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Decisive modality and intentionality effect

Abstract

This paper discusses the role interpretation of an action as intentional versus accidental plays in the grammar. It focuses on two grammatical restrictions that exhibit sensitivity to the interpretation of an action as intentional versus accidental. The first restriction concerns the so-called *subject obviation*, whereby in many European languages the subject of the subjunctive clause cannot refer to the same individual as the subject of the matrix clause. For the purpose of this paper, an important property of subject obviation is that it is weakened with accidental actions. The second restriction pertains to an aspectual restriction in negative imperatives and desire statements in Slavic, which disallows the perfective aspect in these constructions. As it is the case with subject obviation, the aspectual restriction in Slavic is lifted when the action is interpreted as accidental. The paper argues for a unified semantic-pragmatic account for the weakening of subject obviation and aspectual restriction. It also shows that weakening of obviation and the aspectual restriction in case of accidental actions is part of a larger picture where the interpretation of an action as intentional versus accidental plays a central role.

Keywords: intentional, accidental, obviation, aspect, subjunctive mood, imperatives, desire predicates

1. INTRODUCTION

This paper investigates the role interpretation of an action as intentional versus accidental plays in the grammar. The effects of the interpretation of an action as intentional versus accidental have been discussed in the literature with respect to a number of phenomena. However, to the best of my knowledge, only a handful of

I would like to express my deepest gratitude to my anonymous reviewers whose thorough comments and challenging questions helped to bring the paper to its current state. Some of their suggestions have been incorporated into the analysis, which is acknowledged in the text, but oftentimes I wished I could make a more proper attribution of their ideas. I am also grateful to Name, Name, and Name for discussing this topic with me at different stages. This research was supported by XXX research grant.

studies have tried to make a connection between different phenomena sensitive to intentionality of an action.[1]

My goal with this paper is to contribute to the project of constructing a unified analysis of the intentionality effects observed in the literature. To that end, I take a close look at two concrete phenomena that have been observed to exhibit intentionality effects, but have not been unified before. The intentionality effect we will be interested in is a situation where a particular grammatical restriction is lifted or weakened when an action is interpreted as accidental, as opposed to intentional.[2]

The first phenomenon we look at pertains to the so-called *subject obviation*, whereby the subject of the subjunctive clause cannot co-refer with the subject of the matrix clause, see (1)a. However, this restriction is relaxed when the action described in the subjunctive clause is interpreted as accidental as it is the case with predicates like *se tromper de* 'to be mistaken about' in (1)b (e.g., Ruwet, 1984).

(1) a. * Je veux que je parte. (French)
I want that I leave-SBJV
intended: 'I want for me to leave.'

b. Je ne veux pas que je me trompe de clé.
I not want PRT that I me mistaken-SBJV about keys
'I do not want for me to mix up the keys.'

(Ruwet 1984, cited in Szabolcsi 2010, 2)

[1] See section 5 for some discussion of existing literature on the topic.

[2] In this paper, I take 'intentional' in the strong sense. That is to say, an action is *intentional* if it is initiated intentionally and is fully controlled by the agent. If an action is not initiated intentionally or agent's control over the action is limited, the action is *non-intentional* or *accidental*. Also, in this paper, 'agent' refers to the agent of an action, rather than the thematic role. This distinction is especially important to keep in mind for unaccusative verbs and predicates expressing mental states (psych-verbs), such as *amuse* and *annoy*, where the grammatical subject is analysed as a causer (e.g., Pesetsky 1987; Belletti and Rizzi 1988; Landau 2010).

Our second phenomenon concerns the restriction on the use of the perfective aspect in Slavic languages. We will look at two sub-types of this restriction. First, we will see that negative imperatives in Slavic cannot be used with perfective verbs, see (2)a. However, this aspectual restriction is lifted when the action expressed by the verb is interpreted as accidental, see (2)b (e.g., Bogusławski 1985).

(2) a. * Ne otkroj okno! (Russian)
not open-IMP.PFV window
intended: 'Don't open the window!'

b. Ne zabud' kluči!
not forget-IMP.PFV keys
'Don't forget the keys!'

Second, we will see that the same aspectual restriction obtains in the complement of a negated desire predicate, as illustrated in (3)a. This restriction is also lifted when an action is interpreted as accidental, see (3)b.

(3) a. * Mark ne xočet ujti. (Russian)
Mark not want leave-INF.PFV
'Mark does not want to leave.'

b. Mark ne xočet poterjat' kluči.
Mark not want lose-INF.PFV keys
'Mark does not want to lose the keys.'

What unifies desire statements (the case of obviation in (1) and the second subtype of the aspectual restriction in (3)) and imperatives (the first sub-type of the aspectual restriction in (2)) is that they represent one class of modality, which we will refer to as *decisive modality*, following Kaufmann 2019. To account for the intentionality effect in constructions with decisive modality, we will build on a semantic-pragmatic analysis of directive obviation in Kaufmann 2019. This analysis is formalized using multi-agent modal logic and derives obviation as inconsistent requirements on the context in which sentences in question are uttered. In order to

account for the intentionality effect, I propose a modification of Kaufmann's analysis of directive obviation which introduces a new pragmatic condition on constructions with decisive modality.

It must be stressed at the outset that the goal of this paper is to develop a unified account for the intentionality effect in sentences with *want* and negative imperatives, rather than advocate for a particular approach to subjunctives, imperatives, or aspect. Therefore, I will be using a specific set of theoretical assumptions without devoting much space to defending them against existing alternatives. Any theory of subjunctives, imperatives, aspect, or any other phenomena touched by intentionality effects (see more on this in section 6.2) should provide an account for these effects. Moreover, only those theories that do not appeal to language- and construction-specific constraints to account for intentionality effects can be used as a basis for a unified analysis. The semantic-pragmatic account adopted here meets this requirement.

Looking at this differently, the need to unify intentionality effects across different grammatical phenomena restricts possible accounts of any particular phenomenon. As we will see in section 5, many current proposals are phenomenon-specific which does not allow them to be transported to other domains of the grammar where the intentionality effect is also attested. To avoid future limitations along these lines, the paper concludes with a general discussion of intentionality in the grammar and presents some other phenomena showing sensitivity to the interpretation of an action as intentional versus accidental.

The flow of the article is as follows: In section 2, we look at subject obviation and aspectual restriction in more detail focusing on those contexts that relax the restrictions in question. Section 3 discusses directive obviation and its analysis put forward in Kaufmann 2019. Section 4 presents the modification of Kaufmann's (2019) analysis and demonstrates how it can explain weakening of subject obviation and aspectual restriction in accidental contexts. In section 5, we see the most prominent accounts

of the weakening of subject obviation and aspectual restriction and their limitations. Section 6 contains some general remarks about the notion of intentional and accidental actions and reviews other grammatical phenomena that are sensitive to the interpretation of an action as intentional versus accidental. Section 7 concludes.

2. TWO PHENOMENA IN DETAIL

In this section, we will discuss two phenomena exhibiting the intentionality effect. The first set of observations concerns co-reference and what is known in the literature as *subject obviation*, *subjunctive obviation*, or *disjoint reference effect*. The crucial observation for our purposes is that subject obviation is relaxed or weakened when the action expressed by the verb in the embedded clause is interpreted as accidental. The second set of observations pertains to aspect choice in Slavic languages. Here, we will look at two constructions: root imperatives and desire sentences with infinitival complements. Both constructions are subject to the aspectual restriction disallowing the perfective aspect in negative sentences. As it is the case with subject obviation, the aspectual restriction is lifted when the action is interpreted as accidental.

2.1 Intentionality effect and subject obviation

In many European languages, including Hungarian, Romance languages, and Slavic languages, the subject of the subjunctive clause cannot co-refer with the subject of the matrix clause. We will refer to this restriction as *subject obviation*. Subject obviation is illustrated for French in (4) and (5) where subjunctive constructions are contrasted with infinitives. In (4), repeated from (1), subject obviation is illustrated for 1SG. (5) shows subject obviation with 3SG where *il* 'he' in the subjunctive clause cannot co-refer with *Pierre* in the matrix clause. Subject obviation is well-documented and has been studied extensively (especially in Romance languages),

for example, Bouchard 1983; Picallo 1985; Ruwet 1984, 1991; Kempchinsky 1986, 2009; Farkas 1992; Costantini 2006; Schlenker 2005, 2011; Szabolcsi 2010, 2021; Stegovec 2019.

(4) a. Je veux partir. (French)
'I want to leave.'

b. * Je veux que je parte.
intended: 'I want for me to leave.'

(5) a. Pierre veut partir.
'Pierre wants to leave.'

b. Pierre$_1$ veut qu'il$_{*1/2}$ parte.
'Pierre wants for him to leave.'

A number of accounts have been proposed to explain subject obviation, both syntactic (e.g., Kempchinsky 1986) and semantic-pragmatic (Farkas, 1992; Schlenker, 2005, 2011; Costantini, 2006, a.o.). We will discuss the most prominent accounts for subject obviation in section 5.

A noticeable property of subject obviation is that it is weakened when the action expressed by the embedded clause does not (fully) depend on the will of the agent.[3] The lack of control can be conveyed by using a passive construction as in (6)a, or a modal as in (6)b. It can also be expressed by mental state predicates like *se tromper de*

[3]Subject obviation is also weakened when "the degree of 'agentivity' of the [...] main clause subject decreases" (Farkas, 1992, p. 88), see (i):

(i) Je voudrais bien que je parte tôt.
'I would like it well for me to leave early.' (Farkas 1992)

For expository purposes, we put weakening of this kind aside as there are no parallel constructions in the domain of imperatives. However, the account proposed here can be straightforwardly extended to explain weakening in the matrix clause as well.

