***FASL* 27, 105-127**
Michigan Slavic
Publications 2023

Intentionality Effect in Imperatives[1*]

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This paper discusses a well-known restriction in Slavic languages that affects negative imperatives. In Slavic languages, positive imperatives are well-formed in either the perfective or imperfective aspect, whereas negative imperatives are acceptable only in the imperfective. This restriction is lifted when the action expressed by the verb is interpreted as non-intentional. In such exceptional cases, the perfective becomes available. I argue for a semantic/pragmatic account of this restriction and exceptions to it, building on previous informal analyses, e.g., Rappaport (1985). I also show that a purely syntactic analysis (e.g., Despić 2016, to appear) is inadequate.

1 The old puzzle

Across Slavic languages, positive imperatives can take either imperfective (I) or perfective (P) verbs with minimal interpretative differences; see (1).[2] Negative imperatives, on the other hand, are well-

[1*] I would like to thank the audience of FASL 27 in Stanford and two anonymous reviewers for their helpful comments and suggestions. Separate thanks go to Miloje Despić for sharing his work with me. I am also grateful to Hedde Zeijlstra and Gurmeet Kaur for discussion of this topic. This research was financially supported by the State of Lower-Saxony, Hannover, Germany (VWZN3181).

[2] The interpretative differences between the perfective and imperfective aspect in imperatives have been studied in traditional literature (e.g., Šatunovskij 2002 and references therein). An anonymous reviewer suggests that in formal

formed only in the imperfective; see (2). This Aspectual Restriction on imperatives has been previously noticed and discussed in the literature, for instance, in Forsyth (1970), Bogusławski (1985), Zaliznjak (2006), Paducheva (2013), a.o.

(1) *Positive imperatives*[3]

RU a. Otkryvaj/otkroj okno!
open$_{\text{I.IMP/-P.IMP}}$ window
'Open the window!'

PL b. Jedz/zjedz tego jabłka!
eat$_{\text{I.IMP/-P.IMP}}$ that apple
'Eat that apple!'

BCS c. Jedi/pojedi tu jabuku!
eat$_{\text{I.IMP/-P.IMP}}$ that apple
'Eat that apple!' (Despić 2016, ex.5)

(2) *Negative imperatives*

RU a. Ne otkryvaj/*otkroj okno!
not open$_{\text{I.IMP/-P.IMP}}$ window
'Don't open the window!'

PL b. Nie jedz/*zjedz tego jabłka!
not eat$_{\text{I.IMP/-P.IMP}}$ that apple
'Don't eat that apple!'

BCS c. Ne jedi/*pojedi tu jabuku!
not eat$_{\text{I.IMP/-P.IMP}}$ that apple
'Don't eat that apple!' (Despić 2016, ex.5)

An interesting property of the Aspectual Restriction is that it is lifted when the action expressed by the verb is interpreted as non-intentional (e.g., Bogusławski 1985). Non-intentionality can be part of the lexical

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semantics/pragmatics, such differences can be captured using the system in Grønn (2003).

[3] Language abbreviations: BCS – Bosnian/Croatian/Serbian, PL – Polish, RU – Russian. Glosses: AUX – auxiliary, I – imperfective, IMP – imperative, INF – infinitive, NEG – negation, P – perfective. Other abbreviations: *Alt* – alternatives, *deon* – deontic, EP – end-point, *imp* – imperative, *int* – intentionality operator, *Psp* – presupposition, S – start, SI – scalar implicature.

meaning of a verb. This is the case with unaccusatives and psych-verbs, as in (3). These verbs are low on the agentivity scale (e.g., Dowty 1991) and, thus, normally do not express intentional actions.

(3) *Lexically non-intentional verbs*

RU a. Ostorožno! Ne upadi!
careful not fall$_{P.IMP}$
'Be careful! Don't fall down!'

PL b. Nie zgub tego klucza!
not lose$_{P.IMP}$ that key
'Don't lose that key!' (Despić 2016, ex.8)

BCS c. Ne zaboravite ključeve!
not forget$_{P.IMP}$ keys
'Do not forget the keys!' (Despić 2016, ex.10)

The non-intentional interpretation can also be triggered by the context, as in (4). Note that in (4), a regular transitive agentive verb is used and de-intentionalizing adverbials like *przypadkiem* 'accidentally' are optional.[4]

(4) *Contextually non-intentional interpretation*
Context: You let your love-bird out of the cage and leaving the room warn your friend who is staying in the room:

RU a. Smotri! (Slučajno) ne otkroj okno!
look by.chance not open$_{P.IMP}$ window
'Be careful! By accident, don't open the window!'

PL b. (Przypadkiem) nie otworz okna!
accidentally not open$_{P.IMP}$ window
'By accident, don't open the window!'

