

Two reflexive markers in Slavic

Два маркера возвратности в славянских языках

Dorothee Fehrmann · Uwe Junghanns ·
Denisa Lenertová

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Abstract The paper deals with lexical types of the reflexive marker in Slavic. On the one hand, this exponent shows up in a range of expressions associated with diverse interpretations. On the other hand, the properties within the various types are not homogeneous across the Slavic languages. The challenge consists in finding a unified analysis for the constructions and their varying properties, accounting for the marker with as few construction-specific assumptions as possible. In this paper, we will argue that two lexical types of the reflexive marker—argument blocking and argument binding—are sufficient to cover all constructions and their cross-Slavic variation.

Аннотация Данная статья посвящена лексическим типам маркера возвратности в славянских языках. Этот маркер употребляется в предложениях разного типа, связанных с рядом интерпретаций. Однако, выясняется, что свойства отдельных типов в славянских языках не гомогенные. Задача состоит в том, чтобы разработать мак-

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D. Fehrmann (✉) · D. Lenertová
Institut für Slavistik, Universität Leipzig, Leipzig, Germany
e-mail: fehrmann@rz.uni-leipzig.de

D. Lenertová
e-mail: lenerto@rz.uni-leipzig.de

U. Junghanns
Seminar für Slavische Philologie, Georg-August-Universität Göttingen, Göttingen, Germany
e-mail: uwe.junghanns@phil.uni-goettingen.de

симально обобщенный анализ конструкций и их варьирующих характеристик, ограничиваясь минимальным числом специфических для отдельных конструкций предположений. В статье выдвигается предположение, что для описания исследуемых конструкций и для объяснения варьирования свойств конструкций в славянских языках достаточно двух маркеров возвратности—маркера возвратности, блокирующего аргумент глагола, и маркера возвратности, связывающего аргумент глагола и придающего предложению интерпретацию неопределенного человеческого носителя действия.

1 Introduction

The Slavic reflexive marker (refl) is an element oscillating between clitic and verbal affix. Its presence coincides with the exclusion of the canonical syntactic realization of one argument of the original verbal lexeme. Expressions involving refl occur with a number of different interpretations and structural configurations which, for expository purposes, will be referred to as refl uses. The range of refl uses is, by and large, the same in all Slavic languages,¹ however, their properties vary cross-Slavically.² This is evidenced by the varying availability of oblique agents in case refl affects the external agent argument (oblique agents will be called *by*-phrases, using the preposition that introduces them in English). The relevant refl uses will be referred to as (i) Reflexive Passive and (ii) Reflexive Impersonal. The former term will be used for cases where refl affects the external agent argument of a transitive predicate and the internal argument is promoted to nominative agreeing with the predicate. The latter term comprises all cases where no argument is promoted to nominative. Both terms are to be understood just as labels for certain surface configurations with no theoretical implications. Importantly, the cross-Slavic variation is at least threefold with these two refl uses. Apart from (a) the varying availability of optional *by*-phrases (across the languages and across the verb classes), the languages differ with respect to (b) the verb classes combining with refl and (c) whether the affected agent may be realized as a syntactic null.

Examples (1)–(2) illustrate Reflexive Passive with the variation (a) concerning the availability of oblique agents.³

¹The following abbreviations of Slavic languages will be used throughout the paper: BCS = Bosnian/Croatian/Serbian, Bg = Bulgarian, BgIC = Burgenland Croatian, BRu = Belarusian, Cz = Czech, Po = Polish, Ru = Russian, Slk = Slovak, Slvn = Slovenian, (Upper) Sorb = (Upper) Sorbian, Srb = Serbian, Ukr = Ukrainian.

²The range of refl uses is common for many Indo-European languages with reflexive diathesis markers that are assumed to originate in an anaphoric argument expression. Other languages may use strictly morphological means (e.g. Hebrew, Hungarian, Greek), cf. Reinhart and Siloni (2005), Doron and Rappaport Hovav (2007), Kaufmann (2004).

³The following abbreviations will be used in the glosses: acc = accusative case, aux = auxiliary, cl = clitic, dat = dative case, def = definite, dvbl = deverbal noun, f = feminine, gen = genitive case, inf = infinitive, instr = instrumental case, ipf = imperfective aspect, loc = locative case, m = masculine, n = neuter, neg = negation, nom = nominative case, past = past tense, pf = perfective aspect, pl = plural, poss = possessive, prtcl = particle, pt = participle, refl = reflexive marker, sg = singular.

(i) *Reflexive Passive*

- (1) Fabrikata⁴ se stroi (ot čuždestranna firma).
 factory.def refl build.3sg by foreign company
 ‘The factory is being built (by a foreign company).’
 (Bg, Avgustinova, Skut and Uszkoreit 1999, 5)
- (2) Kuća se gradi (*radnicima / *od strane radnika).
 house.nom refl build.3sg workers.instr from part workers.gen
 ‘The house is being built.’ (*by*-phrase impossible) (BCS)

Reflexive Impersonal shows both the variation (a) and the variation (b) concerning verb classes that may combine with refl. Intransitive verbs, for example, generally cannot form Reflexive Impersonals in some languages as illustrated in (3) (though even in these languages, intransitive verbs can be combined with refl in modal constructions to which we will come shortly). As far as variation (a) is concerned, only some languages allow *by*-phrases with a closed class of verbs (cf. Sect. 2.1.2), but never with intransitive verbs, as illustrated in (4).

(ii) *Reflexive Impersonal*

- (3) Tancevalos’ do utra.
 dance.past.sg.n.refl until morning.gen
 Intended meaning: ‘One danced until morning.’ (Ru, Růžička 1992, 140)
- (4) Tancjuvalosja (*namy) až do ranku.
 dance.past.sg.n.refl we.instr prtcl until morning.gen
 ‘One danced until morning.’ (*by*-phrase impossible) (Ukr)

Some Slavic languages (Ukr, Po, Slvn, spoken and dialectal BCS) allow Reflexive Impersonals with transitive verbs assigning accusative—Reflexive Accusative Impersonals. In these languages, the internal argument of a transitive verb combined with refl may surface with nominative (Reflexive Passive) or accusative case (Reflexive Accusative Impersonal), cf. (5).⁵ The other Slavic languages require that the internal argument surface with nominative case, cf. (6). Variation (a) is observed among the languages also with Reflexive Accusative Impersonals, cf. (5) vs. (7):

- (5) Szkoła / Szkołę buduje się już osiem lat
 school.nom school.acc build.3sg refl already eight years
 (*przez gminę).
 by local-authority
 ‘The school has been being built for eight years already.’
 (*by*-phrase impossible) (Po)

⁴Although Bg has no case endings, the assignment of nominative to *fabrikata* is evidenced by the unavailability of an accusative pronominal clitic doubling this NP:

- (i) Fabrikata (*ja) se stroi (ot čuždestranna firma).
 factory.def her.acc.cl refl build.3sg by foreign company (Bg)

⁵The nominative version in (5) is adapted from Kibort (2002, 161). For the moment, we leave aside whether both options are equally preferred in the particular languages, see Sect. 2.1.1 and 2.1.5.

- (6) Škola / *Školu se právě staví.
 school.nom school.acc refl right-now build.3sg
 ‘The school is just being built.’ (Cz)
- (7) (Matir”ju) myjet’sja dytynu / dytyna.
 mother.instr wash.3sg.refl child.acc child.nom
 ‘The child is being washed (by the mother).’ (Ukr)

Variation (c) regarding the null syntactic realization of the affected agent is evidenced by varying acceptability of subject-oriented anaphors in Reflexive Impersonals across Slavic, cf. (8) vs. (9). The examples contain reflexive possessive pronouns requiring an antecedent in a structurally preceding position within the same clause. As no overt antecedent is present in both examples, but only in (9) the anaphor is ungrammatical, we may conclude that the antecedent in (8) is covert. This implies that the agent argument affected by refl may be syntactically realized as a null element in some Slavic languages.

- (8) Svoje starše se uboga.
 refl.poss.acc parents.acc refl obey.3sg
 ‘One obeys one’s parents.’ (Slnv, Szucsich 2008, 171)
- (9) Sluxalosja (*svojix) bat’kiv.
 obey.past.sg.n.refl refl.poss.acc parents.acc
 ‘One obeyed parents.’ (anaphor cannot be bound) (Ukr)

The issue of cross-Slavic variation with reflexive marking has received much attention in the literature, cf., e.g., Růžička (1986, 1992), Franks (1995), Lavine (1997), Babby (1998), Avgustinova, Skut and Uszkoreit (1999), Rivero (2003), Rivero and Milojević Sheppard (2003), Szucsich (2007). Nevertheless, the accounts so far leave unconsidered parts of the data, thus failing to cover the whole range of the phenomenon.

The aim of this paper is to make explicit how the relation between (a), (b), and (c) follows from the system of refl marking in Slavic. The system should operate with as few lexical types of refl as possible. We will take the possibility or exclusion of *by*-phrases as evidence for two types of refl. Argument blocking refl (refl 1) makes the affected argument an unbound semantic variable. As such it can be semantically specified. Assuming a two-level semantics distinguishing between Semantic Form (SF) and Conceptual Structure (CS) (cf., e.g., Bierwisch 1986, 2007), this variable has to be interpreted at CS. While refl 1 is not specified with respect to the argument it affects, the second type of refl—argument binding refl (refl 2)—applies to the highest available argument variable. This variable gets bound by an operator at the level of SF. As a consequence, semantic specification via a *by*-phrase is excluded and the affected argument receives an arbitrary human interpretation. We will argue that Slavic languages differ with respect to the complementary distribution of refl 1 and refl 2. The cross-Slavic variation (a)–(c) follows from the two lexical types of refl and from the parametrized restrictions on their application, encoded directly in their lexical representations.

We argue that two refls are necessary, but also sufficient, for the analysis of all refl uses, regardless of whether an external or an internal argument is affected.⁶ Thus, apart from

⁶We leave aside the relatively small group of reflexive verbs that synchronically have no non-reflexive counterparts (Deponentia, cf., e.g., Isačenko 1962), e.g., the Slavic counterparts of English *laugh*, *fear* or *try*. For those we assume that they are not derived via an operation combining a non-reflexive base verb with refl. They are stored in the lexicon as a unit and refl does not affect any argument.

refl uses (i) and (ii) with the external argument being affected, refl uses with the internal argument affected will be accounted for by the proposed system of reflexive marking.⁷ These are genuine Reflexives and Reciprocals—(10), and Antipassives—(11)–(13). With Reflexive and Reciprocal interpretation, the internal argument is identified with the agent.⁸ In case of Antipassives, the internal argument is either interpreted as arbitrary or may be optionally realized as an oblique (NP or PP) expression. Compare the canonical object realizations in the (a)-versions of (12) and (13) with their Antipassive counterparts in the (b)-versions.⁹

(iii) *Genuine Reflexive and Reciprocal*

- (10) Janek i Marysia czeszą się.
 Janek.nom and Marysia.nom comb.3pl refl
 ‘Janek and Marysia comb themselves/each other.’ (Po)

(iv) *Antipassive*

- (11) Deca se štipaju.
 children.nom refl pinch.3pl
 ‘The children are pinching (somebody else).’ (Srb, Progovac 2005, 81)

⁷This concerns also Reflexive Impersonals with unaccusative verbs, cf. Sect. 2.1.4. Note that we leave aside the fact that dative internal arguments may also be affected by refl in some Slavic Languages. The marker is morphologically distinct (*si* in South Slavic, Cz, and Slk, *sej* in Upper Sorb) from the marker affecting structural internal (accusative)/external arguments (*se* in South Slavic and Cz, *sa* in Slk, *so* in Upper Sorb), see, e.g., Franks and King (2000) for an overview of the forms. East Slavic and Po do not have this option. Ideally, refl marking of dative arguments and the cross-Slavic variation with respect to its availability should also be covered by the proposed refl system, however, further research is still necessary for a full account.

