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Parametric Variation of Slavic Accusative Impersonals

1 Introduction

Accusative Impersonals (AIs) such as morphologically marked AIs and Adversity AIs (A-AIs) have received much attention in the literature due to their unexpected case licensing on the internal argument of a transitive verb. It is marked accusative although the external argument does not show up on the surface. The question arises how the external argument is, if at all, realized. The examples in (1)–(2) illustrate morphologically marked AIs.[1] Here, the reflexive marker (refl) and no/to prevent the canonical realization of the external argument. With so-called Adversity-AIs[2] (A-AIs), as in (3), the canonical external argument realization is

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1 The following abbreviations are used in the glosses: 1/2/3 = 1st/2nd/3rd person; acc = accusative case; aux = auxiliary; dat = dative case; f = feminine; gen = genitive case; ger = gerund; inf = infinitive; instr = instrumental case; ipf = imperfective aspect; loc = locative case; m = masculine; n = neuter; neg = negation; nom = nominative case; ns = null subject; past = past tense; pf = perfective aspect; pl = plural; prep = preposition; pres = present tense; prt = particle; ptcp = participle; refl = reflexive; sg = singular.

2 We use the term "adversity impersonal" introduced by Babby (1994). The type of structure is also known as "accidental construction" (e.g., Markman 2004) or "stixijnaja konstrukcija", where Russian *stixija* means 'element(ary force)' (e.g., Mustajoki and Kopotev 2005, adopting the term from Šeljakin 2001 and Zolotova 1988). Lavine and Freidin (2002) refer to the structure as "finite accusative unaccusative".

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prevented without additional morphological marking. The forms of the transitive verbs found in A-AIs look like ordinary active predicates, carrying the 3rd singular neuter (3sg.n) ending.

Morphologically marked AIs – refl and no/to AIs

(1) *Niszczy się starą zabudowę* (Po)[3, 4]
destroy.3sg refl old.acc architecture.acc
(*przez władze / *powodzią).
by authorities.acc flood.instr
'They are destroying the old architecture.' (oblique agent/causer impossible)

(2) *(Nym) bulo vidkryto tuberkulin.* (Ukr)
he.instr was.sg.n discover.TO tuberculin.acc
'Tuberculin was discovered (by him).'
(Šyrobokov, V.P. (red.). 2011. *Medyčna mikrobiolohija, virusolohija ta imunolohija*. Vydannja 2-e. Vinnycja: Nova Kniha. p. 43)

Adversity AIs

(3) *Lodku uneslo (vetrom).* (Ru)
boat.acc carry-away.past.sg.n wind.instr
'The boat was carried away (by the wind).'
(Mustajoki and Kopotev 2005: 12)

At least since Lavine and Freidin (2002) the data have been investigated as a challenge for Burzio's Generalization (BG).

3 Languages are abbreviated as follows: spk/dlctl spoken/dialectal BCS, stdrd standard BCS Bosnian/Croatian/Serbian; Bg Bulgarian; BRu Belarusian; Cz Czech; Po Polish; Ru Russian; Slk Slovak; Slvn Slovenian; Ukr Ukrainian; Upper Sorb(ian).

4 For data elicitation, native speakers have been consulted for all examples in each language. Special thanks are due to: Taccjana Ramza and Valiantsin Solakhau (BRu), Petr Biskup and Kristina Krchňavá (Cz), Alicja Butkiewicz, Ola Gogłoza, Małgorzata Małolepsza, Wojtek Siółkowski and Edyta Zander (Po), Genia Böhnisch, Nadja Dückmann, Rita Graf, Elena Grimmig, Nadja Herdt, Ol'ga Karpova, Shanna Koppmeier, Marianna Leonova, Olga Liebich, Natalya Maischeva, and Inga Pagel (Ru), Jana Orieščiková (Slk), Boštjan Dvořák (Slvn), Svitlana Adamenko and Iryna Parkhomenko (Ukr), and Božena Braumanowa, Marko Malink and Hync Rychtaŕ (Upper Sorb).

(4) "A verb Case-marks its object if and only if it θ-marks its subject." (Burzio 1986: 178)

Thus many accounts of Slavic AIs question BG in its classical formulation and propose that

(i) BG can be violated in the presence of defective, φ-incomplete, T, which licenses accusative assignment (Lavine and Freidin 2002, Harves 2006, Tsedryk 2004), or
(ii) BG is rather a correlation between structural acc(usative) assignment and the presence of external causation in the event-structure (cf. Pylkkänen's 2008 v-caus as acc licenser); languages with AIs project the syntactic heads introducing the causing event and the external argument separately (Markman 2004, Lavine 2010, 2013).

However, (i) and (ii) do not account for the cross-Slavic variation with respect to the availability of particular AI-types and their properties. In Ru and BRu, for example, A-AIs as in (3) are quite frequent, whereas morphologically marked AIs are not available at all. Importantly, the conditions proposed by the accounts in (i) and (ii) should equally apply to morphologically marked AIs and A-AIs. For languages allowing only one type of AIs, (i) and (ii) would have to stipulate additional special restrictions.

Table 1 summarizes the varying distribution and properties of morphologically marked AIs across Slavic.[5] Slavic languages differ wrt whether they allow oblique agents (*by*-phrases)[6] with refl(exive) pass(ive) – as shown in the first row of the table. A subgroup of the languages disallowing *by*-phrases – Po, Slvn, and spoken/dialectal BCS – show evidence (e.g., anaphor binding) for the presence of a null syntactic subject in refl(exive) impers(onals) – given in the second row. In this group, morphologically marked AIs are attested – as shown in row three and row four. They do not allow *by*-phrases – compare the Po example in (1) – and show evidence of null syntactic subjects (for the latter see Kupść 2000, Rivero

5 Note that the order of languages in the table does not reflect the traditional partition into East, West and South Slavic but is arranged for expository purposes such as to group languages that share relevant properties.