[4] According to an anonymous reviewer, *slučajno* in the Russian example in (4a) is necessary for the sentence to be acceptable. I have consulted with five Russian speakers about this particular issue. According to their judgments (which align with my own intuitions), *slučajno* can be omitted in (4a). It is true that (4a) is more natural when there are cues signaling that the action is interpreted as non-intentional. The strength of such cues and whether there is speaker variation in the acceptability of (4a) without *slučajno* are empirical questions that I leave for future research.

(5) BCS a. In the context of (4):
??Ni slučajno ne otvorite prozor!
not by.chance not open$_{P.IMP}$ window
'By accident, don't open the window!'
b. Ni slučajno joj ne recite da samtu!
not by.chance her not tell$_{P.IMP}$ that am.here
'Don't tell her I'm here under any circumstances!'

The second strategy (contextual de-intentionalization) is more restrictive. For example, in BCS in the context of (4), the imperfective is still judged unacceptable; see (5a).[5] However, BCS allows similar examples with other transitive agentive verbs like 'tell'; see (5b). I leave the investigation of this variation for future research, concluding for the purposes of this paper that the contextual strategy is (to some extent) available across Slavic languages.

In this paper, I argue that the Aspectual Restriction (i.e., the contrast between (1) and (2)) and its obviation with non-intentional actions (the acceptability of (3) and (4)) should be captured in terms of semantics/pragmatics. The account proposed here formalizes a previously expressed intuition that the competition between perfective and imperfective aspect leads to a pragmatically unjustified command in negative imperatives, e.g., Rappaport (1985). For example, a command to not open the window with the perfective forbids the addressee to succeed in opening the window leaving it open whether an attempt to open the window can be made. The use of imperfective makes a stronger prohibition against attempting to open the window. Thus, the imperfective is preferred. Unlike previous analyses, I assume the relevant

[5] (5a) can be expressed using an analytic imperative as in (i), see also Despić (2016, to appear). Unlike Despić (to appear), I do not take the existence of analytic imperatives to be strong evidence against a semantic/pragmatic account of the Aspectual Restriction and exceptions to it. Analytic imperatives are formed with a "defective verb" which, in principle, can be analyzed as blocking one of the inferences responsible for unacceptability of the perfective in negative imperatives according to the semantic/pragmatic analysis proposed in this paper.

(i) BCS Ni slučajno nemojte otvoriti prozor!
not chance$_{NEG.IMP}$ open$_{P.INF}$ window
'By accident, don't open the window!'

inference of the perfective to be a Scalar Implicature (SI) rather than a presupposition, following Zinova and Filip (2014). I also make crucial use of the intentionality operator, which allows us to explain the exceptions to the Aspectual Restriction. In previous semantic/pragmatic analyses, these exceptions have been mentioned, but not explained. My proposal is given in Section 2. In Section 3, I briefly present and argue against the purely syntactic analysis of the Aspectual Restriction and exceptions to it recently proposed in Despić (2016, to appear). I show that, unlike the semantic/pragmatic account, a purely syntactic account (i) has to make undesirable stipulations about cases in which the Aspectual Restriction is obviated by the context, such as (4), and (ii) cannot be extended to explain the Aspectual Restriction with negated strong deontic modals in Russian, which show identical behavior to negative imperatives. In other words, the syntactic account in Despić (2016) appears to seriously under-generate. In section 4, I conclude by discussing the Aspectual Restriction from a cross-Slavic perspective. The puzzling observation is that, whereas the Aspectual Restriction in imperatives is active in all Slavic languages, the Aspectual Restriction in deontic modals is observed only in a subset of Slavic languages. I show a possible way to address this puzzle, leaving details for future research.

2 Formalizing a semantic/pragmatic account

The intuition that the Aspectual Restriction in negative imperatives in Slavic should receive a semantic/pragmatic explanation has been widely discussed in the literature (Bogusławski 1985, Rappaport 1985, Levinson 2006, Zaliznjak 2006, Partee 2008, Paducheva 2013, a.o.). However, to the best of my knowledge, there is no formal account of the Aspectual Restriction or exceptions to it. To proceed with the formalization, we need some basic assumptions about the interpretation of aspect and imperatives (spelled out in Section 2.1). We also need some notion of intentionality (discussed in Section 2.2). We then put these ingredients together in Section 2.3 to explain the Aspectual Restriction. Section 2.4 shows how the exceptions to the Aspectual Restriction are derived.[6]

[6] As an anonymous reviewer correctly points out the formalization proposed in this paper directly depends on the assumptions made in Section 2.1. Different assumptions about the interpretation of imperatives and aspect will require a

2.1 Assumptions

2.1.1 Aspect. Following Zinova and Filip (2014), who build their analysis on Grønn (2003), I assume that perfective aspect in Russian (and Slavic in general) asserts that the action has achieved its endpoint and has an inference that the action has started. Moreover, this inference is generated as a Scalar Implicature (SI) (6).[7] Imperfective aspect asserts that the action has started and generates no SI (7). For expository purposes, I abbreviate aspectual inferences as in (8), where EP = endpoint and S = start.[8]