⁸Although there are proposals that refl in genuine Reflexives affects the external argument (see, e.g., Kayne 1975; Burzio 1986 or Pesetsky 1995), we follow Reinhart and Siloni (2005) and Dobrovie-Sorin (2006) in assuming that the internal argument is affected.

⁹Antipassive is also called Deobjective (cf. Haspelmath 2003) or ‘active objectless meaning’ (cf. Isačenko 1962). Note that this interpretation is not available with all verbs and that lexical restrictions vary across the languages. Still, we assume that Antipassives are formed productively and the varying availability with individual verbs is not a matter of grammatical restrictions concerning refl, but rather a matter of convention. The same concerns interpretational specifics of the Antipassive in comparison to the original verb (as in (13)).

A related group are refl uses as in (i) and (ii), see analysis proposals in Jabłońska (2007) for Po, Medová (2009) for Cz, or Kaufmann (2004), among others. Due to a prefix operating on the meaning representation of the verb, even one-place predicates may be analysed as having an internal argument slot affected by refl, cf. (ii). Alternatively, verbs of this group are considered as Reflexiva tantum (cf. Isačenko 1962; Szymańska 1998), since they have no non-reflexive prefixed counterparts and differ not only in aspect, but also in meaning from their non-reflexive un-prefixed counterparts. Both possibilities are compatible with the system of Slavic refl proposed in this paper. However, we cannot deal with the issue in detail here.

- (i) Marek se najedl (jahod).
 Marek.nom refl prefix.eat.past.sg.m strawberries.gen
 ‘Marek has eaten ((plenty of) strawberries).’ (Cz)
- (ii) Maria wyspała się.
 Maria.nom prefix.sleep.past.sg.f refl
 ‘Maria had a good sleep.’ (Po)

- (12) a. Direktor podpisał dogovor.
 director.nom sign.past.sg.m contract.acc
 ‘The director signed the contract.’
- b. Direktor podpisalsja (pod dogovorom).
 director.nom sign.past.sg.m.refl under contract.instr
 ‘The director signed (the contract).’ (Ru)
- (13) a. Chłopiec trzymał gałąź.
 boy.nom hold.past.sg.m branch.acc
 ‘The boy held the branch.’
- b. Chłopiec trzymał się gałęzi.
 boy.nom hold.past.sg.m refl branch.gen
 ‘The boy held on to the branch.’ (Po)

The system proposed also has to cover refl uses with affected external arguments that do not show the variation (a)–(c)—refl uses with modal semantics expressing potentiality and evaluation. They comprise Middles, cf. (14), and Involuntary State Constructions (ISC), cf. (15).¹⁰ With these refl uses,¹¹ refl can be combined with transitive and non-transitive verbs cross-Slavically. *By*-phrases, on the other hand, are generally excluded. We will attribute the differences in the meaning of the two modal types (e.g., genericity, stativity, eventivity) and their general incompatibility with *by*-phrases to the additional modal component (see Sect. 3.4). Thus it is not necessary to propose separate lexical types of refl for the modal refl uses.

(v) *Middle*

- (14) Ta knjiga se lahko bere.
 this.nom book.nom refl easily read.3sg
 ‘The book reads well.’ (Slvn, Rivero and Milojević Sheppard 2003, 100)

¹⁰South Slavic has another modal construction (also called Feel-like Construction) expressing predisposition, cf. (i). Ru has a similar construction restricted to sentences with negation, questions and certain relative clauses (cf., e.g., Marušič and Žaucer 2006, 1147), cf. (ii). Importantly, the limited availability of the construction across Slavic may be attributed to a varying availability of null matrix verbs (cf. Marušič and Žaucer 2004, 2006) or modal operators (cf. Rivero and Milojević Sheppard 2003, 2008) in the languages, which is orthogonal to the system of refl. See also fn. 36.

(i) Janezu se je pilo/a slivovko/a.
 Janez.dat refl aux.3sg drink.past.sg.n/f brandy.acc/nom
 ‘Janez felt like drinking plum brandy.’ (Slvn, Marušič and Žaucer 2004, 294)

(ii) Mne ne rabotaetsja.
 me.dat neg work.3sg.refl
 ‘I don’t feel like working.’ (Ru, Franks 1995, 364)

¹¹Note that we consider the refl uses (i) and (ii) (Reflexive Passive and Impersonal) as non-modal in comparison to the refl uses of the Middle/ISC type. Still, refl uses (i) and (ii) may have generic or prescriptive interpretation. The crucial difference is that the additional modal component in modal refl uses of the Middle/ISC type modifies the semantics of the predicate inducing a special interpretation of its implicit external argument, referred to in the literature as, e.g., involuntary agent/experiencer (Rivero and Milojević Sheppard 2003) or lack-of-control reading (Kaufmann 2004; Rivero and Milojević Sheppard 2008).

Note also that in languages with Reflexive Accusative Impersonal, internal arguments of transitive verbs may surface with nominative or accusative also under a modal interpretation, cf. (15b). Thus no additional structural variation arises with modal refl uses.

(vi) Involuntary State Construction

- (15) a. Sěnnja (nam) dobra pracavalasja.
 today us.dat well work.past.sg.n.refl
 ‘It was possible to work well today (for us).’ (BRu)
- b. Tę książkę czytało (mi) się z przyjemnością.
 this.acc book.acc read.past.sg.n me.dat refl with pleasure
 ‘It was possible to read this book with pleasure (for me).’ (Po)

Finally, we will attempt to extend the analysis to Decausatives (also called Anticausatives, cf. Alexiadou, Anagnostopoulou and Schäfer 2006a, 2006b, or Inchoatives), cf. (16). They are formed from a subclass of transitive verbs and denote situations with an unagentive interpretation. As an agent is not even implied with Decausatives, agentive *by*-phrases are excluded. On the other hand, the situation can be modified by a PP or oblique NP with natural force/non-agentive causer interpretation, cf. (16).¹²

(vii) Decausative

- (16) Dver’ otkrylas’ (ot poryva vetra / *mal’čikom).
 door.nom open.past.sg.f.refl from gust wind boy.instr
 ‘The door opened (because of a gust of wind).’ (*by*-phrase impossible)
 (Ru, Padučeva 2001, 25)

The paper is structured as follows. We discuss the three types of variation with Reflexive Passive and Reflexive Impersonal in detail in Sect. 2. Systematic data elicitation and evaluation with respect to variation (a)–(c) reveals three groups of Slavic languages. On the basis of the typology established thereby, we propose two main lexical types of refl for Slavic in Sects. 3.1 and 3.2 and their parametrization across Slavic in Sect. 3.3. In Sects. 3.4 and 3.5, we discuss the application of the proposed refl system to modal refl uses and Decausatives. Finally, we outline the morphosyntax of refl in Sect. 4.

2 Cross-Slavic typology of Reflexive Passive and Impersonal

Note that we use the term *by*-phrase as a cover term for the possible realizations of oblique agents with Reflexive and/or Periphrastic (*n/t*) Passive as instrumental NPs or PPs in the various Slavic languages, cf. Table 1. It is not our purpose to discuss this specific variation. It should be pointed out that already Proto-Slavic had both instrumental and prepositional (*otъ*) oblique agents (cf., e.g., Vondrák 1928; Večerka 1993). Regardless of the diachronic development leading to the forms found in the languages today, we just assume that they are instances of genuine agentive *by*-phrases. In all Slavic languages, these oblique agent realizations are available with Periphrastic Passive.

¹²Besides Decausatives with an internal Theme argument as in (16), Reinhart and Siloni (2005) discuss Decausatives with an internal Experiencer argument as a second subgroup that can be analysed along the same line. This group includes a variety of psych verbs, cf. (i). Sonnenhauser ([this volume](#)) discusses semantic properties of Ru verbs of emotion that also seem to belong to this group.

- (i) Jan martwi się (chorobą Marii / o Marię).
 Jan.nom worry.3sg refl illness.instr Maria.gen about Maria.acc
 ‘Jan worries (about Maria’s illness / about Maria).’ (Po)

Table 1 Realization of oblique agents in the modern Slavic languages

by-phrase realization	East Slavic			West Slavic				South Slavic		
	Ru	BRu	Ukr	Po	Cz	Slk	Sorb	BCS	Slvn	Bg
	Instr	Instr	Instr	<i>przez</i>	<i>Instr/od</i>	Instr	<i>wot/přez</i>	<i>Instr/od</i>	<i>od</i>	<i>ot</i>

In this section, we will present data leading to a new systematic classification of Slavic with respect to variation (a)–(c) with refl uses (i)–(ii).¹³ The classification will cut across the classical split into East, West, and South Slavic.

2.1 By-phrase and verb class variation with the reflexive marker

2.1.1 Reflexive Passive

The refl use with transitive verbs (with affected external agent argument) and nominative internal argument is available in all Slavic languages. East Slavic, Upper Sorb, and Bg allow agentive *by*-phrases with this refl use, whereas Po, Cz, Slk, BCS, and Slvn do not. See examples (1)–(2) above and (17)–(20) below:¹⁴

(17) Dom stroitsja (plotnikami).
 house.nom build.3sg.refl carpenters.instr
 ‘The house is being built (by carpenters).’ (Ru)

(18) Matèryjal zbirawsja (awtaram) bol’s za čvèrc’ stahoddzja.
 material.nom collect.past.sg.m.refl author.instr more than quarter.acc century.gen
 ‘The material was collected (by the author) over more than a quarter of a century.’ (BRu)

(19) Šaty so runje (wot wowki) šija.
 clothes.nom.pl refl right-now by grandmother sew.3pl
 ‘The clothes are being repaired (by grandmother) right now.’ (Upper Sorb)

¹³For the data elicitation, at least two native speakers have been consulted for each language. Thanks are due to the following native speakers for their judgements: Svitlana Adamenko, Marcela Adamíková, Krastina Arbova-Georgieva, Petr Biskup, Natalja Börner, Liliya Burova, Alicja Butkiewicz, Elena Denissova, Boštjan Dvořák, Wojtek Głowacki, Nadja Herdt, Genia Kapustina, Eugen Klein, Shanna Koppmeier, Uladzimir Koščanka, Iliyana Krapova, Roman Krivko, Olga Liebich, Andrej Malchukov, Marko Malink, Marijana Marelj, Timo Meškank, Zrnka Meštrovíč, Milan Mihaljević, Inga Pagel, Alla Paslawska, Taccjana Ramza, Rumjana Riemschneider, Hync Rychtaf, Valiantsin Solakhau, Jana Šolčina, Kamil Stumpf, Elena Valentik, Valja Werkmann, Maria Yastrebova.

¹⁴Note that the Slavic languages also allow Reflexive Passive with ditransitive verbs, cf. (i) and (ii). Importantly, the same typology with respect to variation (a) holds for transitive and ditransitive verbs. Therefore, we will simplify the exposition and leave ditransitives aside. Crucially, they will be accounted for in the analysis proposed here (see fn. 25).

(i) Ona nabljudala, kak den’gi peredavalis’ zaključenomu posetitelem.
 she.nom watch.past.sg.f how money.nom hand-over.past.pl.refl prisoner.dat visitor.instr
 ‘She watched how the money was handed over to the prisoner by a visitor.’ (Ru)

(ii) Viděla, jak se peníze předávaly obžalovanému (*svědkem).
 saw.sg.f how refl money.nom hand-over.past.pl prisoner.dat witness.instr
 ‘She saw how the money was being handed over to the prisoner.’ (*by*-phrase impossible) (Cz)

- (20) Šaty se právě šijí (*babičkou).
 dress.nom.pl refl right-now sew.3pl grandmother.instr
 ‘The dress is being made right now.’ (by-phrase impossible) (Cz)

In modern Po, Reflexive Passive is obsolete (cf., e.g., Siewierska 1988) and internal arguments of transitive verbs combined with refl preferably surface with accusative case, see Sect. 2.1.5.