'to be mistaken about', see (6)c, or experiencer object verbs like *amuser* 'to amuse', see (6)d (Zaring, 1985; Ruwet, 1984, 1991; Farkas, 1992, a.o.).

(6) a. Je veux que je sois enterré dans mon village natal. (French)
'I want for me to be buried in my native village.'

b. Je veux que je puisse partir tôt.
'I want for me to be able to leave early.'

c. Je ne veux pas que je me trompe de clé.
'I do not want for me to mix up the keys.'

d. Je veux absolument que j'amuse ces enfants.
'I absolutely want for me to amuse the children.'
(Ruwet 1984, cited in Szabolcsi 2010, 2)

Subject obviation is not restricted to French or Romance languages, in general. It is also found in Slavic languages, see (7)a for Russian and in (7)b for Polish. It is worth noticing here that subject obviation is found in both positive and negative sentences and when the embedded predicate has either the perfective or imperfective morphology. This point will become important in the next section where we discuss the aspectual restriction in Slavic.

(7) a. Mark$_1$ (ne) xočet čtoby on$_{*1/2}$ uxodil / ušel. (Russian)
Mark not want that-SBJV he leave-IPFV / leave-PFV
'Mark does(n't) want for him to leave.'

b. * Chcę, żebym odwiedziła rodzinę. (Polish)
want-1SG that-SBJV visit-PFV realtives
intended: 'I want for me to visit relatives.'

As in French, and other Romance languages, subject obviation in Slavic languages is weakened when the action is non-intentional, see (8) for Russian and (9) for Polish. Again, notice that in these examples, perfective is acceptable.[4]

(8) a. Mark$_1$ (ne) xočet čtoby on$_{1/2}$ (opjat') opozdyval / opozdal.
Mark not want that-SBJV he again be.late-IPFV / be.late-PFV
'Mark does(n't) want for him to be late again.'

b. Mark$_1$ (ne) xočet čtoby on$_{1/2}$ byl poxoronen v Moskve.
Mark not want that-SBJV he be-PFV buried in Moscow
'Mark does(n't) want for him to be buried in Moscow.'

(9) a. Nie chcę, żebym się rozchorowała.
not want-1SG that-SBJV be-PFV sick
'I don't want for me to be(come) sick.'

b. Nie chcę, żebym spadła.
not want-1SG that-SBJV fall-PFV
'I don't want for me to fall.' (Szabolcsi, 2010, 9)

Subject obviation and its weakening in non-intentional contexts are also found in Hungarian, as illustrated in (10) from Szabolcsi 2010.

(10) a. * Akarom, hogy távozzam. (Hungarian)
want-1SG that leave-SBJV.1SG
'I want for me to leave.'

b. Akarom, hogy jó jegyeket kapjak.
want-1SG that good grades-ACC receive-SBJV.1SG
'I want for me to receive good grades.'

c. Akarom, hogy ne essek le.
want-1SG that not fall-SBJV.1SG down

[4] As correctly pointed out to me by an anonymous reviewer, overt subjects of *want* complements, unless focussed, are generally degraded. This is an additional factor that needs to be taken into consideration, especially when accounting for cross-linguistic variation. For some discussion of this point in Hungarian see Szabolcsi 2021. Also, see Kaufmann et al. 2021 for Serbian.

'I want for me not to fall down.' (Szabolcsi, 2010, 3-4)

Szabolcsi (2021) points out that Hungarian data is important because they can demonstrate that subject obviation is not limited to subjunctive clauses. In particular, Szabolcsi (2021) discusses two verbs *remél* 'hope' and *sajnál* 'regret' which take only indicative complements in Hungarian. Similar to what is found in subjunctives, these verbs trigger the obviation effect in intentional contexts, see (11)a,b and (12)a,b, but not in non-intentional contexts, see (11)c,d and (12)c,d.[5]

(11) a. * Remélem, hogy fél lábon állok.
hope-1SG that up on.foot stand-1SG.IND
'I hope that I'm standing on one leg.'

b. * Remélem, hogy ugrándozok.
hope-1SG that jump.around-1SG.IND
'I hope that I'm jumping around.'

c. Remélem, hogy benne vagyok a csapatban.
hope-1SG that in.it be-1SG.IND in the.team
'I hope that I'm on the team.'

d. Remélem, hogy nem untatlak.
hope-1SG that not bore.you-1SG.IND
'I hope that I'm not boring you.' (Szabolcsi 2021: ex.22)

(12) a. ? Sajnálom, hogy fél lábon állok.
regret-1SG that up on.foot stand-1SG.IND
'I regret that I'm standing on one leg.'

b. ? Sajnálom, hogy ugrándozok.
regret-1SG that jump.around-1SG.IND
'I regret that I'm jumping around.'

c. Sajnálom, hogy benne vagyok a csapatban.
regret-1SG that in.it be-1SG.IND in the.team
'I regret that I'm on the team.'

[5] In (11) and (12), the glosses are added.

d. Sajnálom, hogy untatlak.
regret-1SG that bore.you-1SG.IND

'I regret that I'm boring you.' (Szabolcsi 2021: ex.25)

Hungarian data show us that there is no necessary connection between obviation (and its weakening) and the subjunctive mood. This is important for constructing a unified analysis of subject obviation and aspectual restriction since the latter is found in indicative clauses.[6]

2.2 Intentionality effect and aspectual restriction

2.2.1 Imperatives

Across Slavic languages, positive imperatives can take verbs in either imperfective or perfective with minimal interpretative differences, as shown in (13).[7] Negative imperatives, on the other hand, are well-formed only with the imperfective, see

[6]More research is needed to investigate subject obviation cross-linguistically. For example, we would like to know why in Romance languages subject obviation appears to be more tightly connected to the subjunctive mood (e.g., Costantini 2006), than in Hungarian. Another point of cross-linguistic variation relates to the strength of the weakening effect. As mentioned in Szabolcsi 2021, the weakening effect is more robust in Hungarian than it seems to be in French. Recent experimental data in Feldhausen and Buchczyk 2021 lead to the same conclusion. I thank an anonymous reviewer for bringing this work to my attention. I leave these questions for future research.

[7]For example, in Russian, there is a tendency to use PFV for commands and IPFV for invitations and permissions as discussed in Grinsell 2011. I thank an anonymous review for pointing out this work to me.

(14). This aspectual restriction on imperatives has been well documented and amply discussed in the literature (Forsyth, 1970; Bogusławski, 1985; Zaliznjak, 2006; Paducheva, 2013; Despić, 2020, a.o.).[8,9]

(13) a. Otkryvaj / otkroj dver'! (Russian)
open-IMP.IPFV / open-IMP.PFV door
'Open the door!'

[8]An anonymous reviewer asks how Slavic languages express requests/commands not to carry out an action to completion. Several strategies can be used here. A speaker can use the imperfective with adverbials meaning 'till the end', see (i)a. Alternatively, imperfective verbs can be used with perfective prefixes, (i)b. The latter strategy is wide-spread in Slavic languages.

(i) a. Ne otkryvaj dver' do konca. (Russian)
not open-IPFV door till end
'Don't completely open the window!'

b. Ne doedaj jabloko! Ostav' mne!
not PFV-eat-IPFV apple leave-IPFV to.me
'Don't eat up the apple! Leave some to me!'

In this paper, I focus on the perfective/imperfective distinction marked by different suffixes in Slavic. To the best of my knowledge there are no comprehensive studies of the semantic contribution of different types of perfectivizing prefixes in Slavic. Because of the complexity of the picture, I will not endeavor to extend my analysis to perfectivizing prefixes. To appreciate the complexity of this enterprise, one can consult Schuyt 1990.

[9]The aspectual restriction is not limited to imperatives. In some Slavic languages, such as Russian, Ukrainian, and Belarusian, it is also found with strong deontic modals and desire statements (see section 2.2.2). There appear to be cross-Slavic variations with respect to which (modal) constructions give rise to the aspectual restriction. These variations may be attributed to the well-known West-East split in the Slavic aspectual system (Barentsen, 1998; Dickey, 2000, a.o.). See, for example, Goncharov 2020b,c for a proposal along these lines.

b. Jedz / zjedz tego jabłka! (Polish)
eat-IMP.IPFV / eat-IMP.PFV that apple
'Eat that apple!'

c. Jedi / pojedi tu jabuku! (Serbian)
eat-IMP.IPFV / eat-IMP.PFV that apple
'Eat that apple!' (Despić, 2016, ex.5)

(14) a. Ne otkryvaj / *otkroj dver'! (Russian)
not open-IMP.IPFV / open-IMP.PFV door
'Don't open the door!'

b. Nie jedz / *zjedz tego jabłka! (Polish)
not eat-IMP.IPFV / eat-IMP.PFV that apple
'Don't eat that apple!'

c. Ne jedi / *pojedi tu jabuku! (Serbian)
not eat-IMP.IPFV / eat-IMP.PFV that apple
'Don't eat that apple!' (Despić, 2016, ex.5)

The property of the aspectual restriction that interests us here is that the restriction is lifted when the action expressed by the verb is interpreted as accidental. Accidentality can be part of the lexical meaning of the verb. This is the case with unaccusatives, such as *fall*, and mental state verbs, such as *forget, lose,* and *mix up*, see (15). These verbs are low on the agentivity scale (in the sense of Dowty 1991) and thus, normally do not express intentional actions.