6 There is variation wrt how oblique agents, if possible at all, are realized in Slavic – as instrumental NP (e.g., in East Slavic or Cz) or grammaticalized PP (headed by, e.g., *przez* 'by' in Po or *od/ot* 'from' in South Slavic). Importantly, they are to be clearly distinguished from elements such as free adverbials that may be expressed by the same or similar morphological/lexical means (e.g., instrumental case, or various PPs such as *ze/zo strone* + NP in Slvn).

2000, Rivero and Milojević Sheppard 2003, Lavine 2005, Kibort 2006, Szucsich 2008, 2009). On the other hand, Ukr has morphologically marked AIs too. However, they allow *by*-phrases as does the reflexive passive and reflexive impersonal – compare the example in (2). None of the three show any evidence of a null syntactic subject in Ukr.[7]

Tab. 1: Typology of morphologically marked AIs (and reflexive passive/impersonal).

	Bg	Upper Sorb	Ru	BRu	Ukr	Po	Slvn	BCS spk/dlctl	BCS stdrd	Cz	Slk
refl pass	oA	oA	oA	oA	oA	*oA	*oA	*oA	*oA	*oA	*oA
refl impers	-nS	-nS	-nS	-nS	-nS	+nS	+nS	+nS	-nS	-nS	-nS
refl AI					oA, -nS	*oA, +nS	*oA, +nS	*oA, +nS			
no/to AI					oA, -nS	*oA, +nS					

'oA' = oblique Agent (by-phrase) ok, '*oA' = oA impossible, '+nS' = null syntactic subject, '-nS' = no null subject, filled (grey) cells means type not available

Tab. 2: Distribution of Adversity AIs across Slavic, partly based an Mrázek (1990).

	Bg	Upper Sorb	Ru	BRu	Ukr	Po	Slvn	BCS spk/ dlctl	BCS stdrd	Cz	Slk
A-AIs		ok	ok	ok	ok	ok	ok			ok	ok

Filled (grey) cells means type not available

Table 2 shows the distribution of A-AIs in Slavic. They are attested in all Slavic languages except Bg and BCS. In addition to their varying availability, there are also differences wrt their productivity and their compatibility with FORCE-phrases (compare the optional instrumental NP in example (3)), which will be discussed in detail below.

7 We abstract away from the fact that the speaker community is not homogeneous in Ukraine and base our argumentation on facts taken from the standard literature. We concede that speakers from Eastern Ukraine, especially Ukrainian/Russian bilinguals, may have different judgements.

We see that, on the one hand, morphologically marked AIs cannot receive a unique analysis, and, on the other hand, the distribution of morphologically marked vs. A-AIs is different. Thus a simple feature or parameter can account neither for the availability of AIs in Slavic, nor for the cross-Slavic typology of AIs. In JFL (2009) and FJL (2010), we discussed the variation wrt morphologically marked AIs in Slavic and attributed the difference between Ukr vs. Po, Slvn, and spoken/dialectal BCS to two types of refl/no/to and to a special property [-agr] T in Ukr (and Po).

The goal of this paper is to find explanations for the parametric variation concerning A-AIs, ultimately allowing to draw the overall picture of Slavic AIs (morphologically marked and unmarked): their typology and parametrization. The following variation with respect to A-AIs has to be accounted for: (i) their availability across Slavic, (ii) their productivity/status as core vs. periphery in each language, (iii) the availability of an optional FORCE-phrase.

The main issues to be addressed are the status of the external argument with A-AIs, the licensing of accusative case, whether there is a null subject or not and, if so, what kind of null subject, as well as capturing the nature of FORCE-phrases.

In our proposal we will attribute the properties of A-AIs solely to the presence of a null indefinite pronoun specified as [+FORCE], which realizes the external argument. It refers by definition to non-animate, hence non-volitional, non-agentive entities. The availability of A-AIs depends on the presence of the null pronoun in the lexicon of a given language. The varying productivity is related to the status of the null pronoun – free/separately available in the lexicon vs. fixed in the lexical entries of the relevant verbs. The variation wrt the availability of FORCE-phrases will be attributed to two lexical types of the null pronoun – one that is not yet existentially quantified and can therefore be further specified, viz. by an optional FORCE-phrase (adjunct), and one that is already existentially quantified excluding further specification by a FORCE-phrase.

The structure of the paper is as follows. In section 2 we discuss in detail the properties and distribution of A-AIs in Slavic, including a special subtype of A-AIs – with the overt pronoun *to* (subsection 2.5). In section 3 we develop our analysis of A-AIs. The main claim is that the external argument of the transitive causative verb is realized as a null element – a pronoun with FORCE semantics. The problems of occurrence of A-AIs as well as restrictions on use in the languages are tackled. Finally, in section 4 we give an outlook on a possible overall parametrization of Slavic AIs, including morphologically marked AIs and A-AIs as well as Accusative Impersonalia tantum.

2 Properties and distribution of A-AIs

Due to the productivity of A-AIs in East Slavic, the discussion so far concentrated mostly on Ru (and Ukr), cf., e.g., Babby (1994), Mel'čuk (1995), Lavine and Freidin (2002), Markman (2004), Mustajoki and Kopotev (2005), Szucsich (2007, 2008), Lavine and Franks (2008), Lavine (2010, 2013). For Po, see Włodarczyk (1993) and Kibort (2006). The cross-Slavic availability of A-AIs is discussed in Mrázek (1990).