Ru grammars restrict Reflexive Passive to imperfective verbs, see Isačenko (1962, 449f.).¹⁵ Pađučeva (2003, 185) claims that what looks like Reflexive Passive with perfective verbs obligatorily receives a modal interpretation—‘passive-potential’ meaning, cf. (21):

- (21) Pjatno otstiralos’.
 stain.nom wash-out.pf.past.sg.n.refl
 ‘Somebody managed to wash out the stain.’ (Ru, Pađučeva 2003, 185)

We conclude that both imperfective and perfective transitive verbs in Ru combine with refl. In the analysis presented in Sect. 3, no additional aspectual restrictions will be encoded in the refl system of Ru. The passive-potential meaning will be rather attributed to the special interpretation of the Ru perfective aspect in the relevant case.

2.1.2 Reflexive Impersonal with acc/non-acc verbs

There is cross-Slavic variation with respect to verb classes allowing the formation of Reflexive Impersonal, where no internal argument is promoted to nominative. All Slavic languages allow refl use (ii) with what we call acc/non-acc verbs (V-acc/non-acc), which alternatively subcategorize for an accusative nominal expression or a PP/subordinate clause, e.g., verba dicendi et sentiendi.¹⁶ Like in the case of Reflexive Passive, optional agentive *by*-phrases are allowed in East Slavic, Upper Sorb, and Bg, cf. (22)–(25), whereas Po, Cz, Slk, BCS, and Slvn disallow *by*-phrase realization, cf. (26)–(27):¹⁷

- (22) Ob ětom (nami) uže govoriłos’.
 about this we.instr already talk.past.sg.n.refl
 ‘This has already been talked about (by us).’ (Ru)
- (23) Pro ce (namy) vže hovorylosja.
 about this we.instr already talk.past.sg.n.refl
 ‘This has already been talked about (by us).’ (Ukr)

¹⁵Diachronically, this restriction is a newer development. Perfective predicates combined with refl (like *Dver’ zakrylas’* ‘The door has been shut’) could be interpreted as Passive up to the middle of the 19th century in Ru, cf. Pađučeva (2003, 175), quoting Bulaxovskij (1954, 315).

¹⁶The alternation concerning the complement of V-acc/non-acc is illustrated in (i):

- (i) On mne uže govorił ěto / pro ěto
 he.nom me.dat already tell.past.sg.m this.acc about this.acc
 / ob ětom / ěto ty priexal.
 about this.loc that you came
 ‘He has already told me this / about this / that you arrived.’ (Ru)

¹⁷Note that it generally does not matter for variation (a) whether *by*-phrases are pronominal or not.

- (24) Wo tym je so (wot politikarjow) hižo wjele rěčało.
 about this aux.3sg refl by politicians already much talk.past.sg.n
 ‘This has already been much talked about (by politicians).’ (Upper Sorb)
- (25) Za towa večer se govori (ot nas) na minaloto sǎbranie.
 about this already refl talk.past.3sg by us at last.def meeting
 ‘This has already been talked about (by us) at the last meeting.’ (Bg)
- (26) O tom se (*námi) hodně mluwilo.
 about this refl we.instr much talk.past.sg.n
 ‘This has been much talked about.’ (*by*-phrase impossible) (Cz)
- (27) O tym się już mówiło (*przez nas).
 about this refl already talk.past.sg.n by us
 ‘This has already been talked about.’ (*by*-phrase impossible) (Po)

2.1.3 Reflexive Impersonal with unergative verbs

Refl use (ii) with unergative verbs is available in West and South Slavic and Ukr, however, only without *by*-phrases, cf. (4) above and (28)–(31):

- (28) Tancovalo se (*námi) až do rána.
 dance.past.sg.n refl we.instr prtcl till morning
 ‘One danced until morning.’ (*by*-phrase impossible) (Cz)
- (29) Rejowaše so (*wot hosći) hač do ranja.
 dance.past.3sg refl by guests prtcl till morning
 ‘There was dancing till morning.’ (*by*-phrase impossible) (Upper Sorb)
- (30) Pieše se i se peeše (*ot swatbarite)
 drink.past.3sg refl and refl sing.past.3sg by wedding-guests.def
 do ranni zori.
 till early dawn
 ‘There was drinking and singing till dawn.’ (*by*-phrase impossible) (Bg)
- (31) Plesalo se (*ženama / *od strane žena) sve do zore.
 dance.past.sg.n refl women.instr from part women.gen all until dawn
 ‘One danced until dawn.’ (*by*-phrase impossible)

(BCS, adapted from Progovac 2005, 72)

Ru and BRu lack this option altogether, cf. (3) above and (32a) below. In these languages, unergative verbs may be combined with refl only under a modal interpretation of the Middle/ISC type (see refl uses (v)–(vi) in Sect. 1). This is illustrated by the contrast in (32a) vs. (32b = 15a). Note that the external argument in (32b) is interpreted as an involuntary agent/experiencer and may be optionally expressed as a dative NP. This is in contrast to non-modal Reflexive Impersonals with unergative verbs as in (28)–(31), where such datives are impossible (apart from the impossibility of *by*-phrases), since they lack the modal component.

- (32) a. *Pracavalasja da ranicy.
 work.past.sg.n.refl until morning
 Intended meaning: ‘One worked until morning.’
- b. Sěnnja (nam) dobra pracavalasja.
 today we.dat well work.past.sg.n.refl
 ‘It was possible to work well today (for us).’ (BRu)

2.1.4 Reflexive Impersonal with unaccusative verbs

In case of unaccusative verbs, refl affects the internal argument. Agentive *by*-phrases are thus not licensed semantically. While Po, Cz, Slk, Slvn, and BCS allow Reflexive Impersonals with unaccusative verbs, cf. (33)–(35), East Slavic languages do not, cf. (36a), unless under a modal interpretation of the Middle/ISC type, as in (36b). Judgements concerning the availability of refl with unaccusative verbs vary in Bg (as illustrated in (37)) and Upper Sorb. The exact source of the speaker variation has yet to be clarified.¹⁸

- (33) Umre se samo enkrat.
 die.3sg refl only once
 ‘One dies only once.’ (Slvn, Rivero and Milojević Sheppard 2003, 143)
- (34) Wtedy umierało się na tyfus.
 then die.past.sg.n refl of typhus.acc
 ‘At that time one died of typhus.’ (Po)
- (35) Tehdy se ještě vyrůstalo ve velkých rodinách.
 then refl still grow-up.past.sg.n in large families
 ‘At that time one grew up/used to grow up in large families.’ (Cz)
- (36) a. *Togda roslos’ v bol’šix sem’jax.
 then grow-up.past.sg.n.refl in large families
 Intended meaning: ‘At that time one grew up/used to grow up in large families.’
- b. Zdes’ (emu) roslos’ bezzabotno.
 here him.dat grow-up.past.sg.n.refl sorrow-less
 ‘It was possible to grow up without sorrow here (for him).’ (Ru)
- (37) [?]Prez srednekovieta se e umiralo ot čuma.
 in middle-ages.def refl aux.3sg die.past.sg.n of plague
 ‘In medieval times people died of plague.’ (Bg)

2.1.5 Reflexive Impersonal with transitive verbs

Reflexive Accusative Impersonals are available in Ukr, Po, Slvn, spoken (Milan Mihaljević, p.c.) and dialectal Croatian (cf. Franks 1995; Szucsich 2007, 2008, 2009) and Srb (Marijana

¹⁸It has also to be clarified yet whether unaccusative Reflexive Impersonals are possible only with generic reading. At least for the tested examples this seems to be the case. Note, however, that this genericity is not sufficient for East Slavic to allow unaccusatives with refl, cf. (36b) vs. (35) and (36a).

Table 2 Compatibility of refl with verb classes and *by*-phrase realization

Morphosyntactic type	V-class	Group I		Group II			Group III				
		Ru	Bru	Ukr	Upper Sorb	Bg	Cz	Slk	BCS	Slvn	Po
Refl passive	trans	+	+	+	+	+	*	*	*	*	*
Refl impers	acc/non-acc	+	+	+	+	+	*	*	*	*	*
	unerg			*	*	*	*	*	*	*	*
	unacc				*	*	*	*	*	*	*
(Refl acc impers)	trans			+						*#	*

‘+’/‘*’—*by*-phrase possible/impossible, filled cells—type not available, filled cells with ‘*’—acceptability judgements for the type vary, but *by*-phrase impossible. #concerns spoken and dialectal BCS

Marelj, p.c.). In standard BCS, the internal argument of a transitive verb affected by refl is obligatorily assigned nominative. See examples (5)–(9) above and (38)–(41). *By*-phrases are allowed only in Ukr, cf. (7) and (41):

- (38) Starše se je ubogalo.
 parents.acc.pl refl aux.3sg obey.past.sg.n
 ‘People (have) obeyed parents.’

(Slvn, Rivero and Milojević Sheppard 2003, 105)

- (39) Čuje se kiša / kišu.
 hear.3sg refl rain.nom rain.acc
 ‘One hears the rain.’

(Standard/Spoken Croatian, Milan Mihaljević, p.c.)

- (40) Tu buduje się szkołę (*przez firmę zagraniczną).
 here build.3sg refl school.acc by company foreign
 ‘They are building a school here.’ (*by*-phrase impossible)

(Po)

- (41) (Pravovirnoju parafijeju) budujet’sja cerkvu.
 orthodox.instr parish.instr build.3sg.refl church.acc
 ‘A church is being built (by the orthodox parish).’

(Ukr)

2.1.6 Interim summary

Regarding variation (a) and (b) with refl uses (i) and (ii), some Slavic languages allow refl to combine only with transitive verbs including V-acc/non-acc, and *by*-phrases are generally allowed—Group I. The other Slavic languages combine refl also with one-place predicates. In Group II, refl application is extended at least to unergative verbs and *by*-phrases are allowed for transitive verbs (including V-acc/non-acc), but not for unergative verbs. In languages of Group III, which extend refl application to unergative and unaccusative verbs, *by*-phrases are generally excluded with refl. There thus seems to be a certain correlation between the expansion of refl to the various verb classes—variation (b)—and the availability of *by*-phrases—variation (a), observed already by Růžička (1986). See Table 2 for the summary of the results.

It is obvious that the promotion of the internal argument of a transitive verb to subject is not a necessary condition for *by*-phrase realization (contra Avgustinova, Skut and Uszkoreit 1999), as evidenced by V-acc/non-acc and Ukr Reflexive Accusative Imperson-

als. Crucially, in all Slavic languages *by*-phrases are impossible in case refl combines with one-place predicates.

Three groups of languages emerge from the variation concerning verb classes and *by*-phrases with refl uses (i)–(ii), which are mixed from the point of view of the traditional division into East, West, and South Slavic languages.¹⁹ Apart from Ukr, Reflexive Accusative Impersonals are allowed only in a subset of Group III languages. In Group III, *by*-phrases are generally disallowed. In the following section, we will show that Group III is also heterogeneous with respect to the possibility of realizing the affected agent as a syntactic null. It will become clear that the latter correlates with the availability of Reflexive Accusative Impersonals in this group.

2.2 Syntactic realization of affected agents as a null element

As far as Group III is concerned, the affected argument may be projected as a null subject in Po, Slvn and in spoken and dialectal Croatian (cf. Rivero and Milojević Sheppard 2003; Szucsich 2007, 2008), but not in Cz, Slk, and standard BCS, as evidenced by anaphor binding. The examples in (42)–(43) contain a reflexive possessive pronoun, which is a strictly subject-oriented anaphor in Slavic. The grammaticality of (42) indicates that the anaphor can be bound in Po, which suggests that the external argument is syntactically realized as a null. Since the anaphor in the parallel Cz example is ungrammatical, cf. (43), we may conclude that there is no null element available for anaphor binding with refl in Cz. The evidence for a syntactic null realization of the suppressed agent has been convincingly shown in Rivero (2001, 2003) and Rivero and Milojević Sheppard (2003) for Slvn and Po, Kibort (2006) for Po, and Szucsich (2007, 2009) for BCS.