(6) a. Ivan ne pročital etu knigu. RU
Ivan not read$_P$ this book
'Ivan didn't read this book completely through.'
b. *Assertion:* Ivan did not finish reading this book
c. *Inference:* Ivan started reading/read a part of this book

(7) a. Ivan ne čital etu knigu.
Ivan not read$_I$ this book
'Ivan didn't read (any part of) this book.'
b. *Assertion:* Ivan didn't start reading/read any part of this book
c. (no relevant inference)

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different formalization. The main purpose of this paper is to argue that the phenomena in question should receive a semantic/pragmatic account (as opposed to a purely syntactic one) and to show one instantiation of such an account. A comparison between different ways of formalizing the Aspectual Restriction and exceptions to it goes beyond the scope of this paper.

[7] Much previous work on Slavic aspect erroneously claimed that the inference found with P is a presupposition (e.g., Bogusławski 1985, Rappaport 1985, a.o.).

[8] Aspect, and especially Slavic aspect, is a vast area of research. It is not my goal here to contribute to this field by either surveying the literature or assessing different approaches to aspect. However, I would like to mention recent semantic/pragmatic approaches, such as Altshuler (2016) and Gyarmathy and Altshuler (2018), which might be useful for constructing an alternative formalization of the Aspectual Restriction and exceptions to it. I thank an anonymous reviewer for reminding me about these works and raising a question about their applicability to the phenomena I am interested in.

(8) a. Perfective, (6):
Assert.: ¬ Ivan-read-book EP
SI: Ivan-read-book S

b. Imperfective, (7):
Assert.: ¬ Ivan-read-book S
(no SI)

Zinova and Filip (2014) argue that evidence for treating the start-inference of the perfective, (6c), as an SI rather than a presupposition comes from two observations. First, this inference is cancelable (9):

(9) Ivan ne pročital etu knigu. On daže ne otkryl ee.
Ivan not read$_P$ this book he even not opened it
'Ivan didn't read this book. He even didn't open it.'
(Zinova & Filip 2014: 391)

Second, the start-inference, (6c), shows the projective behavior characteristic of SIs rather than presuppositions. Chemla (2009) shows that SIs project existentially under negative universal quantifiers, (10a), whereas presuppositions project universally in the same configuration, (10b). Zinova and Filip (2014) conducted an informal survey that showed that most Russian speakers prefer the existential inference of the perfective, (11b), to the universal one, (11c). The numbers in square brackets show mean acceptability judgments. These results suggest that the start-inference of the perfective is an SI.

(10) a. No student read all the books.
⇝ (At least) one student read some of the books (SI)
b. No student knows that he is lucky.
⇝ Each student is lucky (Psp)

(11) a. Nikto iz nas ne pročital učebnik.
nobody of us not read$_P$ textbook
'None of us read the textbook.'
b. ⇝ Some of us read at least a part of the textbook [3.11/4]
c. ⇝ All of us read at least a part of the textbook [1.65/4]
(Zinova & Filip 2014: 396-398)

2.1.2 Imperatives. For concreteness, I assume a simplified denotation of imperatives from Kaufmann 2012, given in (12). According to (12), an

imperative is true iff in all (ordered) worlds of the modal base the prejacent is true. The modal base is formulated as all facts known to the speaker. [9] Some support for such a modal base comes from examples like (13). The discourse in (13) is infelicitous because the command is inconsistent with speaker's knowledge.

(12) *imp*(f,g,p,w) = 1 iff
$\forall w' \in (\leq_{g(w)}(\cap f(w)))[p(w')]$
where f(w) is a modal base that contains all the facts known to the speaker and $\leq_{g(w)}$ is an ordering source that contains obligations issued by the speaker (Kratzer 1991)

(13) #Eat this fish! But you won't. (Roberts 1989, Han 1999, ex.42)

To see how the denotation in (12) derives truth-conditions for positive imperatives, consider the Russian example in (14). Positive imperatives in Russian (and other Slavic languages) are well-formed in both imperfective and perfective aspect. This is demonstrated in (15) and (16).

(14) RU Otkryvaj/otkroj okno!
open$_{\text{I.IMP/P.IMP}}$ window
'Open the window!'

(15) a. *imp*(f,g, ⟦you open-I window⟧ ,w) = 1 iff
$\forall w' \in (\leq_{g(w)}(\cap f(w)))$[you open window S in w′]
b. In prose: 'Open-I window!' is true iff all the (g(w)-best) worlds in the modal base are such that you start opening the window in these worlds
c. abbrev.: $\Box_{imp}$ you-open-window S[10]

[9] The analysis proposed in this paper is compatible with any *semantic* analysis of imperatives, e.g., Han (1999), Condoravdi and Lauer (2012), Kaufmann (2012), but less so with a *pragmatic/dynamic* approach to imperatives, e.g., Portner (2007), von Fintel and Iatridou (2017).