2.1 Verb morphology

As shown in (3) above, A-AIs involve transitive verbs assigning accusative case to their internal argument despite the lack of an overt external argument. The verbs appear in the active voice and exhibit 3rd person singular neuter morphology[8]. The examples in (5) illustrate a typical pattern with A-AIs, namely perfective past tense verbs, for the whole range of Slavic. However, Mustajoki and Kopotev (2005) show for Ru that aspect, tense, and mood of the transitive verbs in A-AIs are variable and there are no special restrictions on word order. See (6a, b) for examples with imperfective verbs in the present resp. past tense. As illustrated for Slk in (7a, b) (imperfective aspect, conditional mood), A-AIs in the other Slavic languages are not restricted with respect to the verbal categories either.

(5) a. *Žyto vybylo (hradom).* (Ukr)
rye.acc beat.past.sg.n hail.instr
'The rye was beaten down (by hail).'
(adapted from Mrázek 1990: 104)

b. *Žyta pavybivala (hradam).* (BRu)
rye.acc beat.past.sg.n hail.instr
'The rye was beaten down (by hail).'

c. *Zabity. Miną go rąbnęło.* (Po)
killed.ptcp.sg.m mine.instr him.acc blow-up.past.sg.n
'Dead. He was blown up by a mine.'
(Żukrowski, ex. from Mrázek 1990: 104)

8 Note that 3sg.n morphology on a verb in Slavic either signals agreement with a singular neuter subject or the default realization in case of missing matching φ-features (for the latter see, e. g., Szucsich 2007: 426).

d. *(Prívalom vody) odnieslo* (Slk)
torrent.instr water.gen carry-away.past.sg.n
tamten most.
that bridge.acc
'The bridge was carried away (by the torrent of water).'
(adapted from Mrázek 1990: 104)

e. *Ladjico je odneslo.* (Slvn)
boat.acc aux.3sg carry-away.past.sg.n
'The boat was carried away.'

f. *Tam je nas tak prawje trjechiło.* (Upper Sorb)
there aux.3sg us.acc so really hit.past.sg.n
'We were really hit hard there.'

g. *Obilí potlouklo.* (Cz)
corn.acc beat-down.past.sg.n
'The corn was beaten down.'
(Mrázek 1990: 96)

(6) a. *U nego pod burkoj po krajnosti* (Ru)
prep him.gen under felt-cloak.instr at least
doždëm ne probiraet.[9]
rain.instr neg soak.ipf.pres.3sg
'Under his felt cloak she at least does not get soaked by the rain.'
(Leskov: *Ledi Makbet*)

b. *Kogda menja unosilo tečeniem, [...]*
as me.acc carry-away.ipf.past.sg.n current.instr
'As I was being carried away by the current, ...'
(Mustajoki and Kopotev 2005: 13)

(7) a. *Vo vzduchu lietali strechy, stromy, konáre ...* (Slk)
'Roofs, trees, branches were flying through the air ...'
a odnášalo ich desiatky až
and carry-away.ipf.past.sg.n them.acc tens till
stovky metrov.
hundreds meters.gen
'... and they were carried away tens to hundreds of meters.'

9 Due to ellipsis, the accusative object is deleted.

b. *No v rýchlom prúde by ich*
but in quick current would.3sg them.acc
odnášalo a tak to ani neskúšali.
carry-away.ipf.past.sg.n 'so they didn't even try it'
'But they would be carried away in the quick current, so they didn't even try it.'

2.2 Verb semantics

A-AIs are based on transitive causative verbs and are causative.

(8) a. *Soldata ubilo pulej.* (Ru)
soldier.acc kill.past.sg.n bullet.instr
'The soldier got killed by a bullet.'
b. λy λx λs [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME NOT ALIVE y]]]]

The form *ubilo* in (8a) is a form of the transitive verb *ubit'* (pf) 'to kill'. The meaning representation for this verb, part of its lexical entry, is given in (8b).[10] The binding of the variables y and x by the operators λy and λx respectively indicates that the verb has two structural arguments, normally realized with accusative and nominative case. In the meaning representation, s and s' (the causing and the caused situation or cause and effect, cf. Bierwisch 2005) are related via the semantic primitive CAUSE. This makes the verb causative.[11] CAUSE remains in the semantic representation of the verb form as used in (8a), following standard assumptions excluding elimination of semantic components.

However, transitive causative verbs as used in A-AIs obligatorily receive a non-agentive interpretation. Thus they are lexically restricted to predicates that are compatible with non-agentive subjects (see, e. g., Babby 1994). The verb in (9) is obligatorily agentive (cf. Padučeva 2003). As expected, such a verb cannot be used in an A-AI. Moreover, A-AIs are incompatible with agent-oriented adverbs – (10), controlled instruments – (11), controlled purpose clauses – (12), and oblique agents – (13).

10 Unbound variables remain semantic parameters and undergo binding by default at the level of CS (for the term see below, sec. 3.1), cf. FJL (2014, sec. 3.2). On binding by default see also Chierchia (2004 [1989]: 37).

11 For more details of the analysis of causative verbs see FJL (2014), section 3.2.

(9) a. *Ivan zaper kalitku.* (Ru)
Ivan.nom bolt.past.sg.m gate.acc
'Ivan bolted the gate.'
(adapted from Padučeva 2001: 25)
b. **Veter zaper kalitku.*
wind.nom bolt.past.sg.m gate.acc
c. **Kalitku zaperlo.*
gate.acc bolt.past.sg.n
Intended interpretation: 'The gate got bolted.'

(10) *Dom sožglo (*special'no).* (Ru)
house.acc burn.past.sg.n purposefully
'The house got burned down.'
(Markman 2004: 426)

(11) *Ego rezko udarilo (balkoj /kirpičom /* (Ru)
him.acc hard hit.past.sg.n beam.instr brick.instr
**palkoj /*nogoj /*nožom).*[12]
stick.instr foot.instr knife.instr
'He got struck by a beam/brick.'
(Babby 1994: 29)

(12) *Kryšu sneslo, (*čtoby ubit' ved'mu).* (Ru)
roof.acc carry-away.past.sg.n in-order-to kill.inf witch.acc
'The roof got blown away.'