(42) Mówiło się tylko o swoich zamiarach.
 speak.past.sg.n refl only about refl.poss.loc intentions.loc
 ‘One spoke only about one’s intentions.’ (Po)

(43) Mluvilo se jen o (*svých) záměrech.
 speak.past.sg.n refl only about refl.poss.loc intentions.loc
 ‘One spoke only about intentions.’ (anaphor cannot be bound) (Cz)

The availability of null subject realization with refl in the above-mentioned subset of Group III languages correlates with the availability of Reflexive Accusative Impersonal. Po, Slvn, and dialectal BCS Reflexive Accusative Impersonals allow anaphor binding, cf. the examples (44) and (45) (with Genitive of Negation):

(44) Svoje starje se posluša.
 refl.poss.acc parents.acc refl obey.3sg
 ‘One obeys one’s parents.’ (BglC, Szucsich 2008, 171)

(45) Swoich przyjaciół tak się nie traktuje.
 refl.poss.gen friends.gen so refl neg treat.3sg
 ‘One does not treat one’s friends like that.’
 (Po, Rivero and Milojević Sheppard 2003, 106)

¹⁹Diachronically, we should like to point out that languages of Groups I and II pattern with Proto-Slavic and Old Church Slavonic, which used both Periphrastic Passive and Reflexive Passive with *by*-phrases, cf. Vondrák (1928), or Večerka (1993).

The apparent violation of Burzio's Generalization (tying assignment of accusative case to the selection of an external argument) in these and related constructions has received much attention in the literature, cf., e.g., Harves (2006), Lavine (2005), Lavine and Freidin (2002), Szucsich (2007, 2008, 2009), Tsedryk (2004). For languages of Group III allowing Reflexive Accusative Impersonals, we may conclude that they obey Burzio's Generalization, as the external argument is syntactically realized. The explanation for the impossibility of *by*-phrases in such structures is readily available—the external argument can be optionally realized as a *by*-phrase only if it is not syntactically realized otherwise, e.g., as a null.

However, the absence of null subject realization does not necessarily imply the availability of *by*-phrases: all languages of Group III generally disallow optional *by*-phrases, regardless of whether they allow null subject realization. On the basis of evidence from binding and control in Reflexive Impersonals, Rivero and Milojević Sheppard (2003) single out languages with a null indefinite pronoun (Po and Slvn), and claim, among other things, that for languages like, e.g., Cz, the usual Reflexive Passive analysis (with an implicit argument) is adequate. However, the difference between Cz and Group I/II languages with respect to optional *by*-phrases remains unexplained. As Group I/II languages allow *by*-phrases, the affected argument cannot be realized syntactically. Binding evidence corroborates this claim, cf. (46)–(47):

(46) *Upominalos' o svoix planax.
 mention.past.sg.n.refl about refl.poss.loc plans.loc
 Intended meaning: 'People mentioned about their plans.' (Ru)

(47) *Vinagi se spomenavaše za svoite planove.
 always refl mention.past.3sg about refl.poss.def plans
 Intended meaning: 'One always mentioned about one's plans.' (Bg)

Also in Ukr, there is no evidence for null subject realization. Anaphors cannot be bound with Reflexive Impersonals and Reflexive Accusative Impersonals, cf. (48)–(49) (and (9) above). As shown in the previous section, *by*-phrases with Reflexive Impersonals are possible in Ukr, (cf. (7) and (41) above), which points in the same direction. Example (49) shows that an anaphor cannot be bound regardless of the presence or absence of a *by*-phrase:

(48) *Teper dumajet'sja til'ky pro svoji spravy.
 now think.3sg.refl only of refl.poss.acc matters.acc
 Intended meaning: 'Nowadays one thinks only of one's (own) business.' (Ukr)

(49) (Matir''ju) myjet'sja (*svoju) dytnu.
 mother.instr wash.3sg.refl refl.poss.acc child.acc
 'The child is being washed (by the mother).' (anaphor cannot be bound) (Ukr)

Thus as far as refl is concerned, Ukr patterns with languages of Group II. On the other hand, the Reflexive Accusative Impersonal in Ukr is exceptional, since accusative case is licensed without external selection here.²⁰

²⁰In Fehrmann, Junghanns and Lenertová (Fehrmann, D., Junghanns, U., & Lenertová, D. 2009. Accusative Impersonals and the issue of external selection. Paper presented at the 8th European Conference on Formal Description of Slavic Languages (FDSL-8), 2–5 December 2009. Potsdam.), we attribute its availability in Ukr to a finite but non-agreeing T, which is a particular feature specification indicated by morphology different from singular neuter morphology. Such morphology is missing in languages excluding Reflexive Accusative Impersonals. For recent accounts, see also Lavine (2005, 2010), Lavine and Freidin (2002), and Lavine and Franks (2008).

2.3 Towards two lexical types of the reflexive marker

We can make the following statements with respect to refl uses (i)–(ii): Refl combines only with transitive verbs (including V-acc/non-acc) in Group I, and *by*-phrases are generally allowed. In Group III, refl combines with all verb classes including unaccusatives, and *by*-phrases are generally excluded. In Group II, refl combines with transitive, acc/non-acc and intransitive verbs, but only its combination with intransitive verbs disallows a *by*-phrase. Null subject realization of the affected argument is possible only in a subset of Group III languages. Thus, exclusion of *by*-phrases does not depend on the null realization of the agent. On the other hand, the availability of optional *by*-phrases means that the argument cannot be realized as a null subject, as shown by data from languages of Groups I and II.

We take the possibility/exclusion of *by*-phrases as evidence for two types of refl, which will be introduced in the next section. On the other hand, refl in constructions with a null syntactic realization of the affected argument will be analysed as a subtype of the second refl.

Importantly, with both refls the affected argument is not eliminated from the semantic representation. Standard agentivity tests with agent-oriented adverbs and controlled instruments (see Reinhart and Siloni 2005 for the latter) show that the verb is interpreted as agentive and an agentive component has to be present. This is independent from whether the suppressed argument may be semantically specified through a *by*-phrase or not. We see the same effect in all three groups of languages, cf. (50)–(52):

- (50) Bel'e special'no stiraetsja v xolodnoj vode.
 laundry.nom intentionally wash.3sg.refl in cold water
 'The laundry is being washed in cold water on purpose.' (Ru)
- (51) Prádlo se pere schválně studené.
 laundry.nom refl wash.3sg purposely cold
 'The laundry is being washed cold on purpose.' (Cz)
- (52) Kolači se jedu viljuškom.
 cakes.nom refl eat.3pl fork.instr
 'One eats cake with a fork.' (BCS, Progovac 2005, 81)

On the other hand, for refl uses of the Middle/ISC type we assume that after one of the two proposed types of refl has applied to a verb, a modal operator is added. It modifies the semantics of the predicate inducing an interpretation of its implicit external argument as involuntary agent/experiencer. This excludes *by*-phrases per se. The modal operator in ISCs licenses overt dative NPs, which have to be identified with the implicit external argument of the predicate conceptually.

3 Analysis

Our aim is to propose a maximally unified analysis for refl. To account for the variation in Slavic, it is not necessary to distinguish between the external and the internal argument being affected or between nominative and accusative refl, contra, e.g., Belletti (1982) and Zubizarreta (1987) proposing the former and Burzio (1986), Cinque (1988), and Dobrovie-Sorin (1998, 2006) proposing the latter for Romance. A special nominative refl analysed as null human indefinite pronoun is also proposed by Rivero and Milojević Sheppard (2003)

for Slavic. Moreover, they argue that Antipassives contain an accusative indefinite parallel to the nominative indefinite in Impersonal Reflexives. Note that this leads to an undesirable restriction of Antipassives to arbitrary human interpretation of the affected object. At the same time, their account of Reflexive Impersonals based on the presence vs. absence of a null pronoun does not extend to the cross-Slavic variation (a). Accounts of the variation (a) as by Lavine (1997) cover only parts of the phenomenon and do not extend to cases where the internal argument is affected. The latter concerns also Babby's (1998) account of refl uses in Ru.

Jabłońska (2007) (for Po), Medová (2009) and Hudousková (2010) (for Cz), and Szucsich (2009) (for Slavic Reflexive Impersonals) offer different proposals for a unified refl, attempting to derive the whole range of refl uses via the way refl participates in the syntactic derivation (e.g., concerning stages of its insertion, derivational paths it undergoes, or subsequences of syntactic structure it spells out). How the cross Slavic variation (a)–(c) can be implemented in such accounts and what the necessary additional costs are is yet to be shown.

Reinhart and Siloni's (2005) unified refl indicates application of an arity operation and the various refl readings result from different semantic operations (elimination, bundling and saturation of arguments) including different types of variables. Kaufmann (2004), on the other hand, argues that the lexicon derives unspecified forms the interpretation of which is established at the level of Conceptual Structure according to contextual information (verb class, aspect, sortal properties of the argument NPs). Both accounts leave *by*-phrase variation unconsidered and it is not clear how to extend Reinhart and Siloni's Lexicon-Syntax Parameter to this variation in Slavic.

Like Kaufmann (2004), we assume that the differentiation with respect to the interpretation of the refl uses takes place at the level of Conceptual Structure. In the framework of a two-level semantics (Bierwisch 1986, 2007; Wunderlich 1997) distinguishing Semantic Form (SF) and Conceptual Structure (CS), SF mediates between syntax and CS. Verb meanings are decomposed into basic predicates at SF, which yields, inter alia, the number and hierarchy of verbal arguments. Structure building in syntax depends on argument hierarchy. In the lexical entry of a verb, lambda abstractors bind variables in the predicate-argument structure and can be associated with features (e.g., case features) which serve as a kind of address. Lambda abstractors without an address correlate with predictable structural cases. Idiosyncratic realization of a syntactic argument is determined by the association of the relevant lambda abstractor with corresponding (morphological, phonological, semantic) features (see also Junghanns 2008).

Refl applies at the lexicon–syntax interface—when verb and refl are projected from the lexicon to form a syntactic head-adjunction structure.²¹ In correspondence to this stage of the derivation, semantic amalgamation takes place: refl applies to the semantic representation of the verb. It affects one of the arguments of the verbal predicate it combines with, in some way preventing the canonical realization of this argument.²² Note that we analyse agentive *by*-phrases as adjuncts, not as oblique arguments (contra, e.g., Jabłońska 2007).

²¹We aim at a unified morphosyntactic analysis of refl in Slavic, treating refl as a clitic. Note that there are accounts of refl in East Slavic as a bound morpheme ('postfix'). Importantly, we do not assume refl to be a pronominal element (argument expression). See Sect. 4 on the morphosyntax of refl.

²²Note that the affected argument still present in the semantic representation as a variable. In case of affected external arguments, the predicate can be modified by agent-oriented adverbs or controlled instruments, as shown by the examples in (50)–(52) in Sect. 2.3.

To account for variation with respect to the availability of *by*-phrases with refl in Slavic, we argue that two types of refl are necessary. The two types are based on the assumption that a variable can be existentially quantified either at SF or CS.²³ A variable that is existentially quantified at SF is not accessible for semantic specification (e.g., through a *by*-phrase). On the other hand, a variable that is not existentially quantified at SF can be semantically specified (e.g., through a *by*-phrase). Technically, specification is obtained via identification (coindexation) of the variable and the *by*-phrase referent at CS. When no *by*-phrase is realized, the variable will be existentially quantified at CS by a default mechanism.

Regarding refl, we assume two ways of argument blocking at the point when refl adjoins to the verb at the lexicon–syntax interface: in one case, the variable is existentially quantified already at this stage (binding at SF), consequently, a *by*-phrase is impossible.²⁴ In the other case, the variable is not bound at SF and a *by*-phrase is potentially available. The different ways of blocking are due to two types of refl that will be introduced in Sects. 3.1 and 3.2, respectively. In Sect. 3.3, we will discuss the restrictions on their application depending on the parametrization of the languages. In Sects. 3.4 and 3.5, we will discuss modal uses and Decausatives.