[10] Here and below, $\Box_{imp}$ stands for a modal base before the ordering source is applied, $\Box_{imp}$ represents universal quantification, and $\Diamond_{imp}$ represents existential quantification.

(16) a. *imp*(f,g, ⟦you open-P window⟧ ,w) = 1 iff
∀w′ ∈ ($\leq_{g(w)}$(∩f(w)))[you open window EP in w′]
b. In prose: 'Open-P window!' is true iff all the (g(w)-best) worlds in the modal base are such that your opening the window achieves the end-point in these worlds
c. abbrev.: $\square_{imp}$ you-open-window EP

2.2 Intentionality

By combining our assumptions about aspect and imperatives in Section 2.1, we will not be able to derive the Aspectual Restriction. To see this, we start with looking at how an SI is generated in a simple perfective sentence like (17a). The assertion of (17a) using the abbreviations introduced in (8) is shown in (17b). Suppose that (17a) competes (for informativity) with a corresponding imperfective statement, whose meaning is given in (17c) as an alternative to (17a). This imperfective alternative, (17c), is stronger than the original perfective statement, (17a), as shown by the asymmetric entailment relation in (17d). Therefore, the use of (17a) is justified if the speaker supposes that the stronger alternative is not true. This derives the desired SI that Ivan started to leave, as shown in (17e).[11]

(17) a. Ivan ne ušel.
Ivan not leave$_P$
'Ivan didn't leave.'
b. *Assertion*: ¬ Ivan-leave EP
c. *Alt*: ¬ Ivan-leave S (= imperfective)
d. *Asymmetric entailment*:
¬ Ivan-leave S ⇒ ¬ Ivan-leave EP
¬ Ivan-leave S ⇐/= ¬ Ivan-leave EP
e. *SI:* ¬ ¬ Ivan-leave S ≡ Ivan-leave S

[11] The description of SI generation is deliberately vague. As far as I can tell, both Neo-Gricean and grammatical approaches to SIs are compatible with the proposal in this paper, with some adjustments. A terminological note is in place here. A set of alternatives in the grammatical approach to SI also includes the sentence itself. In this paper, I list only those alternatives that are different from the original sentence.

In a negative imperative with P, as in (18a), with the meaning schematized in (18b), the generated SI is as shown in (18e).

(18) a. *Ne otkroj okno!
not open$_P$ window
b. *Assertion*: $\Box_{imp}$ ¬ you-open-window EP
c. *Alt*: $\Box_{imp}$ ¬ you-open-window S (= imperfective)
d. *Asymmetric entailment*:
$\Box_{imp}$ ¬you-open-window S ⇒ $\Box_{imp}$ ¬ you-open-window EP
$\Box_{imp}$¬ you-open-window S⇐/= $\Box_{imp}$ ¬ you-open-window EP
e. *SI*: ¬ $\Box_{imp}$ ¬ you-open-window S ≡ $\Diamond_{imp}$ you-open-window S

The asymmetric entailment in (18d) captures the intuition discussed in Section 1 that the use of the perfective in the negative imperatives is pragmatically unjustified. However, it is important to note that the derivation of the implicature in (18e) by itself does not explain the Aspectual Restriction. Combined together, the assertion in (18b) and the SI in (18e) give rise to the following interpretation: it is prohibited that you finish opening the window, but you are allowed to start opening the window. (18a) does not have this reading; rather, the sentence is ungrammatical. Therefore, we need to strengthen the account to derive the Aspectual Restriction.

To achieve this, I propose to include an additional ingredient, namely an intentionality operator. In philosophy, intentions and intentional actions have been a topic of a lot of research (Davidson 1980, Bratman 1987, Raz 2011, a.o.). One central conceptualization of intentionality is in terms of knowledge. For example, Gorr and Horgan (1982: 255) define intentional actions as follows: "P's A-ing at t is intentional under the description 'A-ing' if and only if (i) this event is an act and (ii) P knows, at t, of this act, that it is an A-ing by him."[12] Linguistic support

[12] The specification "under the description 'A-ing'" is added in order to address the long-standing issue of defining intentional actions. Namely, an action may be intentional under one description, but unintentional under another. For example, suppose that John, while playing a part in a theatre, injures Mary because his gun is loaded with real bullets (unbeknownst to him) instead of blanks, as usual. In this

for the notion of intentionality along these lines comes from the deviance of (19). This is important, because intentionality will be accommodated into the modal base of imperatives, which is knowledge-based.

(19) #John intends to fly to the moon, even though he knows this is impossible. (Grano 2017)

Another prominent property of intentions is that they are conduct-controlling, in the sense that they guide the action until the endpoint is reached (e.g., Raz 2011). This property is important for the interaction between aspect and intentional actions. I model the controlling component of intentionality (with reference to aspect) as follows: if an intentional action starts, it reaches the endpoint, i.e., the action is guided throughout the process and up to the point when the result is reached. Therefore, I propose an intentional operator *int*, as in (20), which is present when the action is interpreted as intentional. This operator, defined as an identity function, contributes (at least) a conditional presupposition.[13] R in (20) can be viewed as an event predicate of type <v,t>. As we will see shortly, this conditional presupposition is responsible for the Aspectual Restriction.