(13) *Vetram / *Lesnikom zvalila* (BRu)
wind.instr forest-warden.instr uproot.past.sg.n
al'xu.[13]
alder.acc
'The alder got uprooted by wind.'
(Plotnikaw and Antanjuk 2003: 110)

2.3 Variation wrt productivity

A-AIs seem to be unattested only in BCS and Bg. They are available in East and West Slavic and Slovenian. However, their status differs in the languages. According to the literature (e. g., Mrázek 1990: 96 and 103-4) and to our informants,

12 Note that only controlled instruments are excluded. However, FORCE-phrases are possible.
13 Observe the contrast between the instrumental FORCE-phrase, which is fine, and the oblique agent, which is not.

the pattern is productive in East Slavic, and frequent in Slvn. For these languages, the expressions are more or less central. In West Slavic, on the other hand, they belong to the periphery – Po, Slk – or are rather marginal – Upper Sorb, Cz (but see below).[14]

2.4 Variation wrt the availability of FORCE-phrases

A-AIs may allow instrumental NPs or PPs with FORCE interpretation, see (14)–(18). The Ru example in (14b) illustrates a PP. The 'FORCE'-semantics involves processes occurring in the world – nature, physical world, see (14)–(16) (and also (3), (5a-d), and (6a-b) above), but also 'weapons' or 'vehicles' as a force as in (17) and (18), causing an "uncontrolled human physical or emotional experience" (Babby 1994: 27). See Mustajoki and Kopotev (2005) for discussion of the various types of "kauzatory" (causing forces).

The languages differ with respect to whether A-AIs allow a FORCE-phrase. Importantly, in languages allowing FORCE-phrases in A-AIs, they are optional. We indicate this by the brackets in the examples.

(14) a. *Lodku* *uneslo* *(vetrom).* (Ru)
boat.acc carry-away.past.sg.n wind.instr
'The boat was carried away (by the wind).'
(Mustajoki and Kopotev 2005: 12)

b. *Zontik* *sognulo* *(ot* *vetra).*[15]
umbrella.acc bend.past.sg.n from wind.gen
'The umbrella was bent (by the wind).'

(15) *Poraziło* *go* *(prądem).* (Po)
strike.past.sg.n him.acc current.instr
'He was struck down by electricity.' (Mrázek 1990: 104)

(16) *Kusy* *pobrežného* *ľadu* *odnieslo* (Slk)
pieces.acc shore.gen ice.gen carry-away.past.sg.n
(vetrom) *do* *zálivu.*
wind.instr in bay.gen
'The wind carried away the ice floes into the bay.'

14 Note that in languages where A-AIs are peripheral speaker judgements on the acceptability of A-AIs and, in particular, FORCE-phrases contained therein may vary.

15 We would like to point out that not all native speakers of Russian like A-AIs with a PP. Some examples can be found in internet texts produced by native speakers. The example shown in the text was judged acceptable by our informants.

(17) *Ego pereexalo (avtomobilem).* (Ru)
him.acc run-over.past.sg.n car.instr
'He was run over by a car.'
(adapted from Babby 1994: 28)

(18) *Ivanovi pokaličylo ruku (mašynoju).* (Ukr)
Ivan.dat cripple.past.sg.n hand.acc machine.instr
'Ivan's hand was severed (by a machine).'
(adapted from Mrázek 1990: 104)

While FORCE-phrases are allowed in East Slavic (Ru, BRu, Ukr), Po, and Slk, they are ungrammatical in Cz – (19) (based on (5g)), Slvn – (20) (based on (5e)), and Upper Sorb – (21).

(19) *Obilí potlouklo (*krupobitím).* (Cz)
corn.acc beat.past.sg.n hail.instr
'The corn was beaten down.' ('by hail' impossible)

(20) *Ladjico je odneslo (*od vetra).* (Slvn)
boat.acc aux.3sg carry-away.past.sg.n from wind.gen
'The boat was carried away.' ('by the wind' impossible)

(21) *Při tym njewjedrje je dweju mužow* (Upper Sorb)
in this storm aux.3sg two.acc men.gen
zabiło.
kill.past.sg.n
'Two men were killed during the storm.' (FORCE-phrase impossible)

An A-AI, thus, minimally consists of the accusative nominal phrase and the verb. The FORCE-phrase, if allowed, is optional.[16]

The two variables wrt the status (productive vs. marginal) and the availability of FORCE-phrase are summarized in Table 3. All combinations are attested, in other words, the availability of FORCE-phrases does not correlate with the central/peripheral parameter. There also is no connection between the possibility of a *by*-phrase with refl Passive and the availability of FORCE-phrases with A-AIs. Ru allows *by*-phrases in refl Passive, but Po does not. Both languages allow FORCE-phrases in A-AIs. Upper Sorb has *by*-phrases in refl Passive, like Ru, but no FORCE-phrases in A-AIs. (For *by*-phrase variation with refl Passive, see Table 1).

16 Mrázek (1990: 96) and AG80 II, 353 use the term *rasprostranitel'* (modifying element).

Table 3: Cross-Slavic variation with respect to A-AIs.

	central	**peripheral**	
FORCE-phrases	Ru, BRu, Ukr	Po, Slk	= Group A
no FORCE-phrases	Slvn	Cz, Upper Sorb	= Group B

An account must be found that allows FORCE-phrases in some languages and excludes them in others. Also, we have to bear in mind that a FORCE-phrase, where allowed, is optional. See section 3.2 for the proposed solution.