(15) a. Ostorožno! Ne upadi! (Russian)
careful not fall-IMP.PFV
'Be careful! Don't fall down!'

b. Nie zgub tego klucza! (Polish)
not lose-IMP.PFV that key
'Don't lose that key!' (Despić, 2016, ex.8)

c. Ne zaboravite ključeve! (Serbian)
not forget-IMP.PFV keys
'Do not forget the keys!' (ibid. ex.10)

Accidental interpretation can also be triggered by the context, as shown in (16). Notice that in these examples, a regular agentive transitive verb is used and adverbials marking accidentality are optional.[10]

(16) Context: You let your canary out of the cage and leaving the room warn your friend who is staying in the room:

a. Smotri! (Slučajno) ne otkroj okno! (Russian)
watch.out by.chance not open-IMP.PFV window
'Careful! Don't accidentally open the window!'

b. (Przypadkiem) nie otworz okna! (Polish)
accidentally not open-IMP.PFV window
'Don't accidentally open the window!'

The pattern we see here is similar to the intentionality effect with subject obviation. In both cases, we have a particular grammatical restriction (co-reference or aspect choice), which is relaxed when the agent lacks full control over the action

[10]Whereas lifting of the aspectual restriction with unaccusatives and mental states is robust across Slavic languages, the contextual mechanism for signaling accidentality appears to be subject to variation. For instance, in the Serbian example in (i)a, the perfective is still judged unacceptable even when the sentence is interpreted in the same context as in (16). However, Serbian allows similar examples with other agentive transitive verbs like *recite* 'tell-IMP.PFV', see (i)b. I will leave the investigation of this variation for future research, concluding for the purpose of this paper that lifting of the aspectual restriction in accidental contexts is (to some extent) available across all Slavic languages.

(i) a. ?? Ni slučajno ne otvorite prozor! (Serbian)
not by.chance not open-IMP.PFV window
'Don't accidentally open the window!'

b. Ni slučajno joj ne recite da sam tu!
not by.chance her not tell-IMP.PFV that I am here
'Don't accidentally tell her I'm here!'

or the action is unintentional. In both cases, weakening is observed with a range of predicates including unaccusatives, mental state verbs, and agentive transitive verbs. The difference between subject obviation and aspectual restriction is that the latter is present only in negative sentences.

2.2.2 Desire-infinitives

The aspectual restriction and its weakening in accidental contexts are also found in infinitival desire statements in Russian.

In the previous section we saw the aspectual restriction with imperatives. We will now see that the aspectual restriction is also found in desire sentences with infinitives. As illustrated in (17) for Russian, infinitival desire statements display the aspectual restriction that we have already observed with imperatives: in positive sentences, both perfective and imperfective are acceptable, whereas negative sentences only allow verbs in the imperfective.

(17) a. Mark xočet uxodit' / ujti. (Russian)
Mark want leave-INF.IPFV / leave-INF.PFV
'Mark wants to leave.'

b. Mark ne xočet uxodit' / *ujti.
Mark not want leave-INF.IPFV / leave-INF.PFV
'Mark does not want to leave.'

As it is the case with imperatives, the aspectual restriction in negative infinitival desire statements can be lifted when the action is interpreted as accidental. For example, PFV becomes available with accidental actions, such as 'run late' or 'mix up the keys', see (18)a,b, as well as with unaccusatives, see (18)c.

(18) a. Mark ne xočet opozdat'. (Russian)
Mark not want run.late-INF.PFV
'Mark does not want to run late.'

b. Mark ne xočet pereputat' kluči.
Mark not want mix.up-INF.PFV keys

'Mark does not want to mix up the keys.'

c. Mark ne xočet upast'.
Mark not want fall-INF.PFV
'Mark does not want to fall.'

To the best of my knowledge, the intentionality effect in infinitival desire statements in Slavic is not well studied, apart from some mention of the phenomenon in Zaliznjak 2006. More research in this area is needed that will explore (among other things) cross-Slavic variation of the phenomenon.[11]

The observation that is important for us here is that at least in some Slavic languages, which show the aspectual restriction and its weakening in non-intentional contexts in imperatives, the same restriction and the same weakening obtain in infinitival desire statements. This observation is important because it shows that the aspectual restriction and obviation do not depend on each other.

To see this, let us first recall from the previous section that subjunctive clauses in Slavic exhibit subject obviation which is weakened in non-intentional contexts, see (19) repeated from above. Moreover, the obviation effect is found with both the perfective and the imperfective, that is to say, no aspectual restriction is observed. Only negative sentences are used here as we know that the aspectual restriction surfaces under negation.

(19) a. Mark$_1$ ne xočet čtoby on$_{*1/2}$ uxodil / ušel. (Russian)
Mark not want that-SBJV he leave-IPFV / leave-PFV
'Mark doesn't want for him to leave.'

b. Mark$_1$ ne xočet čtoby on$_{1/2}$ (opjat') opozdyval / opozdal.
Mark not want that-SBJV he again be.late-IPFV / be.late-PFV

[11] For example, as pointed out to me by Bogna Wiench (p.c.), unlike Polish imperatives, infinitival desire statements in Polish do not exhibit the aspectual restriction. This may be related to the fact that Polish, unlike Russian, does not display aspectual restriction with strong deontic modals, see fn. 9.

'Mark doesn't want for him to be late again.'

2.2.3 Combining the facts about aspectual restriction

In previous sections, we saw that the aspectual restriction is found in imperatives, which are comparable to the disjoint-referent situation. This is because in imperatives, the individual who gives the order is normally different from the individual who performs the action. We also saw that the aspectual restriction is found in desire-infinitives, in which PRO is obligatorily co-referential with the subject of the matrix clause (Morgan, 1970; Chierchia, 1989, a.o.). The latter constructions are important because they will show us that aspectual restriction and subject obviation are independent of each other, which demonstrates that the intentionality effect is a grammatical phenomenon in its own right and has to be studied as such.

Combining these observations, we obtain the pattern summarized in table 1 for negative utterances in Russian. The pattern in table 1 shows that the ban on PFV does not lead to the impossibility of the matrix subject/director and the embedded subject/instigator to refer to the same individual or vise versa. From this we can conclude that the aspectual restriction and the obviation effect are independent restrictions. The fact that both are weakened in the same contexts indicates that there is an underlying mechanism to which both restrictions are sensitive and which is the topic of this paper.

	imperatives	desire-infinitives	subjunctives
co-reference possible	*	✓	*
PFV possible	*	*	✓

Table 1. Aspectual restriction and obviation in negative utterances in Russian

To summarize, in this section, we saw two sets of data that demonstrate the intentionality effect. The first set concerns weakening of subject obviation in non-intentional contexts. The second set pertains to lifting of the aspectual restriction in non-intentional contexts. The restrictions that the intentionality effect acts on (co-reference and aspect choice) are shown to be independent from each other. It is important to note here that the two phenomena discussed in this section represent a particular type of modality, which we will refer to as *decisive modality* (following Kaufmann and Kaufmann 2012, a.o.). This type of modality covers imperatives, desire statements, and deontic modals.[12] The data discussed in this section show clear parallelism when it comes to the intentionality effect and thus, call for a unified analysis. The goal of the following sections is to develop such an analysis.

3. DIRECTIVE OBVIATION AT THE SEMANTIC-PRAGMATIC INTERFACE

In this section, we look at a not so frequently discussed phenomenon dubbed *directive obviation* by Kaufmann (2019) and her semantic-pragmatic analysis of this phenomenon. We take Kaufmann 2019 as our starting point as it is one of the most recent and better developed analyses of obviation. We will use this discussion as a foundation for our explanation of the intentionality effect in the next section.

3.1 Directive obviation

Directive obviation in its simplest configuration can be illustrated by inability of first person exclusive forms to be subjects of regular root imperatives or subjunctives used for directives. As shown in (20), Greek *na*-subjunctives can be used as directive

[12] We saw above that in Hungarian, subject obviation is found with verbs like 'hope' and 'regret' that, strictly speaking, do not belong to decisive modality. Some more work will be needed to extend the analysis proposed in this paper to these examples. For some informal suggestions see Szabolcsi 2021.

speech acts. In this case, we can say that the speaker plays the role of a *director* and the addressee is an *instigator* of the action (using the terminology from Kaufmann 2019).

(20) Na aniksis to parathiro. (Greek)
SBJV open-2SG the window
'Open the window!' (Oikonomou, 2016, 73)

The picture with first person forms is different. For example, (21) cannot be used as a directive to bring it about that the speaker sends an email to Anna.[13] This is because the director and instigator under such an interpretation refer to the same individual – the speaker. The ban on having the director and instigator of the directive speech act to co-refer is what is known as *directive obviation.*

(21) # Avrio na stilo ena e-mail stin Ana.
tomorrow SBJV send-1SG an e-mail at.the Anna
'Tomorrow, I should send an email to Anna.' (Oikonomou, 2016, 168)

This restriction, however, is not morpho-syntactic. As shown below, when the instigator is understood as not being in full control of his action, the obviation disappears (Oikonomou, 2016; Kaufmann, 2019, a.o.). The example in (22) is an illustration using Greek *na*-subjunctives. (22) is acceptable in a context where the speaker does not have an alarm clock and indirectly requests her mother, who usually wakes up before 6am, to wake her up.

(22) Avrio na ksipniso stis 6.00a.m.
tomorrow SBJV wake-1SG at.the 6.00a.m.

[13]This example can only be used as talking to oneself when, for example, creating a to-do list for tomorrow. For the purpose of this paper, I will put this reading aside. As correctly pointed out to me by an anonymous reviewer, this reading is not entirely orthogonal to the issues discussed here, but it seems to be unaccounted for by all existing works on imperatives and directive subjunctives.