3.1 Refl 1: argument blocking refl

We propose the representation in (53) for the first type of refl. Its effect is that one argument gets blocked and therefore cannot be syntactically realized. The argument is made an unbound semantic variable, z in (53). Importantly, the only restriction with refl 1 is the verb class: The representation in (53) requires a transitive, i.e. two-place predicate to combine with.²⁵ As α and $-\alpha$ stand for complementary application of brackets, refl 1 can apply to the internal or the external argument of a two-place predicate. Using the example in (54), we illustrate blocking of the external argument in (55) and blocking of the internal argument in (56).²⁶

²³This seems to be a natural assumption in line with common semantic considerations concerning modification/specification. The proposed account avoids additional language-specific principles like Avgustinova, Skut and Uszkoreit's (1999) 'Reflexive Passivized Subject Blocking', or Lavine's (1997) specification of refl with respect to the feature $[+/-NP_1]$. Moreover, as these specifications are not related to verb classes but are language-specific, they cannot account for the whole range of the data. Lavine's (1997) account of the (im)possibility of argument adjuncts (*by*-phrases in our terms) proposes distinct processes of external theta-role blocking ('implicitization' vs. 'suppression') with the respective refl forms. Languages such as Cz that do not allow *by*-phrases lack the former. This does not account for the fact that *by*-phrases are possible only with certain verb classes.

²⁴This proposal is inspired by Zimmermann's analysis of Spanish SE-passive (Zimmermann, I. 2009. Reflexive impersonal sentences with the structural accusative in Spanish. Paper presented at the *Syntaxzirkel*, 9 July 2009. Potsdam.). In her account, *by*-phrase realization is excluded by existential quantification of the affected argument at the lexical level. However, the quantor is introduced via a semantic template PASSIVE_{refl} that applies to the original verbal entry before combining with SE.

²⁵Note that we use the terms 'transitive' and 'two-place' predicates synonymously in this paper. For expository purposes, the representation is a simplified version only for two-place predicates, but it can be easily extended to ditransitives, via adding a bracketed (i.e. optional) indirect internal argument to the representation of refl 1 (as in (53) for Group I/II languages and in (64) below for Group III languages, see also (66)).

²⁶Kaufmann (2004) also suggests that the general function of Ru *-sja* is to mark that one of the structural arguments of the verb is not projected onto the theta-grid.

- (53) refl 1
 $\lambda P(\lambda y)_{-\alpha}(\lambda x)_{\alpha}[P(y)_{-\alpha}z(x)_{\alpha}]$
 $P \in +V-N$
- (54) Rebenok odevaetsja. (Ru)
 child.nom dress.3sg.refl
 a. ‘The child is being dressed.’ (= Passive)
 b. ‘The child is dressing (himself/herself).’ (= Reflexive)
- (55) Blocking of the external argument (cf. (54a))
 a. $\lambda P \lambda y [P y z]$
 b. $\lambda y \lambda x \lambda e [e \text{ INST } [x \text{ DRESS } y]]$
 c. $\lambda P \lambda y [P y z](\lambda y \lambda x \lambda e [e \text{ INST } [x \text{ DRESS } y]])$
 $\equiv \lambda y \lambda e [e \text{ INST } [z \text{ DRESS } y]]$
└──────────────────┘
argument slot

The effect of applying the refl-representation in (55a) to the semantic representation of the transitive verb in (55b) is that the λ -bound external argument variable x in (55b) is replaced by the dummy z . This yields the representation of a predicate with one remaining structural argument slot—(55c). In the course of syntactic structure building, *rebenok* ‘the child’ is realized as internal (patient) argument instantiating the λ -bound internal argument variable y of the predicate. The variable z , representing the blocked external argument, is not yet existentially bound, therefore, a *by*-phrase is possible (e.g., *njan’koj* ‘by the nanny’). At CS, z is either interpreted as coreferential with the referent of the *by*-phrase, or it is existentially quantified per default if no *by*-phrase is realized. If a *by*-phrase is realized, it is necessarily referentially identified with the blocked external argument.

As far as syntactic realization is concerned, the internal argument has to receive nominative case, as no other NP is available to enter into an AGREE-relation with T in order to value T’s uninterpretable φ -features (see Lavine and Franks 2008 for a recent discussion on the implementation of Burzio’s Generalization).

- (56) Blocking of the internal argument (cf. (54b))
 a. $\lambda P \lambda x [P z x]$
 b. $\lambda y \lambda x \lambda e [e \text{ INST } [x \text{ DRESS } y]]$
 c. $\lambda P \lambda x [P z x](\lambda y \lambda x \lambda e [e \text{ INST } [x \text{ DRESS } y]])$
 $\equiv \lambda x \lambda e [e \text{ INST } [x \text{ DRESS } z]]$
└──────────────────┘
argument slot

In case of (56), *rebenok* instantiates the external argument variable x (agent) at SF, the internal argument is blocked via replacement of the λ -bound variable y by the dummy z . To receive a genuine Reflexive interpretation (54b), the unbound variable z needs to be referentially identified with the canonically realized agent argument at CS. This excludes additional oblique realization of the blocked internal argument. However, oblique realization of a blocked internal argument is possible with an Antipassive interpretation (see examples (12)–(13) above), which does not require coreference between agent and patient. Again, the referent of the oblique phrase must be referentially identified with the

Table 3 Application of refl 1 in Groups I and II

refl use	V-class	affected argument		
		type	interpretation	oblique realization
Reflexive/Reciprocal	trans	internal	coreferential	
Antipassive			arbitrary	+
Refl. Passive		external	arbitrary	+
Refl. Impersonal [#]	acc/non-acc			

[#]with V-trans only in Ukr

blocked argument z at CS. In case no oblique phrase is realized (see example (11) above), existential quantification of z applies per default, as outlined above.

Refl 1 is restricted only with respect to the transitivity of the predicate it combines with. Importantly, we consider V-acc/non-acc structurally as transitive verbs with the PP or subordinate clause being its internal argument.²⁷

Refl uses that are covered by refl 1 are summarized in Table 3. Recall that Reflexive Impersonal with transitive verbs in Groups I and II concerns only Ukr. In Sect. 2.2 we presented evidence from binding and *by*-phrase availability suggesting that the affected external argument in Ukr Reflexive Accusative Impersonals is not realized as a syntactic null. We also argued that languages of Groups I and II generally lack the option of a null syntactic realization of the affected argument. The argument blocking refl 1 correctly accounts for this property in Group I and II languages.

Importantly, the variable corresponding to the affected argument is not yet existentially quantified at SF. Consequently, it is accessible for semantic specification. The assumption of refl 1 thus correctly predicts the general availability of *by*-phrases in Group I and II languages. Refl 1 is restricted to combine only with transitive verbs, including V-acc/non-acc. These are exactly the verb classes that can combine with the reflexive marker in Group I. Thus all refl uses are covered by refl 1 in this group. On the other hand, refl 1 has to be restricted to combine only with transitive verbs in all Slavic languages, since with non-transitive predicates, *by*-phrases are generally excluded in Slavic. Therefore, we need a second type of refl.

3.2 Refl 2: argument binding refl

In languages of Groups II and III, refl has a wider sphere of application with refl uses (i) and (ii). It can affect non-transitive predicates, too. These uses are not covered by refl 1, neither is the impossibility of *by*-phrases with non-transitive verbs in Group II and with all verbs in Group III.²⁸

In all cases where *by*-phrases are excluded in Group III, an argument is affected (in some cases the external, in other cases the internal) whose characteristic feature is that it is the

²⁷Note that the system does not prevent refl 1 to affect also the internal argument of verbs like *speak*. However, blocking of the internal argument would either require a genuine Reflexive interpretation, which is conceptually blocked with such verbs, or Antipassive, which is not with these verbs. The unavailability of Antipassive interpretation with individual verbs is a matter of convention in our account, see also fn. 9.

²⁸Refl 1 also does not cover Reflexive Accusative Impersonals in languages other than Ukr.

Table 4 Application of refl in Group III

refl use	V-class	affected argument			
		type	interpretation	oblique realization	higher/lower
Reflexive/ Reciprocal	trans	internal	coreferential		lower
Antipassive			arbitrary	+	
Refl. Passive	acc/non-acc	external	arb-hum	*	highest
Refl. Impersonal [#]				*	
				*	
				*	
	unerg	internal		*	
	unacc				

[#]with V-trans only in Po, Slvn, BCS

highest argument available for syntactic realization, i.e. the argument designated to become nominative/subject with the original predicate at the surface, see the boxed part of Table 4.

In all cases the interpretation of this argument is restricted to arbitrary human.²⁹ Here, a *by*-phrase is impossible. We propose that in the relevant cases, the argument affected by refl is bound at SF by an operator that specifies its interpretation as arbitrary human. Further semantic specification of the argument, e.g., through a *by*-phrase, is excluded. The representation of the second type of refl is given in (57):

- (57) refl 2
 $\lambda P (\lambda y) OPz [P (y) z]$
 $P \in +V-N$
 $OP \in \{Q_{arb-hum}, \lambda[-overt, arb-hum]\}$

The relevant argument variable is replaced by z , z is bound by an operator (OP). Refl 2 is restricted to apply in cases where the operator ultimately binds the highest available structural argument variable. This is the argument realizing nominative case in syntax. The representation in (57) covers two cases: application to two-place verbal predicates, cf. (58), and to one-place predicates, cf. (59):

- (58) $\lambda P \lambda y OPz [P y z]$
(59) $\lambda P OPz [P z]$

Application of (58) to standard transitive verbs yields either Reflexive Passive or Reflexive Accusative Impersonal, application of (58) to V-acc/non-acc yields Reflexive Impersonal. Application of (59) yields Reflexive Impersonal. In case of unergative verbs, the external argument is affected, in case of unaccusative verbs, the internal argument is affected.³⁰

²⁹See Siewierska (1988) and Rivero and Milojević Sheppard (2003) for similar considerations concerning Po and Slvn. For Cz, this interpretation of refl has been observed already by Trávníček (1939). He calls it *man* interpretation, using the German arb-hum pronoun as a label.

³⁰In this way we unify the analyses of Reflexive Passive and Reflexive Impersonal for languages of Group III. Similarly, Reinhart and Siloni (2005, 422) (adopting a proposal by Papangeli 2004) argue for a unified analy-

As Group III is heterogeneous with respect to the possibility of a null syntactic realization of the affected argument, we propose distinct operators instantiating OP binding this argument, see the alternatives in (57). This takes care of two subcases.

3.2.1 Refl 2 with arbitrary human quantifier

In the first subcase, the argument variable is bound by the operator $Q_{\text{arb-hum}}$ at SF, consequently, it is inaccessible for specification through a *by*-phrase. Depending on the context, Q is instantiated by the existential or the universal quantifier.³¹ The corresponding argument is syntactically unrealized, thus it cannot participate in grammatical processes as binding of anaphors. This subcase is available in all languages of Group III. In languages that exclude *by*-phrases without projecting the affected argument as a null subject (Cz, Slk, and Standard BCS), it is the only option. The application of this subcase of refl 2 is illustrated in (61), using the example in (60) (= (31)), where refl 2 combines with an unergative verb:

- (60) Plesalo se sve do zore (*ženama / *od strane žena).
 dance.past.sg.n refl all until dawn women.instr from part women.gen
 ‘One danced until dawn.’ (*by*-phrase impossible) (BCS)
- (61) a. $\lambda P Q_{\text{arb-hum}} z [P z]$ (= (59) with $OP = Q_{\text{arb-hum}}$)
 b. $\lambda x \lambda e [e \text{ INST } [x \text{ DANCE}]]$
 c. $\lambda P Q_{\text{arb-hum}} z [P z](\lambda x \lambda e [e \text{ INST } [x \text{ DANCE}]])$
 $\equiv Q_{\text{arb-hum}} z \lambda e [e \text{ INST } [z \text{ DANCE}]]$

At SF, z is bound by the operator $Q_{\text{arb-hum}}$, thus it is not available for semantic specification. A *by*-phrase is not possible. The quantifier restricts the interpretation to arbitrary human reference. Application of refl 2 with the quantifier to two-place predicates (see, e.g., (2) above) proceeds analogously, using the appropriate version of (58), i.e. the one where OP is instantiated by $Q_{\text{arb-hum}}$. As in the case of refl 1 blocking the external argument, the internal argument must surface as nominative also with refl 2 when the external argument is bound by the $Q_{\text{arb-hum}}$ operator preventing syntactic realization of this argument.