2.5 A-AIs with overt pronoun

A final remark is due on Cz. A-AIs are limited to a few verbs. On the other hand, there is a version of A-AIs with an overt pronoun *to* as shown in the examples in (22a, b). *To* in Cz is a multifunctional element: demonstrative pronoun, 3sg.n pronoun, (focus, intensifying) particle, eventive topic pronoun (see Junghanns 1997 and Progovac 1998).[17]

Importantly, *to* in (22a, b) cannot be classified according to these categories. (22a) is a headline without an immediately preceding context, which *to* could possibly refer to. In (22b), one cannot understand *to* as referring to the event of falling into the river. Contextually inferrable natural elements like *proud*, *příval* (m.) 'current', *voda* (f.) 'water' do not agree with *to* in gender. Thus *to* rather is a pronoun interpreted as non-volitional causer of pulling down and hurling out (or burying somebody with stones as in (22a)). It is the same interpretation as with A-AIs. Note the infelicitous English paraphrase with *it* ('A girl fell into a river. #It

17 If *to* is unstressed, it occupies the second position like other second position clitics (it is placed in the final position of the clitic cluster, cf. (22b)). Note that *to* in cases like (22a, b) is not equivalent to the expletive use of *it* in English or *es* in German. Cz is a *pro*-drop language and sentences like (i) have regularly no (expletive) subject, cf. (ia) vs. (ib). The rise of *to* in Cz was discussed already in Zubatý (1909), see Meyer (2011).

(i) a. *Ø prší.*
rains.3sg.n
'It rains.'
b. **Prší* *to.*
rains.3sg.n it.nom

pulled her down and then hurled her out …'). *It* would obligatorily refer to the river, which is less plausible/felicitous as a causer of pulling down/hurling out than an unspecified element inferred by a passive-like sentence).

(22) a. *Bagrista, kterého to zavalilo v* (Cz)
excavator-op.nom whom.acc *to*.nom bury.past.sg.n in
tunelu Blanka, skončil na JIP.
tunnel.loc Blanka end-up.past.sg.m in intensive-care-unit
'An excavator operator who was buried in the Blanka tunnel ended up in the intensive care unit.'

b. *… spadla do divoké řeky.*
'… a girl [she] fell into a wild river.'
Stáhlo ji to úplně dolů, poté ji to
pull.past.sg.n her.acc *to*.nom fully down then her.acc *to*.nom
vymrštilo a chytila
catapult.past.sg.n and catch-hold-of.past.sg.f
se kamene.
refl stone.gen.
'She got pulled under, then she was hurled out and caught hold of a rock.'

In some cases of A-AIs in Cz, like in (19), the null is possible, but in most cases – as in (22a, b) – *to* is obligatory.[18]

There is further cross-linguistic evidence. Szucsich (2007) points out to AIs in Bavarian and other German dialects with *es* 'it'. In these examples, *es* is obligatory. Note that in (23), *es* occupies a middlefield position, which is not available for the expletive *es*, cf. (24b). Consequently, *es* in (23) cannot be analysed as an expletive element.

(23) *Mi z'reißt *('s) voa Loch'n.* (Bavarian)
me.acc burst.3sg -it from laughter
'I'm going to burst from laughter.'
(Szucsich 2007: 428)

(24) a. *Es wurde viel gelacht.* (German)
it was.3sg much laughed
'One laughed a lot.'

18 Slk does not have the option of overt *to*, which is interesting, since it is a neighbouring language and it is closely related with Cz.

b. *Hier wurde (*es) viel gelacht.*
here was.3sg it much laughed
'One laughed a lot here.'

Czinglar (2002) analyses obligatory *es* in German and Alemannic accusative impersonal existentials – cf. the examples in (25a) and (25b) – as a semantically empty quasi-argument[19] in the position of the external argument licensing accusative case.

(25) a. *In meinem Garten gibt *(es)* (German)
in my garden give.3sg it
viele Gänseblümchen.
many daisies.acc
'There are many daisies in my garden.'
b. *In minam Garta hot *('s)* (Alemannic)
in my garden have.3sg -it
an Hufa Gänseblüamle.
a pile.acc daisies
'There are many daisies in my garden.'
(Czinglar 2002: 87)

We take overtly realized *to* as in (22a, b) as supporting evidence for postulating a null pronoun in Slavic A-AIs. Note that the parallel between the two structures in Slavic has not been drawn in the literature, yet.

3 Analysis

3.1 Realization of the external argument

With the exception of Cz *to*, in Slavic A-AIs the external argument is not overtly realized. However, an operation on argument structure cannot possibly be invoked, since there is no morphological exponent in A-AIs that would signal it. Apart from the parallel between structures without an overt pronominal and with

19 A quasi-argument is a syntactically obligatory expression that does not receive a thematic role. See, e. g., Růžička (1999: 170) on the subject of German *regnen* 'to rain', a quasiargument.

overt *to* in Cz, there is further evidence for a null realization of the external argument in Slavic A-AIs. Szucsich (2007) following Testelec (2001) takes control into gerunds as argument for the presence of a null subject (ns) in East Slavic A-AIs. The argumentation is based on the assumption that an embedded gerundive expression contains a PRO subject that needs to be controlled and that in Ru, this PRO must be controlled by the matrix-clause subject, cf. Testelec (2001).[20] That the gerundive expression is possible with the A-AI can be taken as evidence for a syntactically realized subject in the matrix, i. e. in the A-AI, cf. (26).

(26) *Mašinu* ∅ *zaneslo* *na* *povorote,* (Ru)
car.acc ns make-skid.past.3sg.n at bend
[*PRO* *razvernuv* *poperëk* *šosse*].
turn.ger across highway
'The car skidded at the bend, turning 90 degrees across the highway.'
(Testelec 2001: 312)

Apart from gerunds, control is also possible from an A-AI into an infinitival expression – an "ironical" purpose clause[21] as in the following example.