'Tomorrow, I should wake up at 6.00a.m.' (Oikonomou, 2016, 168)

Directive obviation has been attested in other languages. For example, in Slovenian, directives can be expressed using regular imperative morphology with second person and first person *inclusive* or by *naj*-subjunctives with third person. Crucially, first person *exclusive* forms are unavailable (Stegovec and Kaufmann, 2015; Stegovec, 2017, 2019, a.o.). This paradigm is illustrated in (23). As with the Greek example in (22), the obviation in Slovenian disappears once the instigator's action is interpreted as non-intentional, see Kaufmann 2019.

(23) a. *Naj pomagam! - *Naj pomagamo! (Slovenian)
SBJV help-1SG - SBJV help-1PL
intended: 'I should help!' - 'We should help!'

b. Pomagaj! - Pomagajte! - Pomagajmo!
help-IMP.2SG - help-IMP.2PL - help-IMP.1PL(INCL)
'Help!' - to more than two people: 'Help!' - 'Let's help!'

c. Naj pomaga! - Naj pomagajo!
SBJV help-3SG - SBJV help-3PL
'(S)he should help!' - 'They should help!' (Kaufmann, 2019, 642-3)

Directive obviation has also been studied in more complex constructions, such as interrogative imperatives and embedded imperatives (see Kaufmann 2019 for discussion and references). For the purpose of this paper, it suffices to point out that the phenomenon is wide-spread and is convincingly argued to be grammatical in nature. For instance, the following examples show that imperatives can be embedded in Slovenian, unless the subject of the matrix and the imperative are co-referential, compare (24)a with (24)b.

(24) a. Rekel (ti) je, da mu pomagaj.
said-M.SG (2SG.DAT) is that 3SG.M.DAT help-IMP.2SG
'He$_1$ said (to you) that you should help him$_{1/2}$.' (Sheppard and Golden 2002, cited after Kaufmann 2019, 439)

b. * Rekel si$_1$, da več telovadi$_1$.
said-M.SG are-2SG that more exercise-IMP.2SG
intended: 'You said that you should exercise more. (ibid. p. 643)

c. Rekel si$_1$, da moraš$_1$ več telovadit.
said-M.SG are-2SG that should-2SG more exercise-INF
'You$_1$ said that you$_1$ should exercise more.' (ibid. p.644)

The ungrammaticality of (24)b, however, cannot be attributed to the oddness of reminding oneself of what one has to do, for such a reminder (and a corresponding report) is perfectly expressible using deontic modals instead of imperative morphology, as in (24)c. This demonstrates that the phenomenon is grammatical in nature.

3.2 Semantic-pragmatic account of directive obviation

Kaufmann (2019) builds up her account of directive obviation on her earlier work (Schwager, 2006; Kaufmann, 2012; Kaufmann and Kaufmann, 2012, et seq.) where directive speech acts are carried out with modalized sentences (i.e., *Open the door!* ≈ *You must/should open the door*) that come with a set of pragmatic presuppositions restricting the context where directives can be felicitously used. These restrictions derive the non-assertive character of imperatives and non-canonical directives. In particular, there are two general conditions on the use of imperatives: (a) a director *d* of the imperative presents himself as uncertain about the course of events (***Epistemic Uncertainty Condition, EUC***) and (b) *d* presents himself as an authority on what follows from the modal statement (a combination of ***Epistemic Authority Condition, EAC*** and ***Decisive Modality, DM***).

The account is formalised using multi-agent modal logic with two unary operators □ and ◊ indexed for epistemic and prioritising relations with respect to different individuals.[14] Interpretation proceeds with respect to a frame F = <W, D, B, R>,

[14] For some introductory textbooks on (multi-agent) modal logic see Blackburn et al. 2001; van Ditmarsch et al. 2008; Holliday 2016.

where W is a set of possible worlds, D is a set of individuals (including S(peaker) and A(ddressee)), B maps any x in D to x's belief relation $B_x \subseteq W \times W$ (serial, transitive, shift-reflexive[15]), R $\subseteq W \times W$ is the salient prioritizing modal flavour. For convenience, two additional modal operators based on B are defined:[16]

(25) **Common Ground Belief**: $\Box^{CG}$ is indexed for the transitive closure of speaker's and addressee's beliefs $B_S \cup B_A$ (Stalnaker, 2002)

(26) **Public Belief** (PB, also referred to as public commitment) of x is a common ground belief that x believes p: $\Box^{PB_x} p := \Box^{CG}\Box^{B_x} p$

Imperatives and sentences with decisive modality are translated as follows:

(27) If ϕ translates to p:

a. 'ϕ!' translates to $\Box^R p$ (felicitous only if EUC, EAC, DM are satisfied)[17]

b. 'must ϕ' translates to $\Box^R p$

We need some more definitions before we can spell out the felicity conditions for imperatives:

(28) **Context Set (CS)** is the set of possible worlds compatible with Common Ground Belief of the context in which the utterance takes place

(29) **Decision problem:** a set of propositions Δ is a **decision problem** for an agent a in a context c iff Δ partitions the context set CS_c and CS_c entails that for all

[15] A relation R is shift-reflexive iff for any w, w′ s.t. wRw′, also w′Rw′ (Kaufmann, 2019, 653).

[16] Kaufmann (2019) uses 'Mutual Joint Belief' instead of 'Common Ground Belief' which we will use here.

[17] More precisely, the condition in parentheses means that the speaker publicly commits to believing that EUC, EAC, and DM are satisfied. I thank an anonymous reviewer for this clarification.

q ∈ Δ, CONTROL(a,q), where CONTROL(a,q) := TRY(a,q) → q (that is to say, a has control over bringing about q)

The felicity conditions for imperatives are defined as follows:

(30) **(DM) Decisive Modality:** In a context set CS with a salient decision problem Δ partitioning CS, the salient modal flavor R is **decisive** iff it constitutes the contextually agreed upon criteria to choose between the cells of Δ.

(31) R being the **decisive modality** implies for any participant a to the conversation:

a. If $\Box^R q$, a does not have an effective preference against q (in the sense of Condoravdi and Lauer 2012)

b. If Δ is a decision problem for a, a tries to find out if $\Box^R q$ for any q ∈ Δ

c. If Δ is a decision problem for a and a learns that $\Box^R q$ for q ∈ Δ , a tries to realise q: $\Box^{B_a}\Box^R q \rightarrow TRY(a,q)$

(32) **(EAC) Epistemic Authority Condition:** The speaker has perfect knowledge of R: for any p ∈ Δ, $\Box^R p \leftrightarrow \Box^{B_S}\Box^R p$[18]

(33) ***(EUC)* Epistemic Uncertainty Condition:** In uttering a sentence translated as $\Box^R p$, speaker S holds possible both p and ¬p: $\Diamond^{B_S} p \wedge \Diamond^{B_S} \neg p$

According to this system,"[i]mperative marking triggers ***DM***, ***EAC***, and ***EUC*** as presuppositions, which means that the speaker takes them to be entailed by the context set by the time the content of this utterance is used to update the context set"

[18] Although ***EAC*** does not directly participate in the derivation of directive obviation or any phenomenon discussed later in the paper, it is a crucial pragmatic requirement on imperatives, which ensures that imperatives have a performative effect. Because of ***EAC***, an imperative is either true or leads to a presupposition failure, which explains why imperatives cannot be refuted by *That is not true*, see Kaufmann 2012 for more details.

(Kaufmann, 2019, 654). As we will see in the next section, the inclusion of the Control Condition (i.e., CONTROL(a,q)) into ***DM*** is problematic when it comes to accounting for imperatives with accidental actions. A modification will be proposed to overcome this issue and extend Kaufmann's analysis to aspectual data.

Let us see now how directive obviation is derived in the system. According to Kaufmann 2019, 655, directive obviation (e.g., universal lack of designated first person exclusive imperative forms) is derived as a case of inherent contradiction between the felicity conditions of imperatives in cases in which the director d is identical to the instigator a. To see how the contradiction arises, we first derive the principle of ***Director's Anticipation*** as follows:

(34) **Director's Anticipation:** If director d is publicly committed to believing that instigator a believes that p $\in \Delta$ is R-necessary, then d is publicly committed to believing that p will come true: $\Box^{PB_d}\Box^{B_a}\Box^{R}p \rightarrow \Box^{PB_d}p$

(35) Proof:

1.	$\Box^{PB_d}\Box^{B_a}\Box^{R}p$	[assumption]
2.	$\Box^{PB_d}(\Box^{B_a}\Box^{R}p \rightarrow TRY(a,p))$	[Decisive Modality]
3.	$\Box^{PB_d}\Box^{B_a}\Box^{R}p \rightarrow \Box^{PB_d}TRY(a,p)$	[system K]
4.	$\Box^{PB_d}TRY(a,p)$	[1,3,MP[19]]
5.	$\Box^{PB_d}p$	[presumed control, def. of decision problem]

Let us now consider what happens when the root imperative 'p!' with 1SG exclusive morphology is uttered. In unmarked cases, when the speaker S utters 'p!', S is the director d of the directive speech act. The instigator a of the directive speech act is the grammatical subject. In our case (1SG exclusive morphology), the instigator is also S. The identity between the director and instigator results in contradiction as shown below:

[19] MP = Modus Ponens

(36) Proof:

1.	$\Box^{PB_d}\Box^{R}p$	[committing utterance by d = S]
2.	$\Box^{PB_d}\Box^{B_d}\Box^{R}p$	[def. of PB]
3.	$\Box^{PB_d}p$	[2, Director's Anticipation]
4.	$\Box^{PB_d}(\Diamond^{PB_d}p \wedge \Diamond^{PB_d}\neg p)$	[EUC]
5.	$\neg\Box^{PB_d}p$	[4, system K]
6.	$\Box^{PB_d}p \wedge \neg\Box^{PB_d}p$	[3,5, contradiction]

As desired the contradiction arises because the director (the speaker) is identical to the instigator. The first conjunct in the contradictory statement at step 6, namely $\Box^{PB_d}p$, is derived from ***Director's Anticipation*** whose antecedent is introduced by the speaker's public commitment that $\Box^{R}p$. If the director and the instigator do not co-refer (as is the case with canonical second person imperatives), the speaker's public commitment that $\Box^{R}p$ does not entail $\Box^{PB_d}\Box^{B_a}\Box^{R}p$ and the contradiction does not arise.