3.2.2 Refl 2 with restricted lambda operator

In the second subcase, OP is instantiated by a lambda operator. The relevant variable is replaced by z , z gets bound by $\lambda_{[-\text{overt,arb-hum}]}$, which means the slot is re-opened, but with restrictions on its realization supplied by the annotation (address). The argument is syntactically realized as a null element with an arbitrary human interpretation.³² Consequently, *by*-phrases are excluded and the argument can get involved in syntactic binding and control. The subcase applies in Po, Slvn, spoken and dialectal BCS Reflexive Imper-

sis of Reflexive Impersonals and Reflexive Passives (extending Chierchia’s 2004 arbitrarization operation to the latter), the only difference being the case that is reduced by refl—nominative vs. accusative. According to Reinhart and Siloni (2005), following Marelj (2004), the same arbitrarization operation is involved in the formation of Middles. However, with Middles, the arbitrary variable is not bound by the existential quantifier (existential closure), but by a generic operator.

³¹See Zimmermann’s 2009 paper (cf. fn. 24) for a similar proposal.

³²Rivero and Milojević Sheppard (2003) propose a null indefinite pronoun with nominative case ($\text{pro}_{\text{indef}}$) which semantically corresponds to a human variable bound by an existential quantifier, Kibort (2006) and Lavine (2005) assume PRO_{arb} , Jabłońska (2007) pro_{arb} , and Szucsich (2007) argues for a semantically bleached null pronoun without φ -features and with low referentiality. Szucsich (2009) argues that +animate

sonals, including Reflexive Accusative Impersonals. Due to the syntactic realization of the subject as a null element, we may conclude that the accusative in Reflexive Accusative Impersonals is licensed in line with Burzio’s Generalization. The languages that have the option of the restricted lambda operator additionally have at their disposal the arbitrary human quantifier applying in the case of Reflexive Passive where the internal argument NP is promoted to subject and, thus, the simultaneous realization of a null pronoun subject is excluded. We illustrate the application of refl 2 with the lambda operator to a transitive predicate for the Po example in (62):

(62) Tu buduje się szkołę (*przez robotników).
 here build.3sg refl school.acc by workers
 ‘A school is being built here.’ (by-phrase impossible) (Po)

(63) a. $\lambda P \lambda y \lambda z [P y z]$ (= (58) with $OP = \lambda$)
 [–overt]
 [arb-hum]

b. $\lambda y \lambda x \lambda e [e INST [x BUILD y]]$

c. $\lambda P \lambda y \lambda z [P y z]$ ($\lambda y \lambda x \lambda e [e INST [x BUILD y]]$)
 [–overt]
 [arb-hum]

$\equiv \lambda y \lambda z \lambda e [e INST [z BUILD y]]$
 [–overt]
 [arb-hum]

to be realized as a null element

internal argument slot

The λ -bound variable z is associated with the features [–overt] and [arb-hum], which restricts possible instantiation to a syntactic element without a phonological matrix—a null pronoun—and with arbitrary human interpretation.³³ As the external argument is syntactically realized, it cannot be specified by a by-phrase. The internal argument is regularly realized and assigned accusative case. Application of refl 2 with the lambda operator to one-place predicates proceeds analogously, using (59) with OP instantiated by $\lambda_{[-overt,arb-hum]}$.

3.2.3 Complementary refls

It is obvious that refl 2 cannot be the only refl in languages of Group III. Since it is restricted to cases where the highest available argument is affected, refl 2 cannot yield genuine Reflexive/Reciprocal and Antipassive refl uses. At the same time, languages of

rather than +human is the relevant feature of the null pronoun, discussing dialects of BCS which restrict the internal accusative argument to animate NPs. We have to leave the issue of such a restriction open in this paper.

³³Note that binding in Po examples like (42) above is restricted to distributive reading (we are grateful to Jacek Witkoś for pointing this out to us). This is expected since ‘arbitrary human’ implies arbitrary individuals. The reference set is not conceptualized as a group, so the collective reading is excluded.

Group III cannot use the original version of refl 1, as it may generally apply to external arguments of transitive predicates allowing *by*-phrases. Finally, refl 2 is necessary also in Group II languages, which combine refl also with non-transitive verbs, excluding *by*-phrases in this case. However, here refl 2 must not extend to affect external arguments of transitive predicates, as these cases allow *by*-phrases in Group II. Therefore, some modifications are necessary.

3.3 Restrictions on application of refl 1 and refl 2

So far we have proposed two refs—refl 1 affecting any of the arguments (external or internal) of verbs of a specific verb class, namely transitive verbs, and refl 2 affecting a specific argument, namely the highest (available) argument, of verbs of any verb class (+/-transitive, in other words one- or two-place predicates).

It is obvious that refl 1 and refl 2 overlap in their application, namely in case the external argument of a transitive verb is affected. Therefore, we need appropriate application restrictions that guarantee complementary distribution of refl 1 and refl 2 and at the same time yield the cross-Slavic variation (a)–(c). We will show that the additional application restrictions can easily be built into the lexical representations of the refs. Moreover, they correspond to the subcases of the refs we have already presented.

3.3.1 Refl 1': restricted version of refl 1

As argued in Sect. 3.2.3 above, Group III needs a modified, restricted version of refl 1, cf. (64):

$$(64) \text{ refl } 1' \\ \lambda P \lambda x [P z x] \\ P \in +V-N$$

This is a special case of the original refl 1 in (53), namely the one that corresponds to (56a): *z* is restricted to lower structural arguments. Refl 1' is in complementary distribution with refl 2 (affecting highest structural arguments) in Group III and applies only in case the internal argument of a transitive verb is affected (Reflexives/Reciprocals and Antipassives).

3.3.2 Refl 2': restricted version of refl 2

In Group II, transitive predicates are combined with refl 1 as in Group I. This accounts for the possibility of *by*-phrases in case the external agent argument of a transitive verb is affected. Refl 2 has to be restricted to intransitive verbs, as *by*-phrases are excluded only with this verb class in Group II. This is a special case of the original refl 2 (cf. (57)), namely the one that is restricted to one-place predicates, cf. (59). The restricted version of refl 2 is given in (65). Refl 2' is in complementary distribution with refl 1 (applying to transitive predicates) in Group II.

$$(65) \text{ refl } 2' \\ \lambda P \text{ OPz } [P z] \\ P \in +V-N$$

In Group II, only the arbitrary human quantifier can bind the variable that corresponds to the affected argument, just like in Cz, Slk, Standard BCS, as evidenced by the impossibility of binding and control. Hence, the final version of refl 2' in Group II is (65')

Table 5 Complementary distribution of argument blocking refl (refl 1/refl 1') and argument binding refl (refl 2/refl 2') with non-modal refl uses

refl use	V-class	Group I		Group II		Group III	
		Ru, BRu		Ukr, Upper Sorb, Bg		Po, Cz, Slk, Slvn, BCS	
Reflexive/Reciprocal	trans	+trans	refl 1	+trans	refl 1	-highest argument	refl 1'
Antipassive						+highest argument	refl 2
Reflexive Passive		-trans	/	-trans	refl 2'		
Reflexive Impersonal [#]						unerg	unacc

Filled cells—no refl available, [#]with V-trans only in Ukr, Po, Slvn, BCS

$$(65') \lambda P Q_{arb-humZ} [P z]$$

$$P \in +V-N$$

3.3.3 Complementary distribution of refl 1 and refl 2

The representations of the two refl types are summarized in (66) and (67), their complementary distribution with non-modal uses in Groups I–III is shown in Table 5.³⁴

- (66) Argument blocking refl
 - a. refl 1: $\lambda P (\lambda y)_{-\alpha} (\lambda x)_{\alpha} [P (y)_{-\alpha} z (x)_{\alpha}]$
 - b. refl 1': $\lambda P \lambda x [P z x]$
- (67) Argument binding refl
 - a. refl 2: $\lambda P (\lambda y) OPz [P (y) z]$
 - b. refl 2': $\lambda P OPz [P z]$

Languages are parametrized as to whether the complementary distribution of refl 1 and refl 2 is dependent on the [+/-transitive] specification of the predicate refl combines with or on the [+/-highest argument] specification of the argument affected by refl. The possibility of *by*-phrases with refl depends on how the parameter for the complementary distribution of refl 1 and refl 2 is set in the language. When it is set to [+/-transitive] (Group I and Group II), all refl uses with transitive verbs involve refl 1, cf. (53)/(66a), including those where the external argument of the transitive predicate is affected. This correctly predicts the availability of *by*-phrases with Reflexive Passive and with Reflexive Impersonal formed from V-acc/non-acc in Ru, BRu, Ukr, Bg and Upper Sorb as well as with Reflexive Accusative Impersonal in Ukr.³⁵ Refl 2, where available (Group II), comes

³⁴Note that our system does not prevent the application of refl 2' to unaccusatives in languages of Group II. However, as we pointed out, the demarcation line between unergatives and unaccusatives is not really clear-cut and speakers' judgements with reflexive unaccusatives in Group II vary. The crucial point is that the parameter for those languages is set to +/-transitive, which correctly predicts the occurrence of *by*-phrases with refl uses (i) and (ii).

³⁵The question arises how to deal with predicates that do not easily classify as +/-transitive. In East Slavic and Po, some verbs with a genitive (e.g. Po *przestrzegać* 'obey') or instrumental complement (e.g., the

in its modified version refl 2', cf. (65)/(67b), applying to non-transitive predicates. This accounts for Reflexive Impersonals formed from intransitive verbs in Ukr, Bg and Upper Sorb and their incompatibility with *by*-phrases.

When the parameter is set to [+/-highest argument] (Group III), refl 1 comes in its modified version refl 1' which is restricted to lower structural arguments of transitive verbs, cf. (64)/(66b). Whenever the highest structural argument of a predicate is affected, refl 2 applies as given in (57)/(67a). Hence, the relevant refl uses where the external argument is affected all involve refl 2 in Group III. In this way we account for the general exclusion of *by*-phrases with refl in Cz, Slk, Po, Slvn and BCS.

Crucially, the parametrization is built into the system, i.e. it is encoded in the lexical representations of the refls.

3.4 Modal reflexive uses

The exact delimitation of the types of modal reflexive uses is by no means a trivial task. Middles are standardly assumed to be generic, stative sentences characterizing their nominative subject. The subject is interpreted as having properties that do or do not allow for the action expressed by the predicate to be potentially performed on the subject by an implicit, generic agent in a specific way expressed by adverbial means (see Ackema and Schoorlemmer 2006 for discussion). Hence, prototypical Middles are derived from transitive verbs (cf. (14)). Nevertheless, some authors, e.g., Ackema and Schoorlemmer (2006), also provide examples with impersonal Middles, as in (68). Some accounts assume that Middles may contain oblique phrases (called *for*-phrases, using the preposition that introduces them in English) which refer to the agent of the action, i.e. dative NPs in Slavic, cf. (69). Genericity then relates only to quantification over potential events (cf. Condoravdi 1989), rather than over potential agents (cf. Fagan 1992).

(68) V tomtó křesle se dobře sedí.
 in this chair refl well sit.3sg
 'The chair is comfortable for sitting.' (Cz)

(69) Takové knížky se (nám) čtou dobře.
 such.nom books.nom refl us.dat read.3pl well
 'Such books read well (for us).' (Cz)

With Involuntary State Constructions (ISCs, see Sect. 1), on the other hand, usually referring to events with spatiotemporal location, generic, non-eventive readings are possible too. ISCs may optionally contain a dative NP (*for*-phrase) relating to the external argument interpreted as involuntary agent/experiencer. Prototypical ISCs are impersonal structures, see (15) above. However, sentences with a nominative subject agreeing with the predicate,

counterparts of English *rule* or *conduct*) show properties of transitive verbs (e.g., they can be passivized and the genitive or instrumental case on the internal argument alternates with nominative). These verbs also pattern with transitive verbs with respect to refl and *by*-phrase realization. Hence, they do not pose a problem for our refl account, if one takes the instrumental and genitive as structural case and the verbs as transitive. The general problem is how to account for the idiosyncratic form of the structural case, however, this issue is independent from refl.

