustrated by the PP in (1a). (iv) The crucial property is unagentivity. The process denoted by the verb is perceived as occurring spontaneously. An Agent is not even implied, which is evidenced by the incompatibility of Decausatives with agent-oriented adverbs, oblique Agents (also referred to as *by*-phrases due to the preposition that introduces them in English) and controlled instruments—(1b) (see, e.g., Reinhart and

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[1]Note that we use the term just as a label without any theoretical implications. Many authors refer to the phenomenon as 'Anticausative' (e.g., Alexiadou et al. 2006; Schäfer 2008; Koontz-Garboden 2009; Horvath and Siloni 2011; Medová 2012) or 'Inchoative' (e.g., Haspelmath 1993; Piñón 2001a, 2001b; Reinhart and Siloni 2005), but other terms are used as well, e.g., 'Kvazipassiv' (e.g., Gavrilova 2008), or 'Recessive' (Zumstein 2010 following Tesnière 1959). Other researchers subsume the relevant structures under 'Middles' in a broad sense (see, e.g., Szymańska and Śpiewak 1998; Jones and Levine 2010).

[2]Refl appears as -*sja* and -*s*' (after a consonant and a vowel, respectively) attached to the verb in Ru, *się* oscillating between verb adjacent and second position clitic in Po, and second position clitic *se* in Cz. We will deal with the issue of the morphosyntax of refl in Sect. 3.1.

Siloni 2005 for the last test). In contrast, the (canonical) syntactic realization of the Agent is blocked in case of reflexive Passive, but the Agent is present semantically. Consequently, agentive adverbials and modification by controlled instruments are possible—(3). The example also shows that the suppressed argument may be semantically specified through an oblique Agent (though not in all Slavic languages, see Sects. 2 and 3.1). On the other hand, genuine Reflexive requires the subject to be the Agent of the described event, thus agentive adverbials and controlled instruments are possible with this interpretation—(4).

(1) *Reflexive Decausative*   (Ru, adapted from
     Dver'   otkryvaetsja (...   Padučeva 2001, p. 25)
     door.NOM open.3SG.REFL[3]

     a. ...ot   poryva   vetra).
          from gust.GEN wind.GEN

     b. ...*slugoj   / *special'no / *special'nym ključom).
          servant.INSTR   on-purpose   special.INSTR key.INSTR

     'The door opens (due to wind).' (by-phrase, agentive adverb, controlled instrument
     impossible)

(2) Mal'čik otkryvaet dver'.   (Ru)
     boy.NOM open.3SG   door.ACC
     'The boy opens the door.'

(3) *Reflexive Passive*
     Dver'   otkryvaetsja (slugoj   / special'no   (Ru)
     door.NOM open.3SG.REFL servant.INSTR   on-purpose

     / special'nym ključom).
       special.INSTR key.INSTR

     'The door is opened (by a servant / deliberately / with a special key).'

(4) *Genuine Reflexive*
     Mal'čik moetsja   (special'no, čtoby   razozlit'   (Ru)
     boy.NOM wash.3SG.REFL on-purpose   in-order-to anger.INF

     mamu   / special'nym mylom).
     mother.ACC   special.INSTR soap.INSTR

     'The boy washes himself (deliberately to anger his mother / with a special soap).'

Decausatives derived from transitive change-of-state verbs are often considered to be prototypical, see, e.g., Padučeva (2001). Some authors (see, e.g., Reinhart and Siloni 2005) propose analysing reflexive verbs alternating with transitive verbs involving an accusative Experiencer argument in a way that is analogous to prototypical Decausatives. This group includes a variety of psych verbs like Ru *udivit'*(*sja*) 'startle / be startled at', Po *zmartwić* (*się*) 'worry', or Cz *vyděsit* (*se*) 'frighten / get frightened'.[4]

    Most authors (see, e.g., Levin and Rappaport Hovav 1995; Padučeva 2001, 2003 on Ru; Piñón 2001a; Reinhart and Siloni 2005; Koontz-Garboden 2009; among others) adhere to the

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[3]The following abbreviations are used in the glosses: ACC—accusative, DAT—dative, F—feminine, GEN—genitive, GER—gerund, INF—infinitive, INSTR—instrumental, IPF—imperfective, LOC—locative, M—masculine, N—neuter, NEG—negation, NOM—nominative, PAST—past tense, PF—perfective, PL—plural, PRT—particle, PTCPL—participle, SG—singular.

[4]There may be other alternating verbs such as Ru *načat'*(*sja*) 'begin' (cf. Padučeva 2001).

view that Decausatives are formed exclusively from verbs that allow non-agentive subjects.[5] This is illustrated by the contrast in (5) vs. (6). While the transitive verb in (5a) is compatible with the non-agentive (inanimate) subject, this is not the case in (6a). Consequently, the Decausative interpretation is possible in (5b) and impossible in (6b).[6]

(5) a. Mal'čik / veter   zakryl   dver'.   (Ru, adapted from
         boy.NOM   wind.NOM close.PAST door.ACC   Padučeva 2001, p. 25)
         'The boy / wind closed the door.'

     b. Dver'   zakrylas'.
         door.NOM close.PAST.REFL
         'The door closed.'

(6) a. Mal'čik/ *veter   zaper   dver'.   (Ru, adapted from Padučeva 2001)
         boy.NOM   wind.NOM bolt.PAST door.ACC
         'The boy bolted the door.' (inanimate subject impossible)

     b. *Dver'   zaperlas'.
         door.NOM   bolt.PAST.REFL
         Intended meaning: 'The door got bolted.'

Due to the systematic and productive character of the Causative / Decausative alternation, it is plausible to assume that Decausatives are derived from their causative counterparts in some way. The crucial issue for any derivational account of Decausatives is how to analyse the absence—not only in syntax but also at the semantic level of representation—of the Agent argument present in the causative counterpart. A closely related question that, nevertheless, has to be answered independently is whether Decausatives retain or—as their name suggests—lack the causative component of their transitive counterparts.

1.1 Previous accounts

The issues have received much attention in the literature, resulting in opposing proposals on both the explanation of unagentivity and the causative vs. non-causative nature of Decausatives. An overview of the proposal types is given in Table 1, the references to the proposal types are listed in the text under the same numbering (i)–(v).

Approaches analysing Decausative as non-causative comprise proposals that assume the elimination of the causative component which removes the external argument altogether—(i) (cf., e.g., Grimshaw 1982; Härtl 2003; Reinhart and Siloni 2005) and proposals that assume a common non-causative root,[7] which in the case of Decausatives does not project the Cause-head and the external argument—(ii) (cf., e.g., Dudchuk et al. 2010). While the first group of proposals need to postulate various reflexive markers inducing different operations such

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[5]In Padučeva's (2001, 2003) account, the lexical restriction relates to 'deagentivization', a lexical operation obligatorily preceding decausativization. Some authors refer to the concept of external vs. internal causation to account for this restriction, for example, in Alexiadou et al. (2006) only verbs (roots) unspecified with respect to this distinction can alternate.

[6]See Gavrilova (2008) and Zumstein (2010) for apparent counterexamples. They argue that Decausatives can be formed from obligatorily agentive verbs in an appropriate linguistic or non-linguistic context. We speculate that the specific context of such examples loosens the agentivity requirement of the respective verbs. More specifically, a categorial shift induced by the specific context may cancel the [+agent] specification on the subcategorized external argument. The details are not relevant here.

[7]For a semantic account of this type see Piñón (2001a, 2001b) who bases his work on a suggestion by Parsons (1990).

Table 1 Classification of approaches to the Causative–Decausative alternation

Decausatives are	Derived from Causatives	Sharing a common root with Causatives
non-causative	(i) the causative component and the external argument are eliminated	(ii) the Cause-head and the external argument are not projected
causative	(iv) the external argument is blocked	(iii) the Cause-head is projected but not the Voice-head
	(v) two arguments are identified	
	(a) via semantic reflexivization	
	(b) via syntactic movement	

as elimination, absorption, etc., the second group ignores the correlation between morphological and semantic / syntactic complexity.[8]

The remaining approaches that assume that Decausatives and Causatives share a common root—(iii)—either do not reflect the role of overt morphological marking (cf., e.g., Alexiadou et al. 2006) or postulate a specific refl for Decausatives (Rivero and Savchenko 2005; Frąckowiak and Rivero 2008, 2011).