(20) *Intentionality operator w.r.t. aspect* (simplification)
int($R_{v,t}$) = λR: if the action described by R starts → the action described by R reaches the endpoint.R

In our window-opening example, *int* has the following presupposition: 'you-open-window S → you-open-window EP'. This presupposition is locally accommodated into the modal base of the imperative.

An anonymous reviewer asks about the position and scopal properties of the *int*-operator. In this paper, I assume that *int* like its overt brother the manner adverb *intentionally* is a VP-modifier (see, for example, Ernst 2004 on the semantics of manner adverbs). With respect

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case, John's action is intentional under the description "John squeezed the trigger", but it is unintentional under the description "John injured Mary".

[13] The contribution of *int* is most probably more complex. But the formulation in (20) is sufficient for the purposes of this paper.

to scopal properties of *int*, the picture cannot be determined based on the phenomena we are interested in here. (20) defines *int* as an identity function, which means *int* does not interact scopally. This seems to be sufficient for the present purposes, as *int* does not interact with either the negation or modal above it (for instance, *Don't open the window!* cannot mean *Open the window unintentionally!*). However, as mentioned in fn 13, this picture is overly simplistic. There are cases in which the intentionality of the verb affects a VP-internal quantifier. For example, Szabolcsi (2010) discusses cases like *I don't want to call/offend someone.* She claims that with intentional verbs like *call*, the positive polarity item *someone* cannot scope below negation in the configuration above. By contrast, non-intentional *offend* allows *someone* to scope below negation. The same data have been replicated in Russian and Polish (see Szabolcsi 2010). A tempting conjecture might be that *int* scopally interacts only with the material within VP and not beyond the VP edge. However, I think such a conclusion is premature. More research is called for in this area.

2.3 Accounting for the aspectual restriction

(21) repeats the relevant Russian example that illustrates the Aspectual Restriction in negative imperatives in Slavic. The Aspectual Restriction is derived as shown in (22). It is derived as a contradiction when conjoining the assertive meaning of the imperative, (22b), the SI of the perfective, (22d), and the presupposition of *int*, (22e). This account assumes that there are situations in which implicatures are not easily cancelable; see, for example, Magri (2009, 2011). Following Gajewski (2002), I assume that contradiction results in ungrammaticality. (23) shows that the contradiction does not arise when the imperfective is used.[14]

(21) RU Ne otkryvaj/*otkroj okno!
not open$_{\text{I.IMP}}$ /$_{\text{P.IMP}}$ window
'Don't open the window!'

(22) a. *'not *int* open-P window!'

[14] Note that for positive imperatives, as in (15) and (16), adding *int* does not result in a contradiction. The computation is straightforward and so I leave it to the reader.

b. *Assert:* $\Box_{imp}$ ¬ you-open-window EP
c. *Alt:* $\Box_{imp}$ ¬ you-open-window S (= imperfective)
d. *SI:* ¬ $\Box_{imp}$ ¬ you-open-window S ≡ $\Diamond_{imp}$ you-open-window S
e. *Psp:* $\Box_{imp}$(you-open-window S → you-open-window EP)
f. b&d&e = $\Box$¬EP & $\Diamond$S & $\Box$(S→EP) = ⊥

(23) a. 'not *int* open-I window!'
b. *Assert:* $\Box_{imp}$¬ you-open-window S
c. *Alt:* no stronger alternative
d. *SI:* no relevant SI
e. *Psp:* $\Box_{imp}$(you-open-window S → you-open-window EP)
f. b&d&e = $\Box$¬ S &$\Box$(S→EP) = consistent

2.4 Obviation of the Aspectual Restriction and (Non-)Intentionality

Verbs like 'fall' and 'forget' can be viewed as lexically marked for non-intentionality. Thus, they are incompatible with *int* and the Aspectual Restriction is never observed with such verbs. With other verbs, like 'open' and 'tell', *int* is present only if it is compatible with the context (see below). (24) shows that the contradiction responsible for the Aspectual Restriction does not arise when *int* is absent.