Kaufmann (2019) proposes that cases of embedded directive obviation are explained using the same mechanism because the semantics of embedding predicates (*say, tell, order...*) require that the matrix subject is the director and the felicity conditions must be satisfied at the level of the reported speech act. It is also suggested that the same mechanism is at work in subject obviation given the similarity between imperatives and desire statements, although no details are provided.

4. PROPOSAL FOR INTENTIONALITY EFFECT

In this section, we discuss why Kaufmann's system in its current state is problematic for capturing imperatives with accidental actions. I put forward a modification of the system and show that with this modification, the system can be used to explicate subject obviation, aspectual restriction, and their weakening in accidental contexts.

4.1 Intentionality Effect Condition (IEC)

Kaufmann (2012, 2016) makes a distinction between imperatives used for commands, see (37)a, and imperatives used for wishes, see (37)b,c.[20] The latter can be used "only if the context cannot be construed as practical for the addressee: either because the addressee is not actually present, or because the prejacent is already settled" (Kaufmann 2016, 341). The example in (37)b illustrates a wish with an absent addressee. The example in (37)c shows a situation where the prejacent is settled, that is to say, "the prejacent describes a state of affairs that is fully determined by events before the utterance time" (Kaufmann 2016: 328).

(37) a. Feed the cat!

b. Please, be there already! [silent wish, while running to a meeting]

c. Please, don't have broken another vase! (Culicover and Jackendoff 1997 as cited in Kaufmann 2019, 650)

As correctly pointed out to me by an anonymous reviewer, the problem arises with imperatives with accidental actions, such as (38). According to Kaufmann (2016), the example in (38) cannot be used for a wish because it can be uttered in a practical context (with a present addressee and non-settled prejacent). However, it cannot be used for a command either because the instigator does not control the action which violates ***DM***.

(38) Don't lose the keys!

One solution would be to expand the definition of imperatives used for wishes by including accidental actions. But, as pointed out to me by an anonymous reviewer, this kind of solution would go against linguistic evidence. The distinction between

[20] The discussion at the beginning of this section greatly benefited from comments and suggestions made by Magda Kaufmann (p.c.) and an anonymous reviewer.

commands and wishes as defined in Kaufmann 2016 is morphologically encoded in some languages, such as Greek. In Greek, imperatives can be used for directive speech acts but not for wishes. Examples like (38), however, can be expressed using imperative morphology (e.g., Oikonomou 2016).

The solution that I propose here draws a line between commands, practical wishes or warnings, on one hand, and non-practical wishes, on the other hand. Non-practical wishes are examples like (37)b,c which are referred to as just 'wishes' in Kaufmann 2012, 2016. Practical wishes or warnings are examples like (38), that is to say, imperatives with accidental actions used for wishes or warnings in practical contexts. To illustrate the difference between practical and non-practical wishes, let us consider the example in (39), suggested to me by an anonymous reviewer. (39) can be used in two different contexts: (i) as a silent wish while watching somebody from afar (in this case, it is used for a non-practical wish) and (ii) as a warning or practical wish for a particular addressee to behave in a more cautious way to avoid falling down.[21]

(39) Don't fall!

To implement this solution I propose a modification of Kaufmann's system. In particular, I propose to extract the Control Condition from the definition of the decision problem and regard it as a default interpretation. That is to say, if there are no indications that the action is accidental, the action is taken to be intentional. I dub this condition an ***Intentionality Effect Condition (IEC)***. In other words, in Kaufmann's system, we have the decision problem defined as in (40), repeated from (30).

(40) **Decision problem:** a set of propositions Δ is a **decision problem** for an agent a in a context c iff Δ partitions the context set CS_c and CS_c entails that for all

[21] Imperatives like *Get well!* and *Have fun!* that are problematic for Kaufmann 2016 (see her fn. 39 on page 341) also belong to the category of practical wishes.

q ∈ Δ, CONTROL(a,q), where CONTROL(a,q) := TRY(a,q) → q (that is to say, a has control over bringing about q)

The definition in (40) leads to the following requirement on the context in which imperative morphology can be felicitously used:

(41) if a sentence translatable as $\Box^R p_a$ is uttered in c, then CS_c entails TRY(a,p) → p (the subscript $_a$ on the proposition indicates that a is the agent of the action described by p)

I propose to re-define the decision problem as in (42) and add the ***Intentionality Effect Condition (IEC)*** in (43), which states that the Control Condition, reformulated as the speaker's public commitment (i.e., $\Box^{PB_S}(TRY(a,p) \rightarrow p)$), obtains only if there are no indications that the speaker publicly considers it possible that the agent of the action is not in (full) control (i.e., there are no indications that $\Diamond^{PB_S}\Diamond^{B_S}$(TRY(a,p) ∧ ¬ p).[22] Note also that ***IEC*** in (43) is formulated as a condition on use for sentences with decisive modality.

(42) **Decision problem (new):** a set of propositions Δ is a **decision problem** (for an agent a) in a context c iff Δ partitions the context set CS_c[23]

(43) ***(IEC) Intentionality Effect Condition***: If a sentence translatable as $\Box^R p_a$ (where R is a modal flavor that meets DM, EUC, and EAC) is uttered in c, then $\Box^{PB_S}(TRY(a,p) \rightarrow p)$, if there are no indications that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$

[22] I am grateful to an anonymous reviewer for a detailed discussion and helpful suggestions about how to formalize ***IEC***, in particular, for their suggestion about weakening the indications of accidentality from Common Ground beliefs to speaker's public beliefs.

[23] As correctly pointed out by an anonymous reviewer, a qualification is needed here. The new definition of Decision Problem - without the control condition - makes it similar to a

The addition of the conditional in ***IEC*** allows us to have a configuration in which the imperative is uttered but the Control Condition is not met. This will happen in case there are indications that the action described by p is accidental. That is to say, ***IEC*** is satisfied in two cases shown in (44), assuming that we are interested in situations where the imperative (or more generally, any sentence with decisive modality) is uttered and accidentality excludes (full) control.

(44) ***IEC*** is satisfied when:

1. there are no indications that $\Diamond^{PB_X}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$ and $\Box^{PB_S}$(TRY(a,p) $\rightarrow$ p)
2. there is an indication that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$ and $\neg\Box^{PB_S}$(TRY(a,p) $\rightarrow$ p)

Accidentality in ***IEC*** is formulated as a condition on a belief state. We will discuss the philosophical origin of this notion of accidentality in section 6.1. An advantage of ***IEC*** (compared to other attempts to address the intentionality effect in grammar discussed in section 5) is that it does not strive to define intentional or controllable actions. Rather, it takes intentional actions to be any action that is not marked as accidental (where by accidental, we mean non-controlled and unintentional actions). Intuitively, if the action is intentionally initiated and is fully controlled by the agent, there is a belief that if the agent of the action tries to bring it about that p, then the state of affairs described by p obtains. On the other hand, the action is accidental, if it is possible that the agent tries to bring it about that p, but $\neg p$ obtains. This is shown in (45).

(45) a. Intentional action: $\Box^{B_x}$(TRY(a,p) $\rightarrow$ p)

b. Accidental action: $\Diamond^{B_x}$(TRY(a,p) $\wedge \neg$ p)

simple partitioning. For expository purposes, I will continue referring to this partitioning as Decision Problem.

Consider, for example, the verb *win* in *John won the lottery*. In this case, *win* describes a prototypical accidental action. According to (45)b, this amounts to saying that it is epistemically possible that John tries to win the lottery (goes to a convenience store, buys a ticket, etc.), but the desired state of affairs does not obtain. By contrast, for *John lifted his finger*, it is normally believed that if John tries to lift his finger, he will succeed.[24]

There is another piece of ***IEC*** which requires clarification, namely 'indications of accidentality'. What are these indications? Do they vary from language to language? Are they all lexical or they can be contextual? We already saw answers to some of these questions when we discussed obviation and the aspectual restriction in section 2. More on this in section 6.2.

Let me now demonstrate that the modification introduced above successfully derives directive obviation. It was mentioned above that ***IEC*** is satisfied in two (relevant) cases. Case #1 obtains when there are no indications that the speaker publicly considers it possible that the action is accidental (i.e., there are no indications that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p)\wedge\neg p)$) and the Control Condition obtains, see (46). As shown in (47), in this case, ***Director's Anticipation*** is derived and in cases where the director and the instigator refer to the same individual, this leads to directive obviation, as desired. This result is identical to what we saw in section 3.2.