The problematic aspect of accounts assuming an external Causer argument and some kind of blocking operation—(iv) (cf., e.g., Levin and Rappaport Hovav 1995; Padučeva 2001, 2003)—is the view that the optional Force PP / NP is an oblique realization of the blocked argument. This is not compatible with blocking by existential binding, as proposed in Levin and Rappaport Hovav (1995), which would preclude further semantic specification by an oblique phrase. Furthermore, as we will discuss below, the data suggest that the optional NP / PP is not an argument but an adverbial adjunct.

Finally, the last group of accounts assume either a semantic reflexivization operation—(v(a)) (cf. Chierchia 2004[1989]; Koontz-Garboden 2009), or the assignment of two theta-roles to one NP via syntactic movement through several functional projections—(v(b)) (cf. Jabłońska 2007 and Medová 2012, both following the event-decompositional framework of Ramchand 2008). In both cases, Decausatives are derived by analogy with genuine Reflexives, i.e., via identification of internal and external argument (see also Szymańska and Śpiewak 1998). This is where our account is going to take up.

1.2 Proposal and structure of the paper

Our aim is to account for reflexive Decausatives in Slavic within a maximally unified (rather than construction specific) analysis of refl following Fehrmann, Junghanns and Lenertová (2010). Refl affects an argument of a verb, preventing its canonical realization. In the framework of Bierwisch's (1986, 2007, a. o.) two-level semantics, the interpretation of the blocked argument applies at the level of Conceptual Structure (CS). Building on Fehrmann, Junghanns and Lenertová's (2010) sketch extending the analysis to Decausatives, we will argue that Decausatives are derived via reflexive marking in a way analogous to genuine Reflexives. Specifically, refl blocks the internal argument of a transitive causative verb. As the blocked argument remains an unbound semantic variable, it can be identified with the external argument at CS. The characteristic Decausative interpretation arises in cases in which the thematic role of the external argument is that of a (non-volitional) Causer. The proposed

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[8]Similarly, 'causativization' analyses (Lakoff 1968; Dowty 1979; Pesetsky 1995; among others) do not reflect that Decausatives are morphologically marked whereas Causatives are not.

way of deriving Decausatives presumes that Decausatives retain the Cause component and the external argument in their semantic representation.

The paper is structured as follows: Sect. 2 deals with the properties of Slavic Decausatives and the (potential) evidence for the status of the optional Force NP / PP, the structural position of the argument affected by refl (internal vs. external), and the presence of the Cause component and external argument in the semantic representation of Decausatives. Section 3 presents the basic assumptions for the proposal concerning reflexive marking in Slavic and causative verbs. The analysis of Decausatives is presented in Sect. 4 followed by conclusions in Sect. 5.

2 Properties of Decausatives in Slavic

All Slavic languages typically derive Decausatives via the combination of transitive causative verbs with refl.[9] In the absence of adverbial modification or other contextual clues, the structures are ambiguous between genuine Reflexive, reflexive Passive, and Decausative.

With inanimate subjects, this ambiguity concerns reflexive Passive and Decausative, as illustrated in (7). A genuine Reflexive interpretation requires agentive subjects, this property is strongly associated with animacy (except for, e.g., fairy tale / fantasy contexts or ironic speech).

(7)   Dveře   se   zavřely/   zavíraly   (Cz)
door.NOM.PL REFL close.PAST.PL.PF close.PAST.PL.IPF
(průvanem/ kvůli   dětem).
draught.INSTR because-of children.DAT

a. 'The door closed (due to draught).' *Decausative*
b. 'The door was/has been closed (because of the children).' *Reflexive Passive*

Animate subjects are compatible with all three readings, as shown in (8)–(9). The subjects in the (a)-contexts undergo the process non-volitionally and the structures are interpreted as Decausative.[10] The (b)-contexts involve agentive subjects, forcing the genuine Reflexive interpretation. A reflexive Passive interpretation is also possible, as indicated in (9c) for Cz.

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[9]There are also rare cases of verbs that can be used without the reflexive marker both as Decausative and Causative, e.g., Russian *ottaivat'* 'defrost' (Gavrilova 2008 referring to Sokolov 1991) or Czech *začínat* 'begin' (Dušková 1976, p. 17), as well as cases of suppletive or equipollent alternation (see Haspelmath 1993, p. 91, for the cross-linguistic typology of the alternations). The former concerns pairs based on different roots like Russian *goret'* – *žeč'* 'burn', the latter pairs derived from the same root by different stem modifications like Russian *sušit'* – *soxnut'* 'dry' or Polish *topić* – *tonąć* 'sink, drown'. Due to their low frequency in Slavic, we assume that the alternations are not productive and the pairs are stored in the lexicon rather than being derived.

[10]For Padučeva (2001, p. 30), animate subjects preclude the Decausative reading, forcing instead a genuine Reflexive reading. Jabłońska (2007, p. 338), on the other hand, generalizes that any NP—human, animate or inanimate—can be in the subject position of Decausatives, as long as it can be interpreted as [-sentient] (following the terminology of Rozwadowska 1992). We follow this view. (i) is a Decausative counterpart of (7) with an animate subject. Unagentivity, the crucial property of Decausatives, is not to be restricted to inanimacy:

(i)   Na balkoně   se   nechtěně   zavřela   maminka   (Cz)
on balcony.LOC REFL unintentionally closed.PAST.SG.F mother.NOM
dvouletého dítěte,   které zůstalo samo v bytě.
two-year.GEN child.GEN
'A mother of a two-year-old child unintentionally locked herself out on the balcony, the child having been left alone in the flat.'   (www.slanskelisty.cz/sl/zpravodajstvi/04-08avia.php).

(8)   Marek   utopił   się   (Po)
      Marek.NOM   drown.PAST.3SG.M   REFL
      (przez   nieuwagę/ aby   więcej   nie cierpieć).
       through inattention in-order-to more   NEG suffer.INF
   a. 'Marek drowned (by accident).' *Decausative*
   b. 'Marek drowned himself (so as not to suffer any more).' *Genuine Reflexive*

(9)   Marek se   otrávil   (Cz)
      Marek   REFL poison.PAST.3SG.M
      (zkaženými houbami /   z   nešťastné lásky /,
       bad.INSTR mushrooms.INSTR from unhappy.GEN love.GEN
      těm   ostatním se   dala   šance).
      the.DAT others.DAT REFL give.PAST chance.NOM
   a. 'Marek got poisoned (by bad mushrooms).' *Decausative*
   b. 'Marek poisoned himself (because of an unhappy love affair).' *Genuine Reflexive*
   c. 'Marek was poisoned, the others were given one last chance.' *Reflexive Passive*
      (e.g. in the context of how a criminal organization dealt with some traitors)

A remark is due on Po reflexive Passive: According to the literature (cf., e.g., Siewierska 1988), it is obsolete in modern Po. Thus reflexive structures containing inanimate nominative subjects (precluding a genuine Reflexive reading) are preferably interpreted as Decausative rather than reflexive Passive, as illustrated in (10a). On the other hand, Po allows reflexive Impersonals with transitive verbs, which have a passive-like reading. The Patient receives accusative case and does not agree with the predicate (see, e.g., Kibort 2002, 2006 on structural properties of Po reflexive Impersonals). Consider (10b).

(10) a. Jak kliknę *enter*, to   zamykają się   wszystkie okna.   (Po)
         when click.1SG 'enter' then close.3PL   REFL   all   window.PL.NOM
         'When I press the enter button, all windows close.'
      b. Skrótem   Alt F4 zamyka się   okna.
         shortcut.INSTR Alt F4 close.3SG REFL window.PL.ACC
         'Windows are closed / One closes windows via shortcut Alt+F4.'
                    (www.phuimpuls.pl/pobierz/Mozilla_Thunderbird_-_skroty_klawiszowe.txt)

Slavic languages vary with respect to the availability of reflexive transitive Impersonals and with respect to the properties of reflexive Passive (see, e.g., Růžička 1986 for a discussion on the cross-Slavic typology). Fehrmann, Junghanns and Lenertová (2010) account for this variation in terms of two lexical types of refl. We will return to the relevant details in Sect. 3.1. Importantly, the issue concerns cases of refl affecting the external argument. As stated above, we will argue that Decausatives result from refl affecting the internal argument (of a transitive causative verb). In our account, Decausatives are derived by application of the same type of refl across Slavic.