(24) a. 'not open-P window!'
b. *Assert:* $\Box_{imp}$ ¬ you-open-window EP
c. *Alt:* $\Box_{imp}$ ¬ you-open-window S (= imperfective)
d. *SI:* ¬ $\Box_{imp}$ ¬ you-open-window S ≡ $\Diamond_{imp}$ you-open-window S
e. No *int*
f. b&d&e = $\Box$¬EP & $\Diamond$S = consistent

An anonymous reviewer asks an important question about how the conversational context determines the presence/absence of the *int*-operator with verbs like 'open' and 'tell'. I don't have a fully worked-out answer to this question. What follows is a promissory note. Recall from the previous section that *int* carries the presupposition that the agent controls the action from the start until the endpoint (this presupposition is responsible for the Aspectual Restriction). I postulated that in contexts that entail this presupposition, *int* is present, whereas in contexts that do

not entail the presupposition, *int* is absent. This situation is reminiscent of the Maximize Presupposition principle, which classically explains (among other things) the infelicity of the indefinite article in *I interviewed the/#a father of the victim* (Heim 1992). What I would like to propose is that cases in which the context satisfies the presupposition(s) of *int* but where *int* is absent are ruled out by Maximize Presupposition. On the other hand, cases in which the context does not entail the presupposition(s) of *int*, but *int* is present, suffer from a presupposition failure.[15] As desired, we are left with two possibilities: 'intentional' contexts with *int* and 'non-intentional' contexts with no *int*. It is important to underscore here that the Maximize Presupposition solution does not beg the question, as it might seem, given the fact that *int* in (20) is defined as an identity function with only one presupposition. As mentioned in fn 13 and further discussed at the end of Section 2.2, the contribution of *int* is complex. Taking *int* as a covert counterpart of *intentionally*, this point can be illustrated by the following observation: *intentional(ly)* is a multi-dimensional modifier that, in addition to the controllability of the action (captured in (20)), includes a pro-attitude toward the outcome of the action and the ability to foresee this outcome (see Egre 2014 and references cited therein).

One objection to the Maximize Presupposition solution may be that it is usually applied to cases of lexical competition (e.g., *the* vs. *a*) or with some controversy, lexical-null element competition (e.g., *too* vs. ∅). In the case of *int*, the competition seems to be between a covert operator and ∅. I can envisage two ways of replying to this objection. First of all, we can say that verbs like 'open' are ambiguous between '*int*-open' and '∅-open'. This ambiguity is manifested in pairs like *listen-hear, watch-see, murder-kill,* etc. The second (and probably more interesting) reply would be to redefine Maximize Presupposition in terms of scalar implicatures (e.g., Marty 2018) and invoke Gricean maxims. The observation that manner adverbs (including *intentionally/accidentally*) are scalar items goes back at least to Horn (1972). Assuming that *int* is a covert counterpart of *intentionally,* we can extend the scalar mechanism

[15] Put differently, the meaning of a sentence in such cases will be undefined, if, following Heim (1992), we take the meaning as a partial function, i.e., a function defined only for contexts that entail the presuppositions of a given sentence.

responsible for contrasts like in (25) to the distribution of *int* and its interaction with *accidentally*. I leave the development of these ideas for future research, as they require a separate article.

(25) a. John spilled his coffee #intentionally/accidentally, if (he did it) at all.
b. John didn't spill his coffee intentionally/#accidentally, if (he did it) at all.

Finally, before finishing this section, I would like to highlight one important advantage of the account of the obviation of the Aspectual Restriction sketched here: this account straightforwardly derives the 'warning' inference in cases like (4)/(24). As observed by Bogusławski (1985) (among others), imperatives like in (4)/(24) – 'not open$_P$ window!' – give rise to an inference that the speaker considers it possible that the addressee will (accidentally) open the window. In other words, (24) is uttered as a warning. This warning inference is calculated as a scalar implicature, (24d), which says that there is a world among the speaker's epistemic possibilities where you start opening the window.

3 An Argument Against a (Purely) Syntactic Account

3.1 Despić (2016, to appear)

Despić (2016, to appear) puts forward a purely syntactic account of the Aspectual Restriction and exceptions to it with non-intentional actions. His account uses the following assumptions. First, there is an Agree-relation between the imperative (*imp*) and the inflection on the verb (in Asp). Second, the imperfective aspect is located above *v*P, whereas the perfective aspect is below *v*P (e.g., Svenonius 2004). Third, *imp* cannot scope below negation (Han 1999, Zeijlstra 2006). Fourth, the Phase Impenetrability Condition (PIC) is as defined in Chomsky (2001), i.e., the (complement of the) lower phase becomes unavailable for syntactic operations as soon as the higher phase head is merged.

Provided these assumptions, the derivation of positive imperatives are as in (26), where *imp* can Agree with both Asp1 and Asp2.

(26) *Positive imperatives*
a. Otkryvaj okno! 'open$_{\text{I.IMP}}$ window' (RU)
[$_{\text{TP}}$ *imp* [$_{\text{AspP1}}$ Asp1-I [$_{v\text{P}}$ *v* [$_{\text{VP}}$ ...]]]]
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b. Otkroj okno! 'open$_{\text{P.IMP}}$ window' (RU)
[$_{\text{TP}}$ *imp* [$_{v\text{P}}$ *v* [$_{\text{AspP2}}$ Asp2-P [$_{\text{VP}}$ ...]]]]
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In negative imperatives, on the other hand, only the imperfective can Agree with *imp* (27a). This is because NegP is merged and *imp* is required to move to CP (the next phase up) to out-scope negation. As soon as C is merged, the complement of *v*P (including perfective aspect Asp2) is unavailable for Agree (27b).