[24] An anonymous reviewer asks about the following dialogue: 'I am not sure I can lift this...!' - 'Just lift it! You are much stronger than you're thinking, you'll see!' I agree with the reviewer's intuition that the imperative is felicitous here and is used for a command, rather than a practical wish. However, I would like to point out that the action here is not accidental (non-controlled) in the sense used in this paper. The instigator's uncertainty here is of a different nature. It is not epistemic, rather the instigator doubts his abilities or skills, see section 6.1 for some philosophical remarks on this point. The same reviewer correctly points out that the meta-language predicate TRY used in this paper needs to be further investigated.

(46) Case #1: Let us assume that there are no indications that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$. In this case, given ***IEC***, we have $\Box^{PB_S}$(TRY(a,p) $\rightarrow$ p).

(47) Proof: $\Box^{PB_d}\Box^{B_a}\Box^{R}p \rightarrow \Box^{PB_d}p$

1.	$\Box^{PB_d}\Box^{B_a}\Box^{R}p$	[assumption]
2.	$\Box^{PB_d}(\Box^{B_a}\Box^{R}p \rightarrow TRY(a,p))$	[Decisive Modality]
3.	$\Box^{PB_d}\Box^{B_a}\Box^{R}p \rightarrow \Box^{PB_d}TRY(a,p)$	[system K]
4.	$\Box^{PB_d}TRY(a,p)$	[1,3,MP]
5.	$\Box^{PB_d}p$	[4,IEC,K,MP]

Unlike in Kaufmann's system, our modified system has the second case where ***IEC*** is satisfied. Case #2 obtains when there *are* indications that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$ and the Control Condition does not hold, see (48). This second case, ensures that imperative morphology can be used for practical wishes and warnings. Additionally, in this case, no ***Director's Anticipation*** is derived. This predicts that in non-intentional contexts, co-reference becomes possible. As we will see shortly, this property of ***IEC*** will allow us to account for weakening of subject obviation and aspectual restriction.

(48) Case #2: Let us assume that there *is* an indication that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$, in this case given ***IEC***, we have $\neg\Box^{PB_S}$(TRY(a,p) $\rightarrow$ p). ***Director's Anticipation*** cannot be derived because the step from 4 to 5 in (47) is invalid.

As we see, the modification of Kaufmann's system in terms of ***IEC*** successfully derives directive obviation in intentional contexts. In addition, it avoids the problem faced by the account in Kaufmann 2012, 2016, 2019 allowing imperatives to be felicitously used in non-intentional contexts for practical wishes or warnings. The modification also provides room for modelling the intentionality effect to which we now turn our attention.

4.2 Explaining subject obviation and its weakening

Several researches have pointed out the connection between directive obviation and subject obviation (Kempchinsky, 2009; Oikonomou, 2016; Stegovec, 2019; Kaufmann, 2019, a.o.). Assuming that desires can be modelled using decisive modality, the connection is straightforward. Recall from section 2.1, that in many European languages, the subject of a subjunctive clause and the subject of the matrix clause cannot refer to the same individual, unless the action is interpreted as accidental, see (49) partially repeated from above.

(49) a. Pierre$_1$ veut qu'il$_{*1/2}$ parte. (French)
'Pierre wants for him to leave.'

b. Je veux absolument que j'amuse ces enfants.
'I absolutely want for me to amuse the children.'

Subject obviation and its weakening are accounted for similarly to directive obviation. That is to say, the identity between the attitude holder and the agent of the action in the subjunctive clause results in inconsistent requirements, but in this case, the inconsistency is in the speaker's belief set rather than the context set.

Let us see how this works. We know at least since Heim 1992 that desire statements carry an uncertainty presupposition, that is to say the attitude holder considers both p and $\neg p$ epistemically possible, see (50). This presupposition of *want* is similar to ***EUC*** for imperatives.

(50) 'want$_{ah}$ p' is defined only if: $\Diamond^{B_{ah}} p \wedge \Diamond^{B_{ah}} \neg p$ (ah = attitude holder)

As we saw above, in intentional cases where the director and instigator co-refer, ***EUC*** comes in conflict with ***Director's Anticipation***, which explains directive obviation. An equivalent of ***Director's Anticipation*** in case of *want* sentences is ***Attitude Holder's Anticipation (AHA)***, see (51). ***AHA*** is based on the principle of rationality, a standard principle in multi-agent epistemic logic which assumes all agents to be

rational. According to ***AHA***, if the attitude holder *ah* believes that the instigator *a* believes that *p* is the optimal solution to a decision problem (i.e., R-necessary), *ah* believes that *p* will be realized (i.e., *a* will act rationally).

(51) **Attitude Holder's Anticipation (AHA):** If attitude holder ah believes that instigator a believes that p $\in \Delta$ is R-necessary, then ah believes that p will come true: $\Box^{B_{ah}}\Box^{B_a}\Box^R p \rightarrow \Box^{B_{ah}} p$

AHA is derived the same manner as ***Director's Anticipation***. The only modification we need to make is to generalize the conditions on decisive modality (including ***IEC***) from the participants in conversation to all rational agents. With this generalization, it is important to be careful with the clause in (31)c, repeated in (52)c. In imperatives, 'learning' that *q* is optimal (i.e., R-necessary) is the event of the imperative being uttered (i.e., the speaker's public commitment, see step 2 of the proofs in (35) and (47)). In case of attitude predicates, 'learning' consists of the attitude holder becoming aware that *q* is R-necessary, which is obtained only if *ah* and the instigator are the same individuals. The derivation of ***AHA*** in intentional contexts is shown in (53).

(52) R being the **decisive modality** implies for any rational agent a: (generalized)

a. If $\Box^R q$, a does not have an effective preference against q

b. If Δ is a decision problem for a, a tries to find out if $\Box^R q$ for any q $\in \Delta$

c. If Δ is a decision problem for a and a learns that $\Box^R q$ for q $\in \Delta$, a tries to realise q: $\Box^{B_a}\Box^R q \rightarrow TRY(a,q)$

(53) Proof: $\Box^{B_{ah}}\Box^{B_a}\Box^R p \rightarrow \Box^{B_{ah}} p$

1.	$\Box^{B_{ah}}\Box^{B_a}\Box^R p$	[assumption]
2.	$\Box^{B_{ah}}(\Box^{B_a}\Box^R p \rightarrow TRY(a,p))$	[DM, ah=a]
3.	$\Box^{B_{ah}}\Box^{B_a}\Box^R p \rightarrow \Box^{B_{ah}} TRY(a,p)$	[system K]
4.	$\Box^{B_{ah}} TRY(a,p)$	[1,3,MP]

5. $\Box^{B_{ah}} p$ [4,IEC,K,MP]

Subject obviation is the result of inconsistent beliefs of the speaker, who, on the one hand, by uttering $want_{ah}$ p commits herself to believing that $\Box^{B_{ah}}\Box^{R} p$ and by ***AHA***, that $\Box^{B_{ah}} p$. On the other hand, the speaker holds to the uncertainty presupposition that $\neg\Box^{B_{ah}} p$. The inconsistency can be avoided in two ways. First, ***AHA*** is not derived because the attitude holder is different from the instigator (step 2 in (53) is invalid). These are non-obviative cases. Second, ***AHA*** is not derived because ***IEC*** with accidental actions disallows the step from 4 to 5 in (53), as we saw above for imperatives. These are weakening cases.[25]

Before moving to the aspectual restriction, I would like to mention a number of points that I consider to be important, but I do not have space to develop here. First, the account of subject obviation presented above does not directly depend on the presence of subjunctive in the embedded clause. Rather, the account depends on

[25] An anonymous reviewer asks why, given these assumptions, we do not observe subject obviation with infinitives, such as *Je veux partir* 'I want to leave'. This question is especially pressing because given the Hungarian data, the competition-based account is untenable (see Szabolcsi 2021). Technically speaking, there is no subject obviation in infinitives because ***AHA*** is not derived in infinitives. Why? I believe the answer is to this question must have to do with the difference in self-awareness within a world and across different possible worlds. For ***AHA***, we need the agent of the action (who is co-referential with *ah*) to *become aware* (learn) that the prejacent is R-necessary. In subjunctives, the awareness is achieved by learning about oneself across different possible worlds (through the acquaintance relation). No such learning happens in infinitives, in which PRO is obligatorily *de se* and we deal with the actual world. I will have to leave further investigation of this idea to future work. I would like to point out here that this explanation is different from the one explored by Stegovec and Kaufmann, who assume different modal operators for imperatives/subjunctives and infinitives. This solution (at least in its simple form) cannot be extended to the aspectual restriction since here imperatives align with infinitives and not with subjunctives.

many factors including the presence of the uncertainty condition and the possibility to derive ***AHA***. This is a welcome result supported by Hungarian data (Szabolcsi 2021). My second point concerns the fact that subject obviation is less sensitive than imperatives to contextual cues that the action in the prejacent is interpreted as accidental. This fact can be linked to the idea that subject obviation is not dependent on the contextual information that participants to conversation share. Rather, the intentional/accidental distinction comes from linguistic cues (passives, unaccusatives, etc.) and the encyclopedic knowledge about some actions (*win, lose*, etc.). A detailed exploration of these points will have to wait another occasion.

4.3 Explaining aspectual restriction and its weakening

To explain the intentionality effect with aspectual restriction in Slavic, we need to look more closely at the meaning contribution of the perfective and imperfective aspects in Slavic. Following recent work in Grønn 2003; Zinova and Filip 2014, a.o., we assume that the perfective aspect in Slavic asserts that the action has achieved the end-point and has an implicature that the action has begun, see (54). The imperfective aspect asserts that the action has started and generates no relevant implicatures, see (55).