Some dative-taking verbs in Upper Sorb and Bg (e.g., the counterparts of English *help*) seem to pattern with transitive verbs in allowing *by*-phrases with refl. Verbs of this type are usually not considered transitive verbs. The dative never alternates with nominative. However, with respect to refl uses, grammaticality judgements vary and further research is necessary.

as in (70), are considered as ISC by some authors as well (e.g., Rivero and Milojević Sheppard 2008 refer to these structures as ‘transitive ISCs’).

- (70) Nastawk so mi špatnje pisa.
 article.nom refl me.dat with-difficulty write.3sg
 ‘It is difficult to write the article for me.’ (Upper Sorb)

Thus, the two modal types seem to overlap syntactically as well as in interpretation. Both involve modality of the POSS(ibility) type relating to the action expressed by the predicate to be performed in a specific manner expressed by corresponding adverbs. The semantics of the predicate is modified in such a way that its implicit external argument is interpreted as involuntary agent/experiencer.

Importantly, we do not attribute the specific semantics to a different type of refl. Rather, we assume that refl 1 and refl 2 combine with the predicates as usual and then, in a second step, with a modal component of the POSS-type that is present as an operator in the structure. In case of Middles/ISCs, the modal component implies realization of manner adverbs.³⁶

In our account, the criterion discriminating between the two modal types will be the scope of the generic operator and the availability of *for*-phrases. We will assume that the generic operator in Middles is obligatory and quantifies both over potential events and over potential agents and this precludes specification through *by*-phrases or *for*-phrases.

By contrast, the generic operator in ISCs is not obligatory and quantifies only over potential events. The modal operator requires an experiencer/involuntary agent that can be realized by a *for*-phrase.³⁷ Importantly, *for*-phrases do not realize an argument of the verb in our account. They may be analysed as a syntactic adjunct, e.g. as an argument adjunct in the spirit of Grimshaw (1990) (see also Rivero and Milojević Sheppard 2003 for an adjunction analysis). The involuntary agent/experiencer is referentially identified with the suppressed argument at CS.³⁸ To be coindexed with the dative involuntary agent/experiencer, the suppressed argument must not be specified by an oblique agent, because such specification would be incompatible with the semantic characterization of the dative. This excludes *by*-phrases even with refl 1. In all cases where refl 2 applies with modal uses, the suppressed argument is bound by the $Q_{arb-hum}$ operator that is compatible with the involuntary agent/experiencer as far as semantic/conceptual interpretation is concerned.

Since the distinction between the modal types does not concern structural differences as personal vs. impersonal structure, transitive and non-transitive verbs will be assumed to be generally compatible with both modal types. However, Ru does not allow overt realization of the original agent argument as dative in modal reflexive structures derived from transitive verbs (Růžička 1988, 175; Franks 1995, 365). The contrast between transitive and non-

³⁶Note that the modal component in the South Slavic Feel-like Construction, see fn. 10, is non-overt. Rivero and Milojević Sheppard (2003, 2008) analyse it as a non-overt modal operator, Marušič and Žaucer (2004, 2006), on the other hand, assume a non-overt volitional matrix verb in a biclausal structure.

³⁷Concerning the assumption that the datives are licensed by the modal operator, we follow, e.g., Rivero and Milojević Sheppard (2003) for datives in Slavic ISCs and Ackema and Schoorlemmer (2006) for *for*-phrases in Middles, contra Hoekstra and Roberts (1993) who attribute the licensing of the *for*-phrases to the adverbs, and contra Stroik (1992) who assumes that the *for*-phrases are licensed as arguments of the verb.

³⁸Identification is, indeed, obligatory. It is impossible to interpret modal reflexive uses with datives in such a way that there is an additional arbitrary agent distinct from the involuntary agent/experiencer. Technically, the identification can be reached by coindexation of the variables at CS.

transitive verbs on the one hand, and between Ru and Cz, which has no such restriction, on the other, is illustrated in (71) and (72) below.³⁹

- (71) a. V ètoj komnate mne ploxo spit'sja.
 in this room me.dat badly sleep.3sg.refl (Ru)
- b. V pokoji se mi špatně spí.
 in room refl me.dat badly sleep.3sg
 'Sleep fails me in this room.' (Cz)
- (72) a. *Stat'ja mne pišetsja ploxo.
 article.nom me.dat write.3sg.refl badly (Ru)
- b. Článek se mi píše špatně.
 article.nom refl me.dat write.3sg badly
 'I find it difficult to write the article.' (Cz)

Again, it is not plausible to invoke the refl system to account for the restriction since it applies only in Ru. Therefore, we will anchor the restriction in the system of modal operators in Ru, assuming that the operator involved in ISCs can apply only if no other argument is left after refl has applied.

Finally, for Group I languages we have to assume that refl 2 combining with non-transitive predicates is available, but only in modal contexts. The restriction has to be specified in the lexicon.

3.5 A note on Decausatives

Our account of reflexive marking also covers Decausatives. Here, refl applies to transitive verbs forming predicates that are interpreted as unagentive, as evidenced by the impossibility of agent-oriented adverbs and controlled instruments. Consequently, a *by*-phrase is also impossible, see (73).⁴⁰

- (73) a. Dver' otkrylas' (ot poryva vetra / *mal'čikom).
 door.nom open.past.sg.f.refl from gust wind boy.instr
 'The door opened (because of a gust of wind).' (*by*-phrase impossible)
 (Padučeva 2001, 25)

³⁹Note that V-acc/non-acc again pattern with transitive verbs:

- (i) *Nam s trudom govoritsja ob ètix problemax.
 us.dat with difficulty talk.3sg.refl about these.loc problems.loc
 Intended meaning: 'It is difficult for us to talk about these problems.' (Ru)

⁴⁰Note that (73) contains a perfective verb and thus cannot be interpreted as Reflexive Passive in modern Ru, unless the context allows the 'passive-potential' interpretation as discussed in Padučeva (2003), see Sect. 2.1.1. With this reading, the controlled instrument phrase is possible in (73b) and the sentence denotes a situation where people tried hard to open the door, and finally succeeded using the special key. *By*-phrases and agent-oriented adverbs, on the other hand, are generally excluded cf. (73a), as they are incompatible not only with the Decausative reading but also with the modal semantics of the 'passive-potential' type. The parallel example with an imperfective verb, however, is ambiguous between the Decausative and the normal Reflexive Passive reading, and a *by*-phrase is licensed with the latter, cf. (i).

- (i) Dver' otkryvaetsja (ot poryva vetra / slugoj).
 door.nom open.ipf.3sg.refl from gust wind servant.instr
 a. 'The door opens (because of a gust of wind).'
 b. 'The door is opened (by a servant).' (e.g., as a stage direction) (Ru)

- b. Dver' otkrylas' (*nazlo / *special'nym ključom).
 door.nom open.past.sg.f.refl vexingly special.instr key.instr
 'The door opened.' (modification with 'vexingly'/'with a special key'
 impossible) (Ru)

The crucial question with Decausatives is how to explain the unagentivity.⁴¹ Approaches that derive Decausatives from their agentive counterparts via refl-induced elimination of the external agent argument (e.g., Reinhart and Siloni 2005) are incompatible with our approach, in that we do not assume elimination of arguments as an effect of refl. Other approaches (e.g., Padučeva 2001, 2003; Babby 1998) postulate alternative lexical entries for predicates forming Decausatives—one with an external agent argument, one without. Decausatives are derived from the unagentive verbal lexeme with a natural force/non-volitional causer argument. However, the status of this natural force/non-volitional causer argument is not uncontroversial.⁴² It might turn out that the respective oblique NPs/PPs are just adverbial adjuncts.

We therefore follow approaches (e.g., Koontz-Garboden 2009; Chierchia 2004) that derive Decausatives in a way analogous to genuine Reflexives, i.e. via identification of two arguments,⁴³ and assume that refl blocks the internal argument also with this use.⁴⁴ Consequently, refl 1 applies in all three groups of languages. This is a desirable consequence, since the arbitrary human specification brought about by refl 2 would be incompatible with the semantics of the affected argument. The external argument of Decausatives is canonically realized as a nominative NP that is instantiated by an inanimate entity. The blocked internal argument remains an unbound semantic variable that is interpreted as coreferential with the external argument at CS. Thus, the referent is interpreted as bearing the theta roles of both the internal and the external argument. However, in contrast to genuine Reflexives, the sortal properties of the subject NP of Decausatives preclude an interpretation as (volitional) agent. Thus, the proposition has to be interpreted metaphorically. The event is conceptualized as if caused (non-volitionally) by the patient itself. Evidence for such

⁴¹We leave aside approaches as by Dudchuk, Minor and Pshekhotskaya (Dudchuk, Ph., Minor, S., & Pshekhotskaya, E. 2009a. Constraining Russian anticausatives. Paper presented at the *4th Annual Meeting of the Slavic Linguistics Society (SLS-4)*, 3–5 September 2009, Zadar; Dudchuk, Ph., Minor, S., & Pshekhotskaya, E. 2009b. Deriving transitives in Russian. Paper presented at the *8th European Conference on Formal Description of Slavic Languages (FDSL-8)*, 2–5 December 2009, Potsdam.) where Decausatives and their agentive counterparts are both based on non-causatives roots, i.e. where the agentive component has to be acquired by the predicate in the course of the syntactic derivation, not the other way round.

⁴²In Padučeva's (2001, 2003) approach, the causer is the external argument. Refl blocks its canonical nominative realization and opens an oblique argument slot in the surface case frame of the verb (optional PP). Babby (1998), on the other hand, treats this theta role as an indirect internal argument marked with lexical case (instrumental or PP). It remains unaffected by refl which induces 'externalization' of the direct internal argument. Note that also in the approach of Alexiadou, Anagnostopoulou and Schäfer (2006a, 2006b), the causer has the status of an argument. They assume that agents and natural forces/causers are licensed by different functional heads, VoiceP and CAUS-P, respectively. Decausatives project only CAUS-P, which licenses the causing event and causer-PPs.

⁴³Similar accounts have been proposed for Po by Szymańska and Śpiewak (1998) and Jabłońska (2007) who claim that with Decausatives (as well as with genuine Reflexives and some other uses) two theta-roles (causer/initiator and patient/undergoer) or rather the features of both ([+cause] and [+change]), cf. Rozwadowska 1992) are realized on one participant/NP. Both distinguish Decausatives from genuine Reflexives via the feature [+/-sentient].

⁴⁴We attribute the fact that Decausatives do not pattern with unergative verbs with respect to some unaccusativity tests to the presence of an internal argument in their semantics in addition to the external one and the coindexation of both. Hence they are not real unergatives.

an interpretation can be provided by the insertion of *sam* ‘by itself’, which indicates that there is no outside causer involved, cf. (74):⁴⁵

- (74) Dver’ otkrylas’ sama (sobj).
 door.nom.f open.past.sg.f.refl by-itself.f refl.instr
 ‘The door opened by itself.’ (Ru)

We follow Chierchia (2004, 42) in assuming that the antecedent of ‘by itself’ ‘‘must be construed as the sole cause of the event under consideration’’, and thus an external argument is present in Decausatives.⁴⁶ By contrast, underived unaccusative verbs (that often exist as quasi synonymous doublets of derived Decausatives) are not compatible with ‘by itself’ (as observed already by Jabłońska 2007), since they lack an external argument. See the contrast between the unaccusative verb in (75b) and the Decausative in (75a). We conclude that Decausatives are not unaccusative.

- (75) a. Samochód (sam) się spalił.
 car.nom.m by-itself.m refl burn.past.sg.m
 ‘The car burnt (by itself).’
 b. Samochód (*sam) spłonął.
 car.nom.m by-itself.m burn.past.sg.m
 ‘The car burnt.’ (‘by itself’ impossible) (Po)

Note that with Decausatives, the external theta role is a non-volitional causer, not an agent. This explains the lexical restriction on Decausatives, namely that they are formed only from predicates compatible with such a non-agentive external argument.