(27) *Negative imperatives*
a. Ne otkryvaj okno! 'not open$_{\text{I.IMP}}$ window' (RU)
[$_{\text{CP}}$ *imp* [$_{\text{NegP}}$ Neg [$_{\text{TP}}$ T [$_{\text{AspP1}}$ Asp1-I [$_{v\text{P}}$ *v* [$_{\text{VP}}$ ...]]]]]
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b. *Ne otkroj okno! 'not open$_{\text{P.IMP}}$ window' (RU)
[$_{\text{CP}}$ *imp* [$_{\text{NegP}}$ Neg [$_{\text{TP}}$ T [$_{v\text{P}}$ *v* [$_{\text{AspP2}}$ Asp2-P [$_{\text{VP}}$ ...]]]]]
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According to this system, the obviation effect with non-intentional actions is explained as follows: in non-intentional configurations, *v*P is a weak phase (or a non-phase) and thus PIC does not preclude Agree between *imp* and Asp2-P. This is schematized in (28):

(28) Ne upadi! 'not fall.down$_{\text{P.IMP}}$' (RU)
[$_{\text{CP}}$ *imp* [$_{\text{NegP}}$ Neg [$_{\text{TP}}$ T [$_{v\text{P}}$ *v*-weak [$_{\text{AspP2}}$ Asp2-P [$_{\text{VP}}$ ...]]]]]
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3.2 Arguments Against a Purely Syntactic Account

One immediate problem with the system sketched in Section 3.1 is that it can only account for the exceptions to the Aspectual Restriction with lexically non-intentional verbs like 'fall' and 'forget' (3). It is plausible to claim that, in constructions with verbs that are low on the agentivity scale, like unaccusatives or psych-verbs, *v*P is a weak phase (or a non-

phase). It is much less plausible to claim the same thing for transitive agentive verbs like 'open' and 'tell' when they are used in de-intentionalizing contexts like (4). But we saw that in (4) the Aspectual Restriction is circumvented as well. Despić (2016, to appear) cannot explain cases like (4) without making undesirable stipulations about the dependence of *v* on the context.

A more fundamental problem is that, in addition to negative imperatives, other constructions show the same Aspectual Restriction, at least in Russian. This is illustrated for negated strong deontic modals in (29a). Interestingly, PL and BCS do not exhibit the Aspectual Restriction with strong deontic modals, (29b-c). I return to this cross-Slavic variation in Section 4.

(29) *Strong deontic modals under negation*

RU a. Ivan ne dolžen uxodit'/*ujti.
Ivan not obliged leave$_{\text{I.INF/-P.INF}}$
'Ivan doesn't have to leave.'

PL b. Ivan nie musi iść/wyjść.
Ivan not must leave$_{\text{I.INF/-P.INF}}$
'Ivan doesn't have to leave.'

BCS c. Ivan nije dužan odlaziti/otići kući.
Ivan not$_{\text{AUX}}$ obliged go$_{\text{I.INF/-P.INF}}$ home
'Ivan doesn't have to go home.'

Extending the syntactic analysis of the Aspectual Restriction to deontics derives the correct results for PL and BCS, but not RU, as schematically shown in (30). This is because the syntactic analysis crucially depends on *imp* moving above negation to CP (for scopal reasons). No such movement is necessary for deontic modals, which in Slavic scope below negation. In this objection, I put aside the question why deontics need to Agree with Asp in the first place. For imperatives, Agree can be morphologically motivated, as the same morpheme spells out *imp* and Asp. In deontic constructions, however, Asp is spelled out on the lexical verb, not the deontic modal.

(30) *A purely syntactic account predicts no Aspectual Restriction with deontic modals* (correct for PL/BCS; wrong for RU)

a. [$_{CP}$ C [$_{NegP}$ Neg [$_{TP}$ have-to [$_{AspP1}$ Asp1-I [$_{vP}$ *v* [$_{VP}$ ...]]]]]]
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b. [$_{CP}$ C [$_{NegP}$ Neg [$_{TP}$ have-to [$_{vP}$ *v* [$_{AspP2}$ Asp2-P [$_{VP}$ ...]]]]]]
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3.3 Does the semantic/pragmatic account score better?

We saw above that, on the semantic/pragmatic account, lexical and contextual exceptions to the Aspectual Restriction are explained uniformly by the absence of the *int* operator. Therefore, the semantic/pragmatic account is not subject to the first objection.