    Another remark is due on verbal aspect in Ru: Grammars of modern Ru restrict reflexive Passive to imperfective verbs, see, e.g., Isačenko (1962, pp. 449–450), Zaliznjak (1977), or Apresjan (2002). Perfective verbs combined with refl should thus unambiguously be interpreted as Decausatives in Ru. However, many authors state that perfective reflexive Passive forms are fully acceptable, see, e.g., Janko-Trinickaja (1962), Miloslavskij (1978), Xrakovskij (1991), Percov (2003), Kolomackij (2007), Gradinarova (2008). Examples are given in (11).

(11) a. Doroga   zaasfal'tiruetsja.   (Ru, Jones and Levine 2010, p. 296[11])
          road.NOM asphalt.PF.3SG.REFL
          'The road will be asphalted.'

      b. Kniga   dovol'no bystro raskupilas'   (Percov 2003, p. 48)
          book.NOM rather   quickly buy-up.PF.PAST.REFL
          publikoj.
          public.INSTR
          'The book has been quite quickly bought up by the public.'

Taking into account this data, we do not implement any general restriction on aspect specification of the potential verbs in the analysis of Decausative (or the refl system in general) in Slavic.

2.1 Optional natural Force PPs / NPs

One might assume that the natural Force PPs / NPs in Slavic Decausatives are oblique realizations of the suppressed argument. Under this assumption, the instrumental Force NP in Cz (12b) (parallel to the example (7)) would alternate with the nominative NP in (12a).

(12) a. Průvan   otevřel   dveře.   (Cz)
          draught.NOM.M open.PAST.SG.M door.ACC.PL
          'The draught opened the door.'

      b. Dveře   se   otevřely   (průvanem).
          door.NOM.PL REFL open.PAST.PL draught.INSTR
          'The door opened due to the draught.'

However, several aspects turn out to be problematic for such a view. Firstly, the Force PPs / NPs are optional, as indicated in the above examples by brackets. Secondly, the apparent alternation is restricted to only a small subset of Decausatives. In Czech, for example, many verbs do not allow an alternation analogous to (12). See (13a) vs. (13b) and (13c) vs. (13d).

(13) a. Výbuch   zabil   čtyři lidi.   (Cz)
          explosion.NOM.M kill.PAST.SG.M four   people.ACC
          'The explosion killed four people.'

      b. Čtyři lidé   se   zabili   (*výbuchem /   při výbuchu).
          four   people.NOM REFL kill.PAST.PL explosion.INSTR in explosion.LOC
          'Four people got killed (in the explosion).' (instrumental Force NP impossible)

      c. Vítr   roztrhl   plachtu.
          wind.NOM.M tear.PAST.SG.M sail.ACC.F
          'The wind tore the sail.'

      d. Plachta   se   roztrhla   (*větrem /   ve větru).
          sail.NOM.F REFL tear.PAST.SG.F wind.INSTR in wind.LOC
          'The sail got torn (in the wind).' (instrumental Force NP impossible)

Rather than a regular productive pattern, the optional Force phrases show quite varied morphosyntactic shapes. This is illustrated by the extensions in (12b) vs. (13b) vs. (13d) for Cz and by the Ru example in (14).

(14) a. Flag   razorvalsja   na vetru.   (Ru, google)
          flag.NOM tear.PAST.SG.M.REFL in wind.LOC

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[11]Referring to Nikitina (2006) following Apresjan (2004).

b. Flag   razorvalsja   ot   sil'nogo   vetra.
  flag.NOM tear.PAST.SG.M.REFL from strong.GEN wind.GEN

c. Flag   razorvalsja   iz-za   sil'nogo   vetra.
  flag.NOM tear.PAST.SG.M.REFL because-of strong.GEN wind.GEN

d. Flag   razorvalsja   pod   vozdejstviem
  flag.NOM tear.PAST.SG.M.REFL under impact.INSTR
  sil'nogo   vetra.
  strong.GEN wind.GEN
  'The flag got torn in the wind.'

Such morphosyntactic variation would be quite untypical for argument expressions. It rather suggests that the optional Force NPs / PPs in Decausatives behave like adverbial modifiers.

2.2 Evidence for a causative component

As discussed in Chierchia (2004[1989]) and Koontz-Garboden (2009), subject-oriented adverbial adjuncts corresponding to 'by itself' are cross-linguistically licensed in Decausatives. Chierchia (2004[1989]) argues that 'by itself' has to be bound by an external Agent or Causer argument, as the 'by itself' phrase is licensed also in reflexive constructions with a genuine Reflexive interpretation (where the subject bears an Agent role) but not with a Passive interpretation (where the subject denotes neither an Agent nor a Causer, but is a Patient argument). This is true for Slavic, as the examples (15)–(16) show. There also seems to be a contrast between Decausatives and unaccusative verbs with respect to the possibility to insert 'by itself', cf. (a) vs. (b) in (17). While the verb in (17a) is derived from a transitive counterpart by reflexive marking, the verb in (17b) has no transitive counterpart and is unaccusative.[12]

(15)   *Decausative*
     a. Dver'   zakrylas'   sama.   (Ru)
       door.NOM.F close.PAST.SG.F.REFL by-itself.F
       'The door closed by itself.'

     b. Dveře   se   náhle   samy   zavřely.   (Cz)
       door.NOM.PL REFL suddenly by-itself.PL close.PAST.PL
       'The door suddenly closed by itself.'

(16)   a. *Genuine Reflexive*
       Rebenok   odevaetsja   sam.   (Ru)
       child.NOM.M dress.3SG.REFL by-itself.M
       'The child dresses by himself / herself.'

     b. *Reflexive Passive*
       Rebenok   odevaetsja   (*sam)   (njan'koj).   (Ru)
       child.NOM.M dress.3SG.REFL   by-itself.M nanny.INSTR
       'The child is being dressed (by the nanny).' (*sam* 'by itself' impossible)

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[12]The example (17) is inspired by examples in Jabłońska (2007, p. 154) who uses the test to argue that unaccusativity is a gradual phenomenon. Medová (2012), on the other hand, uses the test to show that Cz Decausatives project an external argument, noting that it unexpectedly also works for unaccusative verbs. See Sect. 2.3.

    c. *Participial Passive*

Rebenok   (byl)   odet   (*sam).   (Ru)

child.NOM.M   be.PAST.SG.M dress.PTCPL.SG.M   by-itself.M

'The child was dressed.' (*sam* 'by itself' impossible)

(17)   a. *Decausative*

Pies   (sam)   się   utopił.   (Po, adapted from

dog.NOM.M   by-itself.M REFL drown.PAST.3SG.M   Jabłońska 2007, p. 154)

'The dog drowned (by itself).'

    b. *Unaccusative*

Pies   (*sam)   utonął.   (Po)

dog.NOM.M   by-itself.M drown.PAST.3SG.M

'The dog drowned.' (*sam* 'by itself' impossible)

Note that the test has been criticized in the literature, cf., e.g., Padučeva (2003), Alexiadou et al. (2006), Horvath and Siloni (2011) or Schäfer's unpublished manuscript.[13] 'By itself' seems to be compatible also with some unambiguously unaccusative verbs, for which no external Causer argument should be assumed. Still, the contrast in (17) suggests that Decausatives differ from a distinctive subgroup of unaccusative verbs. We view this as at least partial supportive evidence that the Causer and hence the external argument is projected in Decausatives.

    Another piece of evidence is supplied by data involving gerunds (adverbial participles). According to Růžička (1983, 1999) and Testelec (2001, p. 275), an embedded gerundive expression contains a null syntactic subject that needs to be controlled by the matrix-clause subject. Růžička (1983, 1999), moreover, posits the thematic identity of the controller and the null subject in the non-finite embedding as a licensing condition. Consider the example (18). In (18a), both the matrix subject and the subject of the gerund are agentive, thus the licensing condition is fulfilled. The example (18b) is a passive structure. The embedded subject of the first gerund associates with the suppressed, implicit Agent, which cannot act as a controller. This explains the ungrammaticality. The subject of the second gerund associates with the matrix subject, but again, control is impossible. The ungrammaticality is accounted for by Růžička's generalization: the matrix subject and the null subject of the gerund are not thematically identical, the former being the Patient and the latter the Agent (Source).