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 CS, it cannot have an oblique realization. Optional oblique NPs/PPs expressing some kind of causing eventualities, on the other hand, are treated as adverbial modifiers in our account.

⁴⁵Slavic *sam* in its predicative (non-adnominal) use has at least one other meaning—‘alone/unaccompanied’—that is not relevant here and shall not be regarded in the examples.

⁴⁶Following Chierchia’s (2004) assumption that ‘by itself’ has to be bound by an external agent or causer argument, we expect the *by itself*-phrase to be licensed also in reflexive constructions with a genuine reflexive interpretation, but not with a passive interpretation. This is borne out for Slavic, cf. (i) vs. (ii):

- (i) Rebenok sam odevaetsja.
 child.nom.m by-itself.m dress.3sg.refl
 ‘The child dresses by himself/herself.’ (Ru)
 (ii) Rebenok (*sam) odevaetsja roditeljami.
 child.nom.m by-itself.m dress.3sg.refl parents.instr
 ‘The child is being dressed by his/her parents.’ (‘by itself’ impossible) (Ru)

Note that the exclusion of the *by itself*-phrase in (ii) is not due to the presence of the *by*-phrase alone. This can be shown for the Periphrastic Passive that is unambiguously interpreted as a Passive also without a *by*-phrase, cf. (iii):

- (iii) Rebenok (byl) odet (*sam).
 child.nom.m be.past.sg.m dress.pt.sg.m by-itself.m
 ‘The child was dressed.’ (‘by itself’ impossible) (Ru)

As Slavic Decausatives license the *by itself*-phrase, we conclude that their subject NP has to be interpreted as the external causer argument. We thank Helen Trugman for drawing our attention to the test.

No additional refl type is necessary for the derivation of Decausatives. Refl 1 applies under the usual conditions. The specific (non-agentive) interpretation is obtained due to special semantic properties of the external argument NP and the predicate's potential to subcategorize for a non-volitional causer argument. Of course, it is possible that the sentences get an alternative interpretation as Reflexive Passive, where refl blocks the external argument of the original predicate. Such sentences are ambiguous, with the language-specific restrictions mentioned above applying, cf. Sect. 2.1.1.

4 Morphosyntax

In this section we outline the morphosyntax of the Slavic reflexive markers. The discussion is restricted to the bare essentials. Our goal is to show that the ideas concerning lexical representation and semantic impact that have been developed so far can be reconciled with the facts of structure building.

We pursue the idea that the reflexive markers can be given a unified morphosyntactic analysis cross-Slavically. On the one hand, they have a common, Proto-Slavic, origin, and the synchronic differences seem to reduce to what can be called surface phenomena (e.g., overt placement, prosody). On the other hand, non-trivial issues arise for all Slavic languages irrespective of the concrete analysis. These issues concern the interplay of lexicon and syntax in creating linguistic expressions containing refl as well as the lexical and syntactic conditions that determine the interpretation of these expressions.

Slavic refl is of a hybrid nature—it has properties of an affix as well as properties of a word. Refl's semantic contribution and its phonological dependency suggest regarding it as a part of word structure, i.e. an affix. Still, placement of refl occurs within some syntactic domain (e.g., the verbal domain, the clause). The rules that locate refl make reference to some specific element (e.g., head of the domain, first word/constituent of the domain). It is possible to consider refl as a syntactic item. We propose to treat the Slavic reflexive markers as clitics, since they are items that “partake both of the properties of independent words and those of affixes” (Anderson and Zwicky 2003). Refl, we claim, is a clitic even in the East Slavic languages (Ru, BRu, Ukr).⁴⁷ The three groups of Slavic languages that we have established cut across the traditional classification into East, West, and South Slavic languages. Our typology does not yield evidence for a differentiation between languages where refl might be regarded an affix and languages that have clitic refl.

With regard to refl's category, there is no simple answer synchronically and, it appears, also diachronically. Even to say that historically, refl belonged to the paradigm of the reflexive pronoun is not yet to have an answer to the question what category it belongs to now. At least synchronically it should not be analysed as a pronominal item. It does not receive case and should not be regarded as, e.g., the object of the verb. Compare, e.g., Havránek (1928) and Večerka (1993) for the oldest stages of Slavic and Zec (1985) for BCS. See Reinhart and Siloni (2005) for a similar view even for Romance. The difficulties with categorizing are not uncommon for clitics, see Anderson and Zwicky (2003). Refl could be an instance of some functional category.⁴⁸ We suggest the following modus

⁴⁷The specific, peripheral, position that refl occupies in the apparent verb form suggests that it cannot be a true affix. See, e.g., Junghanns (1996) and Szucsich (2004) for a discussion of this issue.

⁴⁸This has been proposed by many authors. See, e.g., Rudin (1997) for Bg, Progovac (2005) for Srb, Junghanns (1996) for Ru and, generally, the modern East Slavic languages.

operandi: refl is used in syntactic representations as a category symbol abstracting from the proper categorial features to be attributed to the item.⁴⁹

The level of syntactic complexity of refl is zero. It is a syntactic head rather than a phrase. This treatment is in line with the hybrid word/affix nature and our treatment of refl as a clitic.⁵⁰

In syntax, a head-adjunction structure is created consisting of the verb and refl. The result is a complex verb. The semantic impact of refl makes it similar to an affix. However, syntactic placement (at least in some Slavic languages) precludes treatment of refl as a true affix.⁵¹ Consequently, refl has to be taken as an item involved in creating syntactic structure that, at the surface, resembles word structure. Therefore, our proposal is to let refl apply at the lexicon–syntax interface. Both the verb and refl are drawn from the lexicon to form a syntactic adjunction structure, superficially resembling a verb—i.e., a complex word form. Moreover, if one assumed refl to originate in some functional category higher up in the tree, in a strictly derivational approach to syntax it would be unclear how to avoid syntactic projection of the affected argument at the level of VP (‘look-ahead’ problem, cf. Szucsich 2004).

The syntactic head-adjunction analysis can be made precise at least in two ways:

- Assuming a unique adjunction structure for all Slavic languages—refl right-adjoins to the verb. This ideally fits the modern East Slavic languages⁵² and part of the Po data. However, re-ordering in other languages would be required—to the left of the verb (e.g., Bg) or to the second position (e.g., Cz, BCS)—necessitated by clitic properties (e.g., prosodic properties).
- Assuming that the base configuration differs with respect to whether refl right-adjoins or left-adjoins to the verb. This might be taken to be a case of parametrization.

More hints that refl is involved in hybrid syntax/word structure processes come from the formation of deverbal nouns and participles, cf. (76). With these, refl co-occurs in a number of languages. It seems that it is more plausible to stick to an adjunction analysis, but see Schoorlemmer (1997) on Russian.

(76) a. *codzienne mycie się jest konieczne* (Po)
 daily.nom wash.dvbl.nom refl is.3sg necessary

⁴⁹This has been long-standing practice, compare, e.g., *se* in analyses of BCS (e.g., Progovac 2005) or *-sja* occurring in analyses of Ru (e.g., Szucsich 2004; cf. also Szucsich, L. 2007. Dative experiencer-like NPs and subjecthood in Slavonic languages. Paper presented at the *BASEES Conference, 31 March–2 April 2007*. Cambridge.).

⁵⁰Considerations concerning syntactic placement (in some Slavic languages) may require a treatment of refl as an item oscillating between head and phrase. See Bošković (2002) who follows Chomsky (1995).

⁵¹The Principle of Lexical Integrity (cf., e.g., Di Sciullo and Williams 1987) excludes syntactic movement of an affix.

⁵²Traditional grammar treats refl in the East Slavic languages as a ‘postfix’—a type of affix that is bound to appear word-finally. See also Zaliznjak (2008; and cf. Zaliznjak, A.A. 2007. *Ėvoljucija sja v istorii russkogo jazyka: ot ěnklitiki k morfeme*. Paper presented at the *BASEES Conference, 31 March–2 April 2007*. Cambridge). The peculiar positioning of refl is readily explained if we assume cliticization instead of affixation. In Ukr, refl is able to adjoin to a verb complex, see the expression in (i) and the structure in (ii):

- (i) *myty-met'-sja*
 wash.inf-aux.3sg-refl
 ‘(s/he) will be washing’ (Ukr, Rudnyčkyj 1964, 77)
- (ii) [_V [_V myty] [_V met’]-sja]

b.	myjící	se	žena	
	wash.pt.nom.sg.f	refl	woman.nom	(Cz)
c.	mojuščajasja	ženščina		
	wash.pt.nom.sg.f.refl	woman.nom		(Ru)

Refl adjoins to big V exercising its impact at the lexicon–syntax interface.⁵³ Then, syntactic projection proceeds according to the argument structure resulting from the combination of refl and the verb.

Finally, we would like to touch upon the issue of syntactic movement.⁵⁴ In Ru, BRu, Ukr and also in Po occurrence of the verb+refl complex outside the verbal domain is a normal case. Movement of the complex may be assumed. Placement of refl in the second position as well as clitic climbing observed in a number of Slavic languages (e.g., Cz, BCS, Bg, but also in Po) make it clear that the complex created via adjunction can be broken up in these languages.⁵⁵ We might speculate that some suitably modified version of Emonds’s notion of Alternative Realization (cf. Emonds 1987, 2000; Caink 1998, 2004) could be invoked—refl would be realized either in some relevant clausal head (second position) or within a sub-domain of the clause (VP). This would capture some syntactic facts (refl as a second position clitic, clitic climbing). However, it is also necessary to account for the semantic impact of refl in case it is realized not with the verb but somewhere higher up in the tree. This is an issue to be left for future research.

5 Concluding remarks

We conclude that what is usually referred to as reflexive constructions in the Slavic languages results from application of basically two different refls and the grammatical consequences this leads to, namely: (a) availability of a *by*-phrase, (b) compatibility of refl with particular verb classes, (c) the necessity to realize the affected argument as a null subject in some languages.⁵⁶

With the two lexical types of refl proposed including the application restrictions in the corresponding lexical representations, we are able to account for the variation with respect to (a)–(c) across languages as well as across verb classes. Since in our system, (i) only refl 1 allows *by*-phrases (existential quantification of the affected argument does not occur at SF as it is the case with refl 2) and (ii) application of refl 1 is lexically restricted to transitive predicates, we correctly predict that *by*-phrases occur only with reflexive forms derived from transitive verbs in Slavic. Restricting application of refl 2 in Group I to modal contexts (Ru, BRu) correctly predicts that refl does not combine with non-transitive verbs in those languages, unless there is some modal element involved. At the same time,

⁵³Szucsich (2009; cf. also Szucsich’s 2007 paper mentioned in fn. 49) assumes adjunction of Ru refl to little *v*. Strictly speaking, this would not be the lexicon–syntax interface.

⁵⁴For various approaches to the syntax of Slavic clitics see Franks (1998), Franks and King (2000), Junghanns and Law (2004) and the literature cited therein.

⁵⁵Similarly, verbs that form clusters through head adjunction in German can undergo syntactic movement and, thus, leave the complex. See Bierwisch (1990) on this issue. German particle verbs constitute another case, cf. Bierwisch (2009).

⁵⁶Possible implications of the proposed system for the diachronic development of the refl marker and its use with different verb classes and interpretations in Slavic are left open in this paper. We refer the reader to Meyer (this volume) for empirical and theoretical discussion concerning the diachrony.

non-modal Reflexive Impersonals available with V-acc/non-acc in Group I are accounted for, as the verbs are treated in our approach as transitive.

Due to the operators involved, refl 2 covers languages of both Group II and Group III, thus unifying cases of obligatory non-overt realization of the affected argument.

Finally, we should like to point out that it is not necessary to make special assumptions for modal refl uses as far as refl types are concerned. The modal element and the reflexive marker have to be kept apart. Semantics will have to be built up from the component parts, i.e. compositionally. Thus, we are able to cover all refl uses—including modal reflexive uses—keeping to just two types of refl for Slavic.

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