What about the second objection? Under the semantic/pragmatic account, the Aspectual Restriction with strong deontics in Russian receives the same analysis as with imperatives, with one additional assumption: namely, that the deontic flavor is compatible only with the intentional interpretation of the action (e.g., Knobe & Szabó 2013).[16]

The derivation of the Aspectual Restriction with strong deontic modals is shown in (31).[17] It is easy to see that its explanation is parallel to that of the Aspectual Restriction for negative imperatives (22). I leave it to the readers to convince themselves that the use of the imperfective with a negated strong deontic modal does not result in contradiction (parallel to (23)).[18]

(31) a. *'Ivan not obliged.to *int* leave-P'

[16] A qualification is needed here: the intentionality of the action with deontics holds only when obligations are relativized to the agent of the action, which is not the case in examples like (i). I thank Hedde Zeijlstra for bringing up this point.

(i) (A parent to a babysitter:) The children must be in bed by 8 o'clock.

[17] I show the computations only for the '¬□$_{deon}$' parse. The '□$_{deon}$ ¬' parse is identical to the imperatives discussed in (22).

[18] An immediate prediction here is that weak/existential deontic/root modals are allowed with both I and P in Russian. This prediction is borne out; see (i) and Rappaport (1985), Hudin (1994), de Haan (2002), etc.

(i) (According to the prison regulations...)
RU Ivan ne možet ottuda zvonit'/pozvonit'.
Ivan not possible from.there call$_{I.INF/P.INF}$
'Ivan is not allowed to call from there.'

b. *Assert:* ¬ □$_{deon}$ Ivan-leave EP
c. *Alt:* ¬ □$_{deon}$ Ivan-leave S
d. *SI:* ¬ ¬ □$_{deon}$ Ivan-leave S ≡
□$_{deon}$ Ivan-leave S
e. *Psp of int:* □$_{deon}$ (Ivan-leave S → Ivan-leave EP)
f. b&d&e = ◊ ¬EP & □S & □(S→EP) = ⊥

4 In Lieu of a Conclusion

This paper discussed the Aspectual Restriction and exceptions to it in negative imperatives in Slavic. Building on the intuitions outlined in previous work, I proposed a formalization of the Aspectual Restriction in terms of semantics/pragmatics. I also showed that a purely syntactic account of the phenomena in question cannot be successful.

One strong argument against a purely syntactic account comes from the observation that in some Slavic languages the Aspectual Restriction is also observed with strong deontic modals. The parallel behavior of strong deontics and imperatives is not unexpected. In many accounts, deontics and imperatives receive similar treatment (e.g. Han 1999, Ninan 2005, Kaufmann 2012). The challenge is to explain why some Slavic languages (like Russian, (2a) and (28a)) show the Aspectual Restriction with both strong deontic modals and imperatives, whereas other Slavic languages (like Polish and Bosnian/Croatian/Serbian, (2b-c) and (29b-c)) show the Aspectual Restriction only with imperatives. In the remainder of the conclusion, I briefly outline how the challenge presented by this cross-Slavic variation can be addressed.

In particular, I would like to suggest that the observed difference between Slavic languages is due to the differences in their aspectual systems. Slavic aspect is a complex topic and I will not be able to do justice to the vast literature on this subject. However, I would like to point out that there are accounts that try to systematize aspectual phenomena across Slavic languages. One such account is the so-called East-West Theory of Slavic aspect. According to this theory, there is a systematic difference between Eastern Slavic languages (Russian, Ukrainian, Belarus) and Western Slavic languages (Serbian, Czech,

Slovenian, etc.), with some mixed cases (Polish, Bulgarian, Macedonian); see Fortuin and Kamphuis (2015) for a recent review. The difference can be summarized as follows: **In the Eastern group,** "… the meaning of the pfv is made up of three 'layers': (a) the event expressed by the predicate is terminative; (b) the event is seen as a totality [...] such that there is a change of situation; (c) the event expressed by the pfv verb is sequentially connected to a following and/or preceding situation." (Fortuin & Kamphuis 2015: 165) In the Western group, perfective only needs to satisfy (a) and (b).

I would like to suggest that the difference between Russian, on the one hand, and Polish and Bosnian/Croatian/Serbian, on the other hand, with respect to the Aspectual Restriction in deontic and imperative constructions is due to the (c)-condition on the use of the perfective. In imperatives (by their nature), the sequential connection to a following situation (the (c)-condition) is present in both Eastern and Western Slavic languages (Bogusławski 1985, Han 1999, a.o.). This makes Western Slavic languages look superficially like Eastern Slavic languages with regard to imperatives. Deontics, on the other hand, do not require sequential connection, which creates a difference between Eastern and Western Slavic languages in negated deontic constructions. Suppose that the sequential connection to the following situation goes hand-in-hand with SI generation in the aspectual system. Recall that in this paper I argued that SI of the perfective is responsible for the Aspectual Restriction. This line of reasoning will correctly account for the fact that the Aspectual Restriction with imperatives exists in both Eastern and Western Slavic groups, whereas the Aspectual Restriction with strong deontics is only active in the Eastern group. I leave further investigation of this line of reasoning for future research.

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