(18)   a. Otec   nakazyvajet rebenka, primenjaja silu.   (Ru)

father.NOM punish.3SG   child.ACC use.GER   force.ACC

'The father punishes the child using force.'

    b. Rebenok byl nakazan, *primenjaja silu /   *ne

child.NOM was punished   use.GER   force.ACC   not

izdav   ni zvuka.

give-out.GER PRT sound.GEN

'The child was punished.' (Gerunds with such thematic assignment impossible)

Importantly, control into gerunds is attested with Decausatives. Consider the examples in (19) all demonstrating Decausatives based on transitive verbs. The gerunds in the examples are formed from the verbs 'wake up' and 'pinch'. These are transitive verbs that allow non-volitional Causers as subjects. This is evidenced by sentences like, e.g., 'The explosion woke up the neighbours', or 'The door pinched his finger', which are grammatical in Ru.

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[13]Schäfer, F. (2007). 'By itself'. Unpublished manuscript, University of Stuttgart. http://ifla.uni-stuttgart.de/institut/mitarbeiter/florian/papers/byitself.pdf.

As illustrated by (18), null subjects in gerunds have to be controlled by a thematically identical controller. The null subjects of the gerunds in (19) thus need a controller interpreted as non-volitional Causer. As the gerunds are grammatical, we assume that a non-volitional Causer controller is present in Decausatives.

(19)   a.   Nad ostrovom Niuė v Okeanii gromko   (Ru)
            above island.INSTR Niue in Oceania loudly

            vzorvalsja   meteorit,   razbudiv   mestnoe naselenie.
            blow-up.PAST.REFL meteorite.NOM wake-up.GER local.ACC population.ACC

            'Above the Niue Island in Oceania a meteorite blew up loudly waking
            up the local people.' (blogs.privet.ru/user/ldv1900/110562954)[14]

       b.   Dver'   zakrylas'   bezo vsjakogo šuma,   nikogo
            door.NOM close.PAST.REFL without any   noise.GEN nobody.GEN

            v dome ne razbudiv.
            in house NEG wake-up.GER

            'The door closed without a noise not waking up anybody in the house.'

       c.   Dver'   pod vozdejstviem vetra   zakrylas',
            door.NOM under impact.INSTR wind.GEN close.PAST.REFL

            priščemiv emu   pal'cy.
            pinch.GER him.DAT fingers.ACC

            'The door closed due to wind, pinching his fingers.'
                    (advokat-39.ru/advokatskaya-praktika-po-dosudebnomu-uregulirovaniyu-sporov/)

Decausatives can control an external Causer argument in a gerund, therefore, we may assume that they project such an argument themselves. We conclude that Decausatives retain the causative component. In Sect. 1, we stated that the subjects of Decausatives correspond to the internal objects of their causative counterparts and are interpreted as Theme or Patient. This is not a contradiction in an account deriving Decausatives via identification of the external and the internal argument. Details about this can be found in Sect. 4.

2.3 Decausatives and tests for unaccusativity

Unaccusative verbs are non-agentive, intransitive verbs, for which it is assumed that their single argument originates in the structural internal (object) position (for example *die* or *fall*). The argument, interpreted as Theme / Patient, receives nominative case, as the verb for some structural reasons cannot assign accusative case (see, e.g., Burzio 1986 for a generalization that verbs that do not project an external argument cannot assign accusative case). As Decausatives and unaccusative verbs share the property of unagentivity, one might assume they also have parallel structures. Under this assumption, the subject of a Decausative verb would originate as an internal argument and be marked as nominative since an external argument is not projected. Some authors, e.g., Dudchuk et al. (2010) take the results of the tests for unaccusativity applied to Decausatives as supporting an analysis of Decausatives in a way analogous to unaccusative verbs. However, a closer look at how the tests work with Decausatives reveals that the tests do not provide conclusive evidence.

Various tests have been discussed as diagnostics to determine unaccusative verbs in Slavic, see, e.g., Pesetsky (1982), Schoorlemmer (1995), Babyonyshev (1996), and Harves

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[14]All internet examples given in this paper were consulted with native speakers, who judged them as grammatical. The data was collected between September 2009 and December 2013.

(2003, 2006, 2009) on Ru; Biały (1998) and Cetnarowska (2000) on Po; Kosta and Frasek (2004), and Kosta (2011)[15] on Cz and Po, Medová (2012) on Cz. Importantly, the standard diagnostics for unaccusativity cannot be applied to Decausatives without qualification. Tests concerning the formation of resultative adjectives in *-ły / -lý* in Po and Cz, the attributive use of *-n- / -t-* participles, and the formation of *nomina agentis* involve morphological operations on roots, not on derived forms. The test involving the possibility of forming impersonal *-no / -to* forms in Po is not applicable with Decausatives either. The resulting structures contain an implicit +hum argument in their semantic representation. In other words, they are implicitly agentive, which is not compatible with Decausatives.[16]

Further evidence for unaccusativity has been drawn from the licensing of distributive *po*-phrases and the Genitive of Negation (GoN), see especially Babby (2001) and Harves (2006, 2009). The ungrammaticality of distributive *po* with subjects of transitive und unergative verbs has been attributed to a restriction on *po*, namely that it can only be combined with internal arguments. Consequently, subjects of unaccusative verbs combined with *po* are grammatical as they originate as structural internal arguments. GoN has been also assumed to apply to structurally internal arguments: under negation, they receive genitive rather than accusative case.

Distributive *po*-phrases are licensed in Decausatives, as discussed, e.g., in Dudchuk et al. (2010), see (20). However, Kuznetsova (2005) argues that the licensing of distributive *po* does not correlate with unaccusativity. (21)–(23) show grammatical cases of unergative predicates with *po*-phrases. Even uncontroversial external arguments are compatible with distributive *po*, in other words, *po* need not necessarily combine with arguments originating in the internal position of the verb.

(20)   V každoj komnate razbilos'   (Ru, Dudchuk et al. 2010)
       in every   room.LOC break.PAST.SG.N.REFL
       po oknu.
       Po window.DAT
       'A window broke in every room.'

(21)   V každém družstvu hrálo   po nováčkovi.   (Cz)
       in every.LOC team.LOC play.PAST.SG.N Po newcomer.LOC
       'A newcomer played in each team.'

(22)   W jednym i   drugim zespole pracuje   (Po)
       in one   and other   team.LOC work.3SG
       po pracowniku z   każdego oddziału.
       Po employee.LOC from each   department.GEN
       'In both teams works one staff member from each department.'

(23)   a. V každom otdele   rabotaet po sotrudniku   (Ru)
          in every   department.LOC work.3SG Po employee.DAT

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[15]The sole diagnostic put forward as applicable to Decausatives in Cz and Po in Kosta (2011)—the contrast with respect to 'affectedness' dative pronouns, on the one hand, and dative anaphors, on the other—is most probably not related to the unaccusativity/unergativity split, but rather to features like (in)animacy of the antecedent, (a)telic nature of the predicate etc. Unfortunately, the examples used are construed on false preconditions, being partly in conflict with Binding theory from the very outset.

[16]According to Medová (2012) the only reliable test for unaccusativity in Cz is the formation of *l*-participles, which, however, is not applicable to Decausatives for the reasons stated above. On the other hand, she argues that Cz refl-marked Decausatives are formed exclusively from stems with an *-i*-theme and that Cz *-i*-stems obligatorily project an external argument. Consequently, Decausatives cannot be unaccusative.

iz   Akademii   nauk.
from academy.GEN sciences.GEN
'One staff member from the Academy of Sciences works in each department.'

b.   Čto, v Sonete   stol'ko narodu   rabotaet?
what in Sonet.LOC so-many people.GEN work.3SG
Po sotrudniku   na abonenta?
Po employee.DAT per client.ACC
'What? Sonet employs so many people? One member of staff per client?'

As far as GoN is concerned, the test is not applicable to Decausatives in Po, as GoN generally does not affect subjects (Błaszczak 2001, 2003, p. 519). Cz has no (productively used) GoN. On the other hand, Ru Decausatives allow GoN, cf. (24)–(25).

(24)   V ėtom restorane   ne razbilos'   ni   odnoj   (Ru, Jabłońska
in this   restaurant.LOC NEG break.PAST.SG.N.REFL not   one.GEN   2007, p. 189)
butylki   vina.
bottle.GEN wine.GEN
'Not a single bottle of wine broke in this restaurant.'

(25)   Vo vremja zemletrjasenija v dome ne   razbilos'
in time   earthquake.GEN   in house NEG break.PAST.SG.N.REFL
ni   odnogo okna.
not one.GEN window.GEN
'Not a single window broke in the house during the earthquake.'