(27) *Možet* *potomu* *Vas* *v* *bol'nicu* *i* *zaneslo,* (Ru)
maybe for-that you.acc in hospital.acc prt bring.past.sg.n
čtoby *PRO* *spasti* *ot* *takogo* *poganogo* *vrača*
in-order-to save.inf from such.gen terrible.gen doctor.gen
buduščix *pacientov* *ètoj* *bol'nicy.*
future.acc patients.acc this.gen hospital.gen
'Maybe you have been brought to the hospital, so that future patients of this hospital are saved from such a terrible doctor.'

There have been several proposals concerning null subjects with A-AIs. In Mel'čuk's (1995) account a 'force' null element – $Ø_{FORCE}$ – occupies the subject position in Ru A-AIs. Szucsich (2007) proposes a semantically bleached nominal expression D[-φ] without φ-features and with low referentiality which, however, does not lack any referentiality; its semantic role need not necessarily be 'natural force' (following Babby 1994). For Po, Włodarczyk (1993) proposes a zero subject with the features [-hum, sg, n]. Kibort (2006) argues that Po A-AIs are cases of

20 For more details on control into Ru gerunds see, e. g., Růžička (1982, 1990a, 1990b, 1994).

21 The term refers to expressions that have been associated with fate/fortune – "fügung des schicksals" (cf. Bech 1957: 123-124, see also Leys 1971: 50 and Junghanns 1994: 63-64).

pro-drop: what is dropped is the indefinite (singular neuter) pronoun *coś* 'something' referring to non-humans.

We also assume a null subject with an indefinite interpretation. It refers to non-animate entities belonging to the domain of FORCE. The null pronoun realizes the external argument. Since the external argument is syntactically realized, the accusative is licensed as usual. Consequently, sentences with A-AIs have a normal agreeing Tense head – $T_{[+agr]}$. The predicate is finite and agrees with the null subject pronoun, the φ-features of which are specified as 3sg.n. Note that this is different from Szucsich (2007) where the semantically bleached pronoun D has no φ-features and finite T's φ-features have to be valued as [default]. Moreover, whereas Szucsich (2007) assumes one type of pronoun for both morphologically marked AIs and A-AIs, in our account the pronoun in A-AIs differs from its counterpart in morphologically marked AIs in its semantic specification: $[+arb_{hum}]$ for the pronoun in morphologically marked AIs vs. [FORCE] for the pronoun in A-AIs, which excludes reference to humans in the latter case.

Babby (1994: 32) argues against the presence of a null subject: a null subject "denoting an unknown or unidentifiable natural force that employs the INST [instrumental] case NP as its instrument" is semantically implausible. However in our account, the instrumental NP, where realized, is not to be understood as an instrument used by the natural force subject, but as a free adjunct semantically specifying the highly unspecified null pronoun, see below, section 3.2 for details.

FORCE-phrases – NPs or PPs – are optional. In some languages they are excluded at all, see section 2.4. In order to account for the variation, we propose two types of the null indefinite FORCE pronoun. The semantic representations, part of the respective lexical entries, are given in (28) and (29).

(28) *Null pronoun 1*
$\exists x$ [[FORCE x] : [Q x]]

(29) *Null pronoun 2*
x
$x \in$ [+FORCE]

Null pronoun 1 has the usual semantics of an indefinite expression with the conjunction of two properties, cf., e. g., Partee (1987).[22] Null pronoun 2 is just the variable x restricted to the domain of FORCE. Importantly, with null pronoun 2 the

22 On entering the derivation, the pronoun is assigned a referential index (cf. Bierwisch 1988: 8-9).

variable x is not yet existentially quantified at the level of S(emantic) F(orm)[23]. Here, FORCE hast to be interpreted as a member of an arbitrary set. Null pronoun 1 can be referred to as existentially quantified FORCE, and Null pronoun 2 as not existentially quantified FORCE.

In the process of meaning composition (semantic amalgamation), the representation of the null pronoun available in the language – either null pronoun 1 or null pronoun 2 – replaces variable x in the meaning representation of the verb.[24]

(30) *Semantic amalgamation involving null pronoun 1*

λx λs [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME ...]]]] ($\exists x_i$ [[FORCE x_i] : [Q x_i]])

≡ λs [[s INST [P [$\exists x_i$ [[FORCE x_i] : [Q x_i]]]]] : [[s CAUSE s'] : [s' INST [BECOME ...]]]]

(31) *Semantic amalgamation involving null pronoun 2*

λx λs [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME ...]]]] (x)

≡ λs [[s INST [P x]] : [[s CAUSE s'] : [s' INST [BECOME ...]]]]

As a result, we get a complex meaning representation containing existentially quantified FORCE in the case of some languages (those using null pronoun 1), and not existentially quantified FORCE in the case of some other languages (those using null pronoun 2). In either case, there is a predicate P applying to the respective FORCE item. Since P remains a semantic parameter, FORCE is conceptually interpreted as being involved in some situation or other.

Importantly, further semantic specification of an expression is precluded if this expression is existentially quantified at the level of SF.[25] Hence, semantic specification through an optional FORCE-phrase is excluded in languages using null pronoun 1, cf. (30). Such specification is, however, possible in languages using null pronoun 2, cf. (31). Examples as, e. g., Ru (3) vs. Cz (19) or Slvn (20) can serve as illustration of the two cases. See also below, section 3.2.

An alternative analysis of A-AIs could employ blocking of the external argument without overt morphological marking (e. g., via a semantic template). The

23 For the characterization of SF see Bierwisch (1986, 2007) and Lang and Maienborn (2011), a. o.

24 In a preceding step, the meaning representation of the object expression replaces variable y in the meaning representation of the verb. This is not shown here.