(54) a. Ivan ne pročital etu knigu. (Russian)
Ivan not read-PFV this book
'Ivan didn't read this book (completely through).'

b. Assertion: Ivan did not finish reading this book

c. Implicature: Ivan started reading/read a part of this book

(55) a. Ivan ne čital etu knigu.
Ivan not read-IFPV 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 implicatures)

To make these intuitions formally explicit, let us assume the semantics for Slavic aspect as in (56) (e.g., Altshuler, 2012, 2016). These are simplified denotations that ignore interaction with time and discourse as well as the diversity of perfective prefixation in Slavic. But they suffice for the purpose of this paper as they emphasize the main difference between PFV and IPFV relevant for us here. Both PFV and IPFV are functions from a set of events provided by VP to a set of states of these events. PFV returns a set of final states, whereas IPFV returns a set of beginning states.[26]

(56) a. PFV $\rightsquigarrow \lambda P \lambda s . \exists e [s = FIN(e) \wedge P(e)]$

b. IPFV $\rightsquigarrow \lambda P \lambda s . \exists e [s \subseteq BEG(e) \wedge P(e)]$

Given these denotations, the truth-conditions of simple negative sentences are as shown in (57) and (58). As beginning and finishing of the event stand in the asymmetrical entailment relation, PFV, but not IPFV, has enriched truth-conditions as shown in (58)c.[27,28]

[26] As a rough approximation, finishing states in PFV can be thought of as result states. However, it is important to keep in mind that Slavic aspect is a complex multi-dimensional system and in this paper we concern ourselves only with the dimension that is relevant for us.

[27] For the purpose of this paper, it is not important which mechanism we use for deriving the enriched meaning of PFV. For example, we can use the exhaustification mechanism used for deriving Scalar Implicatures (SIs) and the distribution of Polarity Sensitive Items (Chierchia, 2004, 2013; Chierchia et al., 2012, a.o.). What is important for us here is that the enriched meaning arises only in negative environments (negative sentences or downward-entailing predicates) where it does not contradict the entailment of the assertion. It is worth pointing out here that although the implicature of Slavic PFV shows the projective behaviour of SIs (Zinova and Filip, 2014), it is not easily cancellable. I leave the exact status of these inferences for another research (for example, they can be more similar to 'soft presuppositions' as in, for instance, Romoli 2012).

[28] The denotations of aspectual markers are assumed to be intensional. Reference to possible worlds is omitted from the formulas for simplicity.

(57) a. Mark ne čital knigu. 'Mark not read-IPFV book'

b. $\neg\exists s\exists e[s \subseteq BEG(e) \wedge read(mark, book, e)]$

(58) a. Mark ne pročital knigu. 'Mark not read-PFV book'

b. $\neg\exists s\exists e[s = FIN(e) \wedge read(mark, book, e)]$

c. enriched meaning:

$\neg\exists s\exists e[s = FIN(e) \wedge read(mark, book, e)] \wedge \exists s\exists e[s \subseteq BEG(e) \wedge read(mark, book, e)]$

We will see shortly that the enriched meaning of sentences with PFV is responsible for the aspectual restriction in Slavic imperatives and desire statements when the Control Condition is present. In order to see this let us abbreviate the sentences above as follows:

(59) 'Mark not read-PFV book' uttered by S in c =

S is publicly committed to believing that Mark didn't finish reading the book (assertion) and and that Mark began reading the book (implicature):

$\Box^{PB_S}\neg FIN(read(m,b)) \wedge \Box^{PB_S} BEG(read(m,b)))$

(60) 'Mark not read-IPFV book' uttered by S in c =

S is publicly committed to believing that Mark didn't begin reading the book:

$\Box^{PB_S}\neg BEG(read(m,b))$

Using the abbreviations above, imperatives will look as follows (where S = the speaker and the director, u is the addressee):[29]

(61) a. 'not open-IMP.PFV door!'

$\Box^{PB_S}\Box^{R}\neg FIN(open(u,d)) \wedge \Box^{PB_S} BEG(open(u,d))$

[29] We make the standard assumption that in negative imperatives, negation scopes below the imperative operator (Han, 1999; Zeijlstra, 2006, a.o.). Similarly, we also assume that desire sentences have a neg-raising interpretation, that is to say, *John doesn't want to leave* is interpreted as *John wants not to leave* (e.g., Fillmore 1963; Bartsch 1973; Romoli 2012, a.o.).

b. 'not open-IMP.IPFV door!'

$\Box^{PB_S}\Box^{R}\neg BEG(open(u,d))$

The derivation of the aspectual restriction and its weakening is similar to the derivation of directive obviation in that they arise from contradictory pragmatic requirements. However, the difference lies in that contradictory requirements are introduced by ***EUC*** and the aspectual inference of PFV, rather than ***EUC*** and ***Director's Anticipation***. To see how this works, let us restate ***IEC*** in terms of aspect, see (62), which is a sub-case of our ***IEC*** in (43).[30]

(62) If a sentence translatable as $\Box^{R}p_a$ is uttered in c, then $\Box^{PB_S}(BEG(a,p) \rightarrow FIN(a,p))$, if there are no indications that $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$

Let us first consider negative imperatives with PFV, as in (61)a. Recall that in intentional contexts, they give rise to the aspectual restriction, as in (14), which is lifted in accidental contexts, as in (16). According to our system, PFV has the aspectual inference which combined with ***IEC*** in intentional contexts derives that the speaker is publicly committed to believing that FIN(a,p). On the other hand, ***EUC*** requires that the speaker consider ¬FIN(a,p) epistemically possible. Since these requirements are inconsistent, see (63), we obtain the aspectual restriction.[31]

(63) Proof:

1. $\Box^{PB_S}\Box^{R}\neg FIN(a,p) \wedge \Box^{PB_S}BEG(a,p)$ [enriched meaning of PFV]

[30] Note that here and in the general case of IEC, using PFV is not an indication of accidentality.

[31] As an anonymous reviewer correctly notices, the proposed derivation of the aspectual restriction assumes that the enriched meaning of PFV is added before felicity conditions are evaluated. This can be related to the pragmatic system in Gazdar (1979) where implicatures are filtered in before presuppositions. However, this can also be related to the fact that the implicature of PFV is not as easily cancellable as a standard Scalar Implicature, see fn. 27.

2. $\Box^{PB_S}(BEG(a,p) \rightarrow FIN(a,p))$ [IEC in intentional contexts]
3. $\Box^{PB_S}FIN(a,p)$ [1,2,system K]
4. $\Box^{PB_S}(\Diamond^{PB_S}FIN(a,p) \wedge \Diamond^{PB_S}\neg FIN(a,p))$ [EUC]
5. $\neg\Box^{PB_S}FIN(a,p)$ [4, system K]
6. $\Box^{PB_S}FIN(a,p) \wedge \neg\Box^{PB_S}FIN(a,p)$ [3,5, contradiction]

In accidental contexts, ***IEC*** returns $\Diamond^{PB_S}(BEG(a,p) \wedge \neg FIN(a,p))$ which is compatible with the aspectual inference of PFV as well as ***EUC***. Thus, we obtain weakening of the aspectual restriction in accidental contexts.

The situation with negative imperatives with IPFV, as in (61)d is simpler. We know that they do not give rise to the aspectual restriction. According to our system, this is because IPFV does not have an implicature and thus, it does not interact with ***IEC*** in either intentional or accidental contexts.[32]

It is easy to see that infinitival desire statements receive an identical explanation employing the assumptions spelled out for subject obviation in section 4.2.

To summarize, our account of subject obviation, aspectual restriction, and their weakening in accidental contexts revolves around the possibility to derive ***Director's Anticipation*** (or a similar principle for the attitude holder in desire statements) or its equivalent in the aspectual restriction via the obligatory inference of PFV. When these principles are derived, we obtain inherently contradictory requirements on the context set or speaker's beliefs. These principles are not derived in two cases: (i) when the director (or attitude holder) and the instigator are not co-referential and (ii)

[32]The situation with positive imperatives is straightforward. PFV does not have an implicature since it is the strongest element among the two. IPFV may give rise to the implicature that the action has not been finished ¬FIN(a,p). However, this implicature does not interact with ***IEC*** in either intentional or accidental contexts. Thus, no contradiction with ***EUC*** is derived. This explains the absence of the aspectual restriction in positive imperatives.

when the action is not fully controlled by the instigator. In these cases, we find the weakening effect.

5. PREVIOUS LINGUISTIC ACCOUNTS

In this section, we discuss most prominent accounts of the weakening effect in subject obviation and aspectual restriction. One of the first proposals for capturing the distinction between intentional and accidental actions in language is that of Farkas 1988. Although Farkas (1988) did not directly aim at explaining subject obviation, she was (one of the) first to propose a way to capture intentional/accidental distinction in the grammar by using a RESP(onsibility) relation. This relation (or a related operator) was later used in Farkas 1992 to account for subject obviation and its weakening and in Szabolcsi 2010 to explain subject obviation in combination with the distribution of Positive Polarity Items (PPIs) (see section 6.2). RESP was also considered and rejected by Schlenker (2005, 2011) when analyzing subject obviation in French and used by Grano (2017) to provide the semantics for *intend* as an attitude predicate.

Farkas (1988) aimed at explaining controller choice in sentences like (64), that is to say the fact that in (64)a the implicit argument PRO in the embedded clause refers to John, whereas in (64)b, PRO refers to Mary. For this purpose, she postulated a new semantic relation RESP defined as in (65).