However, Babby (2001) provides examples of GoN with unergative verbs, see also Partee and Borschev (2002, 2007) and Harves (2006).

(26)   a.   Tam ne rabotaet ni   (Ru, Babby 2001, p. 50, cited in
there NEG work.3SG not   Partee and Borschev 2007)
odnogo inženera.
one.GEN engineer.GEN
'There hasn't been a single engineer working there.'

b.   Tam (bol'še) ne   igraet   (Ru, Babby 2001, cited in
there more   NEG play.3SG   Harves 2006, p. 178)
nikakix detej.
no.GEN   children.GEN
'There are no longer any children (seen) playing there.'

In (26), GoN affects structurally external arguments. The test cannot be taken as conclusive evidence for identification of structurally internal arguments.

Although tests involving distributive *po*-phrases and GoN applied to Decausatives show similar results as with unaccusatives, these results cannot be interpreted as counterevidence to the approach pursued in this paper as the tests cannot be taken as a reliable diagnostics for unaccusativity in the first place.

On the other hand, the ability of Decausatives to control into gerunds supports the view that they project an external Causer argument.

3 Towards the analysis

3.1 Reflexive marking in Slavic

As far as the syntactic status of refl in Slavic is concerned, it has already been convincingly argued in Havránek (1928) that it is not an argument expression. See also Zec (1985) for Bosnian / Croatian / Serbian, and Večerka (1993) for the oldest stages of Slavic, among others. One of Havránek's arguments (cf. Havránek 1928, pp. 123–125) concerns the lack of case marking on refl. This argument is illustrated by the Cz examples in (27). They contain a transitive verb 'wash' requiring an external and an internal argument, and the secondary predicate 'all over'. As shown in (27a), if the secondary predicate associates with the clitic accusative object pronoun 'him', it is obligatorily marked accusative.[17] The same pattern occurs in cases in which the accusative object pronoun is (the full pronoun) reflexive, as in (27b). (27c) is analogous to (27a, b), but it contains the clitic reflexive marker *se*. Here, nominative marking is the only option for the secondary predicate. Note that both *ho* in (27a) and *se* in (27c) are 2nd position clitics, thus the difference in the agreement pattern cannot be attributed to *se* being a clitic. On the other hand, both (27b) and (27c) receive genuine Reflexive interpretation, but the secondary predicate is obligatorily marked nominative only with *se* in (27c). While *sebe* in (27b) is a syntactic argument agreeing with the secondary predicate in case, *se* in (27c) is obviously not marked accusative, consequently, it is not an argument expression.

(27) a. Matka   ho   celého   /*celý   umyla.   (Cz)
          mother.NOM.F   him.ACC.M   whole.ACC.M   whole.NOM.M   wash.PAST.SG.F
          'His mother washed him all over.'

      b. Karel   umyl   sebe   celého   /*celý.
          Karel.NOM   wash.PAST.SG.M   himself.ACC   whole.ACC.M   whole.NOM.M
          'Karel washed himself all over.'

      c. Karel   se   celý   /*celého   umyl.
          Karel.NOM   REFL   whole.NOM.M   whole.ACC.M   wash.PAST.SG.M
          'Karel washed himself all over.'

It is also important to note that although the surface position of refl varies across Slavic—second position clitic (e.g., Cz, Slovak), verb-adjacent clitic (Bulgarian), oscillating between the two (Po), an affix-like[18] element (East Slavic) (see, e.g., Franks and King 2000 for an overview)—the variation does not correlate with any other cross-Slavic variation concerning refl marking, which will be presented shortly below, see (28). We thus assume a unified morphosyntactic analysis of refl in Slavic. Leaving its exact categorial features aside, refl in this account is analyzed as a syntactic head entering a head adjunction structure with the verb, which results in a complex verb. To achieve the proper surface position in the languages, additional mechanisms effecting linearization have to be postulated (e.g., concerning the direction of the adjunction and the second position placement), the details of which we leave open. See Fehrmann, Junghanns and Lenertová (2010, Sect. 4) for more discussion.

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[17]Note that 'all over' also agrees with its associate *ho* ('him') in gender (masculine) ('him' being understood as animate). The ungrammatical nominative masculine *celý* cannot be mistaken as an associate of the feminine subject.

[18]Refl in East Slavic cannot be a true affix due to its specific, peripheral position in the apparent verb form. See, e.g., Junghanns (1996) and Szucsich (2003) for discussion of this issue. Traditional grammars, see also Zaliznjak (2008), treat East Slavic refl as a 'postfix', a type of affix that is bound to appear word-finally.

Our account is based on a two-level semantics framework (Bierwisch 1986, 2007, a.o.; Lang and Maienborn 2011) distinguishing Semantic Form (SF) and Conceptual Structure (CS). SF mediates between syntax and CS. At the level of SF, verb meanings are decomposed into basic predicates. The decomposition yields the number and hierarchy of verbal arguments relevant for structure building in the syntax. Refl applies to the semantic representation of a verb at the lexicon–syntax interface, affecting one of its arguments.[19] The affected argument cannot be canonically realized in the syntax, but it is still present in the semantic representation as a variable.[20] In line with Kaufmann (2004) and Fehrmann, Junghanns and Lenertová (2010) we assume that the final identification of the argument affected by refl takes place at the CS level (where contextual information plays a role). This finally results in the interpretation of the structure as reflexive Passive, genuine Reflexive, or Decausative.

An analysis of refl marking in Slavic has to take into account the following variation across Slavic (cf. Růžička 1986 and Fehrmann, Junghanns and Lenertová 2010, a.o.) summarized in (28):

(28)   *Cross-Slavic variation with refl marking*
    a.   Verb classes (transitive, unergative, unaccusative) combining with refl
    b.   Availability of oblique agents (*by*-phrases) across the languages and across the verb classes
    c.   Realization of the affected agent as a syntactic null (NB: exclusion of *by*-phrases does not imply syntactic null realization of the agent)

In Fehrmann, Junghanns and Lenertová (2010) we argued that two lexical types of refl are necessary but also sufficient to account for the relevant variation. Argument blocking refl makes the affected argument an unbound semantic variable. Being unbound, it can be semantically specified via an oblique adjunct phrase (e.g., *by*-phrases in reflexive Passive). The variable receives its interpretation at the level of CS by coindexation with another argument or default existential quantification. The semantic representation is given in (29). α and $-\alpha$ stand for complementary application of the brackets, therefore, (29) covers the two cases given in (30) and (31):

(29)   *Argument blocking refl*
$\lambda P\ (\lambda y)_{-\alpha}\ (\lambda x)_{\alpha}\ [P\ (y)_{-\alpha}\ z\ (x)_{\alpha}]$
$P \in +V\text{-}N$

(30)   Blocking of the external argument
$\lambda P\ \lambda y\ [P\ y\ z]$
(Yields reflexive Passive and reflexive Impersonal with verba dicendi et sentiendi:[21] the variable is existentially bound per default or referentially identified with a *by*-phrase.)

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[19]There is a relatively small group of reflexive verbs, e.g., the counterparts of English *laugh*, *fear*, or *try*, that synchronically have no non-reflexive counterparts (in grammars they are referred to as reflexiva tantum or deponentia, see, e.g., Isačenko 1962). We assume that they are stored in the lexicon as a unit and thus irrelevant for discussion on the way in which refl operates on the argument structure of verbs.

[20]Thus an appropriate modification of the predicate is still possible. For example, agent-oriented adverbs and controlled instruments are compatible with reflexive Passive (as shown in (3) above), as the blocked external Agent argument is still semantically present.

[21]Verbs that alternatively subcategorize for an accusative nominal expression, PP, or a subordinate clause (e.g., Ru *govorit'* èto / *ob étom* / *čto* ... 'tell this / about this / that ...'). In Fehrmann, Junghanns and Lenertová (2010) they are analysed as transitive verbs (with the PP or the subordinate clause being the internal argument), thus compatible with the argument blocking refl.

(31)   *Blocking of the internal argument*
        λP λx [P z x]

        (Yields genuine Reflexive / Reciprocal: the variable is referentially identified with the canonically realized external argument;[22] Decausative: see Sect. 4.)

Importantly, the argument blocking refl is restricted to transitive verbs / two-place predicates (including verba dicendi et sentiendi).