25 See FJL (2010) for discussion.

external argument is blocked, but not yet bound, hence optional oblique realization, e. g., as an argument-adjunct (cf. Grimshaw 1990), would be possible. Crucially, such an analysis still leaves us with the problem of exceptional acc licensing, as the external argument is not projected canonically, in the subject position. Haider (2000: 45) argues that the inflection system of Slavic provides an impersonal paradigm not admitting nom licensing, which leaves acc licensing as the only option. However, the distribution of such a [-agr] T across Slavic languages would have to be different for morphologically marked AIs (available only in Ukr, Po, Slvn, spoken/dialectal BCS) vs. A-AIs (available in East Slavic generally and West Slavic peripherally), cf. Tables 1 and 2. As A-AIs involve verbs in the active voice not marked with special morphology that would signal a change of argument structure, all languages allowing A-AIs should also allow refl AIs.

3.2 Variation wrt the availability of FORCE-phrases

In personally constructed sentences corresponding to A-AIs, the nominative FORCE-phrase is an external argument. Such sentences can be passivized, as argued in Szucsich (2007: 425) contra Babby (1994). See (32).

(32) a. *Molnija* *oslepila* *Ivana.* (Ru)
lightning.nom.f blind.past.sg.f Ivan.acc
'A flash of lightning blinded Ivan.'
b. *Ivan* *byl* *oslеplën* *molniej.*
Ivan.nom aux.past.sg.m blind.ptcp.sg.m lightning.instr
'Ivan was blinded by a flash of lightning.'
(Szucsich 2007: 425)

Accounts of A-AIs assuming blocking of the external argument analyse FORCE-phrases as oblique realization of the external argument, e. g., as an argument-adjunct. See Kwon (2010) for a proposal to analyse the FORCE-NP/PPs along these lines. However, such an account is not possible on our assumptions if the external argument is analysed as a syntactic null.

Moreover, in Po there is a difference in realization: a genuine *by*-phrase in participial passive is realized as *przez*-PP (33b), a FORCE-phrase in A-AIs is realized as bare instrumental (33c).[26]

(33) a. *Piorun* *zabił* *konia*. (Po)
lightning.nom.m kill.past.sg.m horse.acc
'A flash of lightning killed a horse.'
b. *Koń* *został* *zabity*
horse.nom.m aux.past.sg.m kill.ptcp.sg.m
przez *żołnierzy* / *przez* *piorun.*
by soldiers.acc by lightning.acc
'The horse was killed by soldiers / by a flash of lightning.'
c. *Konia* *zabiło* *piorunem* / **przez* *piorun.*
horse.acc kill.past.sg.n lightning.instr by lightning.acc
'The horse got killed by a flash of lightning.'

So it is quite clear that the FORCE-phrase in Po A-AIs is not an oblique agent/non-volitional causer. Thus it is not unmotivated to assume that it is an adverbial adjunct. This is compatible with its optionality (cf. Szucsich 2007 for a similar argumentation on Ru).

Recall the empirical observation that there are two groups of languages with A-AIs. Group A allows optional FORCE-phrases (Ru, BRu, Ukr, Po, Slk), Group B does not (Slvn, Cz, Upper Sorb), see Table 3. In our account, the variation is related to the two types of null pronoun presented in (28) and (29) above.

Group A languages employ null pronoun 2, a null pronoun that semantically corresponds to a variable x restricted to the domain of FORCE and is not yet existentially quantified at SF so that it gets an interpretation as an indefinite belonging to an arbitrary set, see (29). Since the variable remains unbound, it can still be semantically specified at SF. Semantic specification is the result of overtly realizing a FORCE-phrase (an NP with instrumental case or an NP selected by a P). In a second step of interpretation – at the level of CS[27] – x will be identified with

26 Note that not all native speakers of Po readily accept instrumental expressions in A-AIs (see also fn 14). However, such FORCE-phrases are attested as (5c) and (15) from Mrázek (1990) – see above– show. The sources are authentic printed texts. The variation may be attributed to the coexistence of both types of the null pronoun in Po. This may be a matter of register or diachronic change.

27 C(onceptual) S(tructure) is the second level of interpretation in a two-level semantics. See Bierwisch (1986, 2007) and Lang and Maienborn (2011) for the details of such a framework. For SF, the first level, see fn 23.

the FORCE-phrase's NP referent. If the FORCE-phrase is not realized, then the variable will be existentially quantified at CS by default.

Group B languages have null pronoun 1. Its meaning representation conjoins two properties predicated of x, the first one characterizing the entity as FORCE. Existential quantification makes the pronoun an indefinite. Since x is bound by the existential quantifier at SF, further semantic specification of the pronoun is excluded. Realization of a FORCE-phrase would not yield a licit interpretation. The effect would be characterized as caused by an indefinite FORCE (with a referential index) and yet another FORCE, which necessarily would have to be referentially distinct from the indefinite FORCE.[28]

Note that the exclusion of FORCE-phrases cannot be tied with the possibility of an overt FORCE pronoun. Slvn, e. g., has no overt pronoun and does not allow a FORCE-phrase. Cz, on the other hand, has overt *to* and does not allow a FORCE-phrase either.

There have been other proposals analysing the FORCE-phrase as a second internal argument with lexical case (see, e. g., Babby 1994, Lavine 2005, Lavine and Freidin 2002). At the same time these authors postulate a derivational relation between sentences with a nominative FORCE-NP in subject position and their A-AI-counterparts with the oblique FORCE-phrase. Arguments against such an approach have been brought up, e. g., by Szucsich (2007), including, among others, problems such as overriding of lexical case by structural nominative (under standard assumptions lexical case cannot be overridden), examples of passivization of sentences with a nominative FORCE-NP – cf. our (32b) – (passivization should be excluded in an analysis assuming that the sentence lacks an external argument).