The second type of refl—argument binding refl—yields reflexive Passive and Impersonal in some Slavic languages. With this type of refl, the blocked argument is existentially quantified at the SF level, thus no semantic specification is possible. Consequently, reflexive Passive in these languages allows no *by*-phrases. The semantic representation is given in (32), it covers the two cases given in (33) and (34):

(32)   *Argument binding refl*
        λP (λy) OPz [P (y) z]
        P ∈ +V-N, OP ∈ {$Q_{arb\text{-}hum}$, $λ_{[\text{-}overt, arb\text{-}hum]}$}[23]

(33)   λP λy OPz [P y z]

        (Applies to the external argument of two-place predicates, yielding reflexive Passive and reflexive accusative Impersonal.)

(34)   λP OPz [P z]

        (Applies to one-place verbal predicates (affecting the external argument of unergative verbs and the internal argument of unaccusative verbs), yielding reflexive Impersonal.)

The argument binding refl affects the highest argument available for syntactic realization.

The cross-Slavic variation in (28) is implemented in the system via varying complementary application of the two refls in the languages. The parametrization is encoded in the lexical entries in each language. For example, argument blocking refl in Po and Cz is restricted to internal arguments of transitive verbs, as given in (31), in all other cases the argument binding refl as given in (32) applies. Ru, on the other hand, has an unrestricted version of argument blocking refl as given in (29) and its argument binding refl is restricted to one-place predicates as given in (34).[24]

As the argument binding refl obligatorily yields an arbitrary human interpretation, it plays no role in the analysis of Decausatives. Decausatives are derived via application of argument

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[22]Antipassive is another refl structure accounted for via (31), cf. Fehrmann, Junghanns and Lenertová (2010, pp. 207, 220–221).

[23]At the SF level, the argument variable may be bound by Q instantiated by the existential or the universal quantifier, or by λ. In the former case, the corresponding argument is syntactically unrealized, thus inaccessible for grammatical processes as anaphor binding. In the case of transitive verbs, binding by Q leads to reflexive Passive. In the latter case, the argument is syntactically realized as a null element with an arbitrary human interpretation accessible for binding. In the case of transitive verbs, reflexive accusative Impersonal arises, as discussed for Po in Sect. 2, cf. (10b).

[24]Strictly speaking, the version as given in (34) is available only in Ukrainian. In Ru (and Belarusian), argument binding refl is further restricted to modal contexts as illustrated in (i). The structures contain an additional modal component, modifying the semantics of the predicate and inducing a special interpretation of the external argument (referred to, for example, as involuntary Agents / Experiencers, see, e.g., Rivero and Milojević Sheppard 2003). See Fehrmann, Junghanns and Lenertová (2010, pp. 227–229) for a discussion on how the presented system of refl works in such modal contexts.

(i)   Zdes' (emu)   roslos'   bezzabotno.   (Ru, Fehrmann, Junghanns
      here   him.DAT   grow-up.PAST.SG.N.REFL   sorrow-less   and Lenertová 2010, p. 213)
      'Here it was possible (for him) to grow up without sorrow.'

blocking refl, which in all Slavic languages unrestrictedly applies to the internal argument of transitive verbs. Before we spell out the account in detail, we will introduce our basic assumptions concerning the analysis of causative verbs.

3.2 Causative verbs

Since lexical entries (LEs) and the meaning representation contained in them, in our view, play a crucial role, it is essential to determine the meaning structure of causative verbs as illustrated in (35a, b):

(35) a. Kain   ubil   Avelja.   (Ru)
          Cain.NOM   kill.PAST.SG.M   Abel.ACC
          'Cain slew Abel.'
      b. Ivan   otkryl   dver'.
          Ivan.NOM   open.PAST.SG.M   door.ACC
          'Ivan opened the door.'

Intuitively, there is an individual x (the Agent)—*Kain* in (35a), *Ivan* in (35b)—involved in some action / situation leading to a state of affairs of this or that kind, the resulting state ('target state', cf. Bierwisch 2005)—Avel'-is-dead in (35a), the-door-is-open in (35b). So an utterance containing a causative verb refers to a situation consisting of (i) some action / situation that ultimately leads to (ii) a state of affairs that did not hold when the action / situation started. A causative verb denotes a change of state (COS). We may assume that underlyingly, there is a causal relation.

The causal relation can be captured by a semantic operator CAUSE which relates events / situations (Davidson 1967b; Dowty 1979; Bierwisch 2002, 2005; a.o.). These are the sub-situations (i) and (ii) mentioned above. They correspond to propositional expressions of a kind to be made precise. Strictly speaking, the causal relation does not hold between an individual (Agent) and the state intended to come about (target state) but between the two sub-situations of the overall situation.

Now the question is how the causing situation could be represented. What we are concerned with is a representation at the level of SF related to CS. Bierwisch (2002, 2005) assumes [ACT x] as the first argument of the CAUSE operator where ACT is a semantic predicate receiving a more specific interpretation at the CS level. Compare the following example and the meaning representation suggested for the causative verb *open*.[25]

(36) a. Mary opened the door.
      b. $\lambda y\ \lambda x\ \lambda s\ [[[ACT\ x]\ [CAUSE\ [BECOME\ [OPEN\ y]]]]\ s]$

(Bierwisch 2002, p. 337)

This proposal runs into problems. One problem concerns indeterminacy. Bierwisch assumes that all causative verbs have the predicate ACT as a semantic component. Therefore, ACT would necessarily be rather indeterminate at the level of SF, which actually is in conflict

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[25]Note that Bierwisch (2002), discussing Wunderlich (1997), adapted the representation of the verb to allow for the comparison of representations. The variable s is mnemonic for situation, cf. Barwise and Perry (1983). It corresponds to the event variable originally suggested by Donald Davidson, cf. Davidson (1967a), Higginbotham (1985), Bierwisch (1990). Situation generalizes over events in the narrow sense and states; another general term is eventuality, cf. Bach (1986), Bierwisch (2005), Koontz-Garboden (2009). The instantiation functor INST assumed elsewhere—see, e.g., Bierwisch (1990)—is left out "for the sake of illustration" (Bierwisch 2002, p. 331).

with its status as a semantic constant. Operations mapping SF to CS would have to ensure that ACT could be related to actions of a more specific kind (e.g., for *open* vs. *build* vs. *kill* vs. *plant*, etc.). A consequence of the analysis put forward by Bierwisch (2002, 2005) is that ACT must be understood as a semantic predicate with a range of conceptual interpretations. Earlier proposals like, e.g., the one by Levin and Rappaport Hovav (1995, p. 108 "DO-something") face a similar problem. Bierwisch (2005, p. 23, fn 21) has made a suggestion of how to construe ACT. However, this suggestion is not sufficient in our opinion (see below).

Another problem has to do with the occurrence of volitional and non-volitional Causers. ACT implies involvement of an Agent, i.e. an individual that is capable of intentional, volitional actions. Causative verbs, however, do not occur exclusively with Agent-type expressions but also with expressions that are interpreted as non-volitional Causers—see below (37a) vs. (37b). It turns out that CAUSE actually relates resulting states to propositions involving predications of two kinds—volitional [+vol] or non-volitional [-vol]. ACT *sensu stricto* can be used only for [+vol] predications but not for [-vol] predications. Consequently, assuming [ACT x] in the meaning representation of causative verbs would leave part of the empirical data uncovered. Compare the two example sentences given below. While (37a) is interpreted as an action implying an Agent—[+vol], (37b) can only be interpreted as a situation involving a non-volitional Causer—[-vol]—and ultimately leading to a COS.

(37) a. Ivan   otkryl   dver'.   (Ru, volitional causation)
         Ivan.NOM open.PAST.SG.M door.ACC
         'Ivan opened the door.'

     b. Veter /   poryv   vetra   otkryl   dver'.   (non-volitional
         wind.NOM gust.NOM wind.GEN open.PAST.SG.M door.ACC   causation)
         'The wind / a gust of wind opened the door.'

Therefore, our conclusion is that we need a semantic representation of the causing situation that does not rely on ACT or a similar predicate.

We propose to represent the causing situation in the meaning representation of causative verbs not as [ACT x] but as [P x]. Thus, for a verb like *open*, Ru *otkryt'* we would get:

(38) $\lambda y\ \lambda x\ \lambda s\ [[[P\ x]\ [CAUSE\ [BECOME\ [OPEN\ y]]]]\ s]$

Or, with the instantiation functor INST that relates an individual to a class of events or situations, thus 'instantiating' the event or situation (Bierwisch 1990, p. 176; 2002, pp. 330–331):

(39) $\lambda y\ \lambda x\ \lambda s\ [s\ INST\ [[P\ x]\ CAUSE\ [BECOME\ [OPEN\ y]]]]$

P is a predicate that is not specified at the level of SF, a semantic parameter. It is interpreted at the level of CS. Existential quantification of the predicate variable (cf. Chierchia 2004[1989], p. 37) can be reached by default at the level of CS.

Thus we can cope with the indeterminacy problem, namely that causative verbs involve different events or situations to be specified for the respective cases only at the level of CS. It is not necessary and not really possible to make the specific type of action or situation causing the resulting state explicit at the semantic level.[26]

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[26]Bierwisch (2005, p. 23, fn 21) discusses the variable nature of the predicate: "ACT must be construed as a predicate subsuming all sorts of appropriate activities by which the effect in question can be brought about. Thus ACT comes close to a variable ranging over activity predicates." To assume this, however, is not enough, as we have tried to argue. The occurrence of non-volitional causers makes it clear that 'activity' is a term that is too narrow. Therefore, we suggest using a semantic parameter P in the meaning representation of causative verbs, which solves the problem.

One might even go as far as to break up the overall situation denoted by the causative verb to account for the partial situations. This, then, yields:

(40) $\lambda y\, \lambda x\, \lambda s$ [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME [OPEN y]]]]]

Here, two situation variables are used, namely s for the causing situation and s' for the caused situation (or cause and effect respectively, cf. Bierwisch 2005).[27] Note that only s is lambda-bound at the level of SF. s' gets bound per default by an appropriate operator at at the level of CS. Following Bierwisch, we assume that a causative verb ultimately refers to only one event (or situation or eventuality, to use the more general terms)—"irrespective of the complex [semantic] structure" (Bierwisch 2005, p. 11).[28]

In a way, [s CAUSE s'] in (40) translates an assumption made by Davidson (1967b): Davidson argued that causal relations hold between events. We have replaced e(vents) by the more general s(ituations). Our semantic representation of a causative verb reflects the corresponding event structure.

Importantly, nothing forces us to assume that the event structure should have reflexes in the syntactic structure as well (different lexical and functional verbal heads). Division of labor between semantics and syntax should exclude overlap between the modules and thus overdetermination of linguistic expressions. We reduce syntactic structure, employing more elaborate semantic representations.[29]

Causative verbs such as Ru *otkryt'* 'open' are lexically underspecified with respect to the thematic role of the external argument, see above the examples in (37a, b). Underspecification can be read off the semantic representation—compare the representation given above in (40), specifically [P x]. P is predicated of an individual (x), P is a semantic parameter. The lambda abstractor binding the variable x is not annotated. That means, there is no specification whatsoever for the thematic role of the external argument. The external argument can be an Agent, but a non-agentive role is possible too.[30]

Explicit naming of the theta role assigned to the external argument of a causative verb—EFFECTOR as in Van Valin and Wilkins (1996), compare Koontz-Garboden (2009, p. 85)—is not necessary. Underspecification is an effective means.

Note that some causative verbs require a true Agent, i.e. an individual capable of volitional actions and acting intentionally for their external argument. This can be encoded by annotating the lambda abstractor binding the external argument variable of the verb with the feature [+vol(itional)]. The feature is necessary, e.g., for the Ru verb *zaperet'* 'lock, bolt'.

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[27]Koontz-Garboden (2009, p. 85) even uses three variables—v for the causing eventuality, e for the caused change-of-state event, and s for the resulting state. His v and e correspond to our s and s', respectively. The number of variables to be used is certainly a matter of how fine-grained the semantic representation should be.

[28]See also Davidson (1967a, 1967b). Note that it is more or less just a matter of explicitness of analysis whether we render the meaning of the verb *open* as in (i) or (ii), to name but two extremes:

(i) $\lambda y\, \lambda x\, \lambda s$ [[OPEN x, y] s]
(ii) $\lambda y\, \lambda x\, \lambda s$ [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME [OPEN y]]]]]

In a way, this can be seen as coarse-grained vs. fine-grained semantics.

[29]See Schäfer (2008) and the literature cited therein for approaches employing event decomposition in syntax, e.g., Kratzer (2005).

[30]Restrictions on [P x] are due to the [s CAUSE s'] component of the meaning representation. An event/situation that is suitable as the first argument of CAUSE is required. This can be almost anything. However, specific circumstances certainly may restrict instances for x and P. This can be attributed to world knowledge.

The possibility of annotating lambda abstractors with (morphosyntactic) features was first suggested by Bierwisch (1990). Annotation of the lambda abstractor with the (semantic) feature [+vol] is a specification with respect to the thematic role. If there is no such annotation of the lambda abstractor, the verb is underspecified with respect to the thematic role of its external argument. This is the case with the Ru verbs *otkryt'* 'open' (see (37) above) and *zakryt'* 'close' (cf. (5) above)—as opposed to *zaperet'* 'lock, bolt' (cf. (6) above) and other verbs. As mentioned in Sect. 1, it has been pointed out in the literature that Decausatives cannot be derived from verbs that do not allow non-agentive subjects. So it matters whether a causative verb is underspecified with respect to the thematic role of its external argument or restricted in that it requires a volitional subject (true Agent) indicated by a corresponding specification. Verbs of the latter type do not yield the Decausative interpretation at CS.

In representations such as the one given in (40), hierarchy is implemented through (i) asymmetric conjunction represented by the colon,[31] (ii) bracketing, (iii) left-right order of lambda abstractors: the lambda abstractor (lowest in rank) binding the internal argument variable precedes the lambda abstractor binding the external argument variable which in turn precedes the lambda abstractor (highest in rank) binding the referential argument variable.

We assume that arguments are merged in syntax observing the hierarchy that is encoded in the meaning representation of the verb contained in its lexical entry.

4 Analysis of Decausatives

We assume that Decausatives are derived from their transitive—causative—counterparts (not from a common non-causative root) and retain the causative component. The underlying transitive predicates are underspecified with respect to the theta role of their external argument. That means that in principle they occur with both agentive and non-agentive external arguments (Agents and non-volitional Causers, respectively).

The derivation is analogous to genuine Reflexives, i.e., via identification of two arguments (cf. Chierchia 2004[1989])—the referent is interpreted as bearing the theta roles of both the internal and the external argument (see Jabłońska 2007 and Medová 2012 for recent implementations of this idea in a decompositional framework à la Ramchand 2008).

Application of refl to the meaning representation of the transitive verb blocks one of its structural arguments making it a semantic variable that will be interpreted as coreferential with the other structural argument at the level of CS. That is, identification is achieved at the CS level, not at the lexico-semantic level prior to syntactic insertion as is assumed by Chierchia (2004[1989]) and Koontz-Garboden (2009).

Of the two types of refl in Slavic discussed above, argument blocking refl applies in the case under discussion, affecting the internal argument of the transitive–causative–verb blocking its syntactic realization.

In order to be coindexed / interpreted as co-referential with another argument, the blocked argument has to remain unbound by an existential quantifier at the level of SF. This is what argument blocking refl provides us with: an unbound semantic variable.

Application of refl is illustrated below for the Decausative in (41). The example sentence contains only one noun phrase with structural case. The verb agrees with this noun phrase.

V and refl enter a head adjunction structure at the point at which entries are drawn from the lexicon to build up syntactic structure (lexicon–syntax interface), cf. Fehrmann, Junghanns and Lenertová (2010). Accordingly, (42) shows the application of refl to the lexico-semantic representation of the transitive causative verb that can be assumed to take place at this stage.

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[31]: $\in (\alpha/\alpha)/\beta$, cf. Bierwisch (1987, 1988, 1990), Heidolph (1992).

(41) Dver'   zakrylas'   (ot   poryva vetra).   (Ru)
     door.NOM.SG.F close.PAST.SG.F.REFL from gust.GEN wind.GEN
     'The door closed (due to wind).'