3.3 Variation wrt availability and productivity

Whether a language allows A-AIs depends on the availability of an appropriate null element in the lexicon of the language. Attributing the varying distribution of A-AIs across Slavic to the availability of an indefinite null FORCE pronoun is compatible with the option of overt realization of the pronoun, as in Cz equivalents of A-AIs with *to*. Thus *to* in (22a, b) has the same status and semantics as null pronoun 1, cf. (28).

With some verbs in Cz it seems to be lexically required for the FORCE pronoun to be overt, cf. (22a, b). We may think of restrictions of the FORCE pronoun – overt

28 According to our intuition, A-AIs do not render scenarios with multiple causing factors.

or covert – in Cz (laid down in the lexical entries of the relevant verbs), which would be one possible explanation of the peripheral status of A-AIs in this language as compared with, e. g., East Slavic where the (null) pronoun quite productively combines with transitive verbs.

4 Outlook

Note that the minimal structure of A-AIs without adjunct FORCE-phrases (see above, section 2.4) resembles Accusative Impersonalia tantum, cf. (34)–(36). The latter are attested in all Slavic languages.

(34) *Mdli mnie (od tego zapachu / z bólu).* (Po)
nauseate.3sg me.acc from this smell.gen because-of pain.gen
'Something makes me nauseous.' ('This smell/The pain makes me nauseous.')
(Kibort 2006)

(35) *Menja tošnit.* (Ru)
me.acc nauseate.3sg
'I feel nauseous.'
(Perlmutter and Moore 2002: 628)

(36) *Zamrazilo mě (z toho).* (Cz)
chill.past.sg.n me.acc from this.gen
'It made me shiver.'

It seems to be possible to control the non-overt subject of a gerund from within Accusative Impersonalia tantum, which may be taken as evidence for a structural subject in the matrix.

(37) *Menja tošnit, ne davaja mne spat'.* (Ru)
me.acc nauseate.3sg neg give.ger me.dat sleep.inf
'I feel nauseous, which prevents me from sleeping.'

Attested Cz cases of the overt pronoun *to* with, e. g., *dávit* 'choke, retch', cf. (38b), as opposed to null pronoun use, cf. (38a), probably point in the same direction.

(38) a. *[...] stále ji natahovalo a dávilo, až* (Cz)
constantly her.acc choke.past.sg.n and retch.past.sg.n till
to vypadalo, že se snad udusí.
it.nom look-like.past.sg.n that refl probably choke-to-death.3sg
'She constantly choked and retched, till it looked like that she would choke to death.'

b. *Kocoura občas natahuje, ale je pravda, že už*
cat.acc time-to-time choke.3sg but is.3sg truth.nom that already
ho to dávilo včera [...] míň a míň.
him.acc *to*.nom retch.past.sg.n yesterday [...] less and less
'The cat chokes from time to time, but it's true, that yesterday, he retched less and less.'

Therefore, it seems not to be implausible to suggest a unified analysis for A-AIs and Accusative Impersonalia tantum as a syntactic transitive structure.[29] However, different null elements seem to be involved. Accusative Impersonalia tantum have a causer that appears to be an internal (physical, mental) entity, whereas A-AIs have a causer that is an external entity. The null internal causer is available also in Bg and BCS, i. e. in all Slavic languages (cf. Mrázek 1990: 95-96).

To sum up, we have been concerned with various cases of AIs: (i) morphologically marked AIs, and (ii) A-AIs. In this paper, we have argued that A-AIs should receive a different analysis than morphologically marked AIs.

Morphologically marked AIs comprise (a) refl AIs and (b) no/to AIs. In these cases, morphological items (refl, no/to) signal an operation on the argument structure of the verb they combine with so that the canonical realization of the external argument is prevented. We have brought out two crucial properties concerning subject realization and agreement, yielding the following cases: ±null subject, [-agr] T vs. no [-agr] T. The following picture can be drawn for the languages investigated, cf. JFL (2009) and see Table 1:

(39) a. Po: +null subject, [-agr] T
b. Ukr: -null subject, [-agr] T
c. Slvn, spoken/dialektal BCS: +null subject, no [-agr] T

A-AIs contain a transitive causative verb. By contrast to morphologically marked AIs (see above), with A-AIs there is no morphological marker to indicate a

29 On this point see also Lavine and Franks (2008) and Lavine (2010: 122) who conclude for predications as *nauseating* and *cramping* in Ru that they must be causative.

changed argument structure. The 3sg.n ending potentially corresponds to either default agreement (non-agreement) or normal agreement with a sg.n subject. We have proposed that the external argument of verbs used in A-AIs is realized as null pronoun. Thus, assignment of accusative case to the internal argument proceeds in the usual way. The T head agrees with the null in the relevant features. So we assume that there is an external argument and it is not demoted.

This leaves us with the task to account for FORCE-phrases (NPs with instrumental case or PPs). Group A languages (Ru, BRu, Ukr, Po, Slk), which allow a FORCE-phrase in an A-AI, have null pronoun 2 (= not existentially quantified FORCE) as a lexical item. Group B languages (Slvn, Cz, Upper Sorb) employ null pronoun 1 (= existentially quantified FORCE). Since we invoke a two-level semantics framework distinguishing between SF and CS, we can explain realization of a FORCE-phrase by the relevant variable not being bound at SF – Group A languages. In contrast, in Group B languages using null pronoun 1, such realization is excluded, since variable x is existentially quantified, the pronoun has a referential index, and FORCE cannot be semantically specified. So our account of the possibility vs. exclusion of a FORCE-phrase relies on the assumption of two lexical types of the indefinite null pronoun. We analyse FORCE-phrases as free adverbial adjuncts. Importantly, such FORCE-phrases are optional. So the minimal structure of A-AIs comprises the verb form and the accusative nominal expression (internal argument).

It can be shown that Accusative Impersonalia tantum structurally resemble A-AIs. This has been claimed before. It remains to be seen whether there is more evidence beyond control facts and an overt subject pronoun. This is left for future research.

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