(42)   *Application of refl in case of Decausative*
     a. Argument blocking refl: $\lambda P \lambda x [P z x]$
     b. $\lambda y \lambda x \lambda s$ [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME NOT OPEN y]]]]
     c. a (b) resulting in:
         $\lambda x \lambda s$ [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME NOT OPEN z]]]]
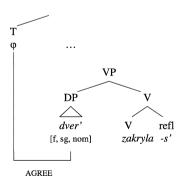
(42a) shows argument blocking refl in the version that applies when the internal argument is affected. (42b) is the lexical representation of transitive 'close'. As can be seen, the verb is underspecified (there is no annotation) with respect to the thematic role of its external argument—it may be (volitional) Agent or (non-volitional) Causer—see (5a) repeated here as (43) for illustration. Therefore, a Decausative based on this verb is possible—(41).

(43) Mal'čik / Veter   zakryl   dver'.   (Ru)
     boy.NOM / wind.NOM close.PAST door.ACC
     'The boy / wind closed the door.'

In (42c), refl (42a) is applied to the lexico-semantic representation of the verb (42b). As a result, the λ-bound internal argument variable y is replaced by the dummy z that comes out as an unbound semantic variable. This yields the representation of a predicate with one remaining structural argument slot—that of the external argument x.

When the verb projects into syntax, the external argument is realized canonically—as a subject DP[32] marked with nominative case. In our example (41), *dver'* 'the door' is projected into syntax in the external argument position (and, subsequently, enters into an AGREE relation with T). The blocked internal argument is not projected into syntax. This is illustrated in (44):

(44)   …

Semantic value of the VP-node:
λs [[s INST [P [THE DOOR]]] : [[s CAUSE s'] : [s' INST [BECOME NOT OPEN z]]]]

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[32]DP stands for the syntactic category of determiner phrase (cf. Abney 1987), which is often assumed to be the category nominal phrases in Slavic project to. But see, e.g., Bošković (2009) for an alternative view.

In the semantic representation corresponding to the VP, the representation of the DP *dver'* 'the door' has replaced the λ-bound external argument variable x (cf. 42c) via λ-conversion (functional application).

The blocked internal argument remains an unbound variable (z) at the SF level (semantic parameter) and is interpreted at the CS level as coreferential with the external argument.[33] Thus, the referent is interpreted as bearing the theta roles of both the internal and the external argument.

Up to here the derivation is completely parallel to that of genuine Reflexives. What is crucial is that in the case of the Decausative interpretation the thematic role of the external argument is specified as non-volitional Causer (not Agent). This is possible as the lexical entry of the underlying causative predicate is underspecified with respect to the theta-role of its external argument. The complex event is conceptualized as being caused non-volitionally by the entity that undergoes the change of state, i.e. the Theme itself. The entity is involved in a situation causing the COS.

In cases like (41), non-volitional Causer is the only role compatible with the subject DP due to its sortal properties (inanimacy). However, since the specification takes place at the level of context-related interpretation, contextual factors may support the non-agentive Decausative reading even with animate or human subjects. In (45), specific lexical features of the verb preclude the genuine Reflexive reading with an external Agent argument. With verbs allowing both a genuine Reflexive as well as a Decausative reading—(46), the entire set of contextual information (linguistic and / or non-linguistic) influences the choice of the external role: Agent → genuine Reflexive; (non-volitional) Causer → Decausative. Thus it is not necessary to assume any general restriction concerning the animacy of the subjects of Decausatives.

(45)   Adam   obudził   się.   (Po)
        Adam.NOM   wake-up.PAST.3SG.M   REFL
        'Adam woke up.'

The predicate 'wake up'—cf. (45)—implies the original state of being asleep. Here, the individual cannot act intentionally as an Agent. On the other hand, *Nina* is a non-volitional Causer in (46a), and an Agent in (46b), see also (8)–(9) in Sect. 2.

(46)   Nina   uspokoilas'   (uslyšav   ego   (Ru)
        Nina.NOM   calm-down.PAST.SG.F.REFL   hear.GER   his
        spokojnyj golos/   govorja sebe,   čto vse   xorošo).
        calm.ACC   voice.ACC   tell.GER   self.DAT   that all.NOM   well
    a.   'Nina calmed down (when she heard his calm voice).' *Decausative*
    b.   'Nina calmed down herself (by telling herself that all is well).' *Genuine Reflexive*

Decausatives differ from genuine Reflexives in the thematic role of the external argument: (non-volitional) Causer, not Agent. As Chierchia (2004[1989], p. 41) states, "the causing factor is not perceived as an action performed by the subject, but as a property or state of it". In our account where Cause is a relation between two partial situations, the subject referent is not the Agent of the causing situation, but involved in it as non-volitional participant.

In Sect. 2 we discussed the properties of natural Force PPs / NPs that combine with Decausatives. As illustrated by (12)–(14), several facts speak against analysing these PPs / NPs as arguments. They are optional, display varying morphosyntactic shape, which is not typical of argument expressions, and—most importantly—occur only with a small subset of Decausatives, being excluded with others. We concluded they are not arguments but adverbial

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[33]For our example, this would result in the co-indexation of z and [THE DOOR] at the CS level.

modifiers, free adjuncts, rather than oblique realizations of the suppressed argument. Note that such adjuncts can even be found with unaccusative verbs lacking any kind of Causer argument—(47).

(47)   *Inchoative with an unaccusative verb*

    a.   On   umer   ot   serdečnoj nedostatočnosti.   (Ru)[34]
        he.NOM die.PAST.SG.M from cardiac.GEN insufficiency.GEN
        'He died of heart failure.'

    b.   Prawie zemdlał   ze   zdziwienia.   (Po)
        nearly faint.PAST.3SG.M from astonishment.GEN
        'He nearly fainted because of his astonishment.'

    c.   Leknutím omdlela.   (Cz)
        fright.INSTR faint.PAST.SG.F
        'She fainted from the fright.'

As adjuncts, natural Force PPs / NPs become semantically integrated through the unification of theta roles (cf. Bierwisch 1988).[35] This is shown in (48) for the modified VP and the modifier PP of our Decausative example (41).

(48)   a. λs [[s INST [P [THE DOOR]]]: [[s CAUSE s'] : [s' INST [BECOME NOT OPEN z]]]]

       b. λs [s R_c [A GUST OF WIND]]

       c. λs [[[s INST [P [THE DOOR]]] : [[s CAUSE s'] : [s' INST [BECOME NOT OPEN z]]]] : [s R_c [A GUST OF WIND]]]

(48a) is the semantic value of the VP-node. (48b) contains the meaning representation of the adverbial PP (R_c mnemonic for causal relation). (48c) is the semantic value of the VP node that results from adjunction of PP to VP to be construed as follows: A situation s that is an instance of the proposition [P [THE DOOR]], s causes s', s' is an instance of the proposition [BECOME NOT OPEN z], there is a causal relation between s and [A GUST OF WIND]. That means that the door is involved in some situation that causes that 'the door becomes not open'. The causing situation is brought about by a gust of wind. In cases like this we have a causal chain.

5 Conclusions

In the presented analysis, Decausatives are derived from their transitive counterparts by way of argument blocking retaining the CAUSE component and the external argument in the semantic representation. This accounts for the possibility of Causer-related operations such as control into gerunds. The underlying CAUSE operator relates two sub-situations s (cause) and s' (effect). The representation of the causing situation contains a predicate variable— a semantic parameter. The effect is a transition to a state. Event structure and argument hierarchy are given in the meaning representation of the verb. Predicates yielding a Decausative interpretation are underspecified with respect to the thematic role of the external argument. Specific instances of P and x determine the theta-role of the external argument. The blocked internal argument is identified with the external argument at the CS level, where the thematic

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[34]Szucsich, L. Dekausativa und das externe Argument. Paper presented at the *Workshop on Verbal Arguments in Semantics and Syntax*, *January 30, 2010*. Göttingen.

[35]Higginbotham (1985) called the relevant semantic operation theta-identification.

role of the external argument is specified as non-volitional Causer. This explains the non-agentivity property of Decausatives. An oblique realization of the affected argument is excluded with Decausatives in the same way as it is with genuine Reflexives—since the blocked argument is identified with another argument at the CS level, it cannot have an oblique realization. Optional oblique NPs / PPs expressing some kind of causing eventuality are analyzed as adjuncts (adverbial modifiers).

Importantly, the analysis is based on the application of an independently motivated argument blocking refl. The account need not assume any additional refl type or 'Decausative/ization' operation. While we assume a unified way of deriving Decausatives in Slavic, we expect variation concerning the inventory of predicates underspecified with respect to the thematic role of the external argument in the languages, as well as some interpretational restrictions due to language-specific conventions (reflected to a substantial degree in the lexion).

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