(64) a. Mary convinced John to leave.

b. Mary promised John to leave.

(65) "RESP(i,s) holds between an individual i (initiator) and a situation s just in case i brings s about, i.e., s is the result of some act performed by i with the intention of bringing s about." (Farkas, 1988, 36)

Farkas (1988) argues that RESP is not reducible to the traditional thematic role of an agent. One argument for this is that the initiator i of RESP does not have to be a participant in the situation s, which i brings about. For instance, in (66), John is the initiator of the situation described by the embedded clause, but not a participant in it. An agent cannot be a non-participant.

(66) John promised Mary that the children will be in bed by 8. (ibid. p. 36)

According to Farkas, *convince* and *promise* are RESP-inducing in that they have RESP among their satisfaction conditions. The difference between (64)a and (64)b is that *convince* requires the first argument of RESP to be associated with the direct object in the matrix clause, whereas *promise* requires the first argument of RESP to be associated with the matrix subject. In the unmarked situation (canonical control), the controller choice falls on the matrix argument that bears RESP to s when the controlled argument is also in RESP with respect to s. The important contribution of Farkas' work is that it demonstrated the need to distinguish intentionality from agentivity, a closely related, but distinct grammatical concept.

Farkas (1992) applies RESP to account for weakening of subject obviation by suggesting that in order for the obviation effect to emerge, both the subject of the matrix clause and the subject of the embedded clause have to stand in the RESP relation to the situation described by the complement. If either of RESPs is deficient, the obviation effect is weakened, as we saw in section 2.1.

The RESP-account has been criticized with respect to its direct application to the subject obviation. For example, Schlenker (2005) provides the examples in (67) to question whether RESP is the right kind of relation. He points out that it is not obvious in what sense Jean is responsible for being handicapped in (67). Nonetheless, the obviation effect obtains, compare (67)a with (67)b. Schlenker (2005, 2011) proposes an alternative account for subject obviation and its weakening in terms of event-De-Se construal. This account, however, cannot be straightforwardly extended

to the aspectual restriction and its weakening (nor to other phenomena that exhibit the intentionality effect, see section 6.2), so we leave it behind the scenes and refer the interested reader to the cited papers for details.[33]

(67) a. Jean$_1$ ne se console pas qu'il$_{*1/2}$ soit handicappé. (French)
'Jean cannot console himself that he is handicapped.'

b. Jean ne se console pas d'être handicappé.
'Jean cannot console himself to be handicapped.' (Schlenker, 2005, 294)

More recent accounts notice the parallelism between subject obviation and its weakening and other similar phenomena. For example, Zu (2018), building on Szabolcsi 2010, proposes a unified syntactic account for subject obviation, distribution of PPIs, and verbal inflection in Newari. Specifically, Zu (2018) postulates a Sentience projection (SenP) at the left periphery of attitude complements, whose specifier hosts a perspectival expression (building on ideas in Speas and Tenny 2003). This Sen-head comes with a different featural mark-up in what Zu calls canonical control (RESP), non-canonical control (non-RESP), and non-control, (68). In canonical control, Sen comes with an unvalued ϕ-features, which triggers domain suspension as in Bobaljik and Wurmbrand 2013, making the searchable domain of canonical control as large as the matrix CP, see (68)a. In non-canonical control, Sen comes only with an unvalued feature [uD], which is valued by PRO via Spec-head agreement and the domain is closed off at SenP, see (68)b. In non-control cases Sen

[33] An anonymous reviewer points out that *se consoler* does not belong to core cases of decisive modality, but is rather an emotive factive. However, Szabolcsi (2021) observes that subject obviation is not limited to predicates that select subjunctive mood or closely relate to decisive modality. *Se consoler* can be analyzed on a par with Hungarian 'hope' and 'regret' (Szabolcsi 2021).

has no uninterpretable features and thus, Sen can host any perspectival expression, see (68)c.

(68) a. Canonical control (RESP):

$[_{CP}\ DP_{iD,i\phi}\ V\ [_{SenP}\ PRO_{iD,u\phi}\ Sen_{uD,u\phi}\ [_{TP}\ t_{PRO}\ V\ \ldots\ ]]]$

b. Non-canonical control (non-RESP):

$[_{CP}\ DP_{iD,i\phi}\ V\ [_{SenP}\ PRO_{iD,u\phi}\ Sen_{uD}\ [_{TP}\ t_{PRO}\ V\ \ldots\ ]]]$

c. Non-control:

$[_{CP}\ DP1_{iD,i\phi}\ V\ [_{SenP}\ DP2_{iD,i\phi}\ Sen\ [_{TP}\ t_{DP2}\ V\ \ldots\ ]]]$

For subject obviation, Zu proposes that subjunctive sentences are ambiguous between non-canonical control, as in (68)b, and non-control, as in (68)c. The former is associated with no-RESP interpretation and allows the matrix and embedded subjects to co-refer (weakening of obviation). The latter represents core cases of subject obviation (i.e., no co-reference between the matrix and embedded subjects).

The proposal in Zu 2018 is tailored for the co-reference phenomena. It is hard to see how it can be extended to the aspectual restriction and its weakening which, as we saw, are independent from obviation.

To the best of my knowledge there is no fully developed formal semantic/pragmatic accounts of weakening of the aspectual restriction in Slavic languages, although the literature mentioned in section 2.2 discusses this effect in various descriptive terms.[34]

[34]There is interesting recent work that bear on the topic, see Grinsell 2011; Alvestad 2014. Although these contributions do not provide full formal accounts of the aspectual restriction (nor do they relate to obviation) and its weakening, they make important steps forward towards our understanding of the differences between PFV and IPFV. I thank two anonymous reviewers for pointing out these works to me.

One fully fledged syntactic account of the aspectual restriction in Slavic and exceptions to it, I am aware of, is Despić 2020. His account uses the following four 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 vP, whereas the perfective aspect is below vP (e.g., Svenonius 2004). Third, imp cannot scope below negation (Han, 1999; Zeijlstra, 2006, a.o.). Fourth, the Phase Impenetrability Condition (PIC) is as defined in Chomsky 2001, that is to say, 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 looks as in (69), where imp can Agree with both Asp1 and Asp2.

(69) a. Otkryvaj okno! 'open-IMP.IPFV window' (Russian)
[$_{TP}$ imp [$_{AspP1}$ Asp1-IPFV [$_{vP}$ v [$_{VP}$ ...]]]]

b. Otkroj okno! 'open-IMP.PFV window'
[$_{TP}$ imp [$_{vP}$ v [$_{AspP2}$ Asp2-PFV [$_{VP}$ ...]]]]

In negative imperatives, on the other hand, only the imperfective can Agree with imp, see (70)a. This is because NegP is merged and imp must be located in C (next highest functional projection) in order to out-scope negation. However, C is a phase head and as soon as C is merged, the complement of vP (including the perfective aspect Asp2) is unavailable for Agree, see (70)b.

(70) a. Ne otkryvaj okno! 'not open-IMP.IPFV window' (Russian)
[$_{CP}$ imp [$_{NegP}$ Neg [$_{TP}$ T [$_{AspP1}$ Asp1-IPFV [$_{vP}$ v [$_{VP}$ ...]]]]]]

b. * Ne otkroj okno! 'not open-IMP.PFV window'
[$_{CP}$ imp [$_{NegP}$ Neg [$_{TP}$ T [$_{vP}$ v [$_{AspP2}$ Asp2-PFV [$_{VP}$ ...]]]]]]

According to this system, the exceptions with accidental actions are explained as follows: in accidental configurations, vP is a weak phase (or a non-phase), thus PIC does not preclude Agree between imp and Asp2-PFV, see (71):

(71) Ne upadi! 'not fall-IMP.PFV' (Russian)

[$_{CP}$ imp [$_{NegP}$ Neg [$_{TP}$ T [$_{vP}$ v-weak [$_{AspP2}$ Asp2-PFV [$_{VP}$ ...]]]]]]

One immediate problem with the system above is that it can account only for the exceptions to the aspectual restriction with unaccusative verbs and predicates like *forget*. It is plausible to claim that with these verbs, vP is a weak phase (or a non-phase). It is much less plausible to claim the same thing for agentive transitive verbs like *open* and *tell* when they are used in non-intentional contexts. Even more problematic is that the syntactic account cannot explain the identical aspectual restriction with infinitival desire statements (and exceptions to it). This is because the syntactic analysis crucially depends on the requirement that imp has to out-scope negation and thus, be located in C in negative imperatives. No such requirement is necessary for *want*. Furthermore, the syntactic account for the aspectual restriction in Slavic developed in Despić 2020 cannot extend to subject obviation or any other phenomena exhibiting the intentionality effect.[35]

[35] An anonymous reviewer suggests that "an advantage of the syntactic account of Negative Imperative ban in BCS [Bosnian/Croatian/Serbian] is that it can account for why this ban does not exist in the periphrastic negative imperatives, i.e., *nemoj*". They claim that "this is a major issue for any purely semantic account of the negative imperative perfective ban" and ask how the proposed analysis can account for the BCS facts. In BCS, *nemoj*, which consists of a negative marker *ne* and a particle *moj* that bears the imperative inflection, can form analytic imperatives. These imperatives, unlike regular imperatives in BCS, are possible with perfective verbs under the intentional interpretation, cf. (i) with (14)c.

(i) Nemoj pojesti tu jabuku!
not-MOJ.IMP eat-PFV.INF that apple

To summarize, we have seen that the dependence of grammatical phenomena on the interpretation of the action did not go unnoticed. Both semantic and syntactic accounts have been put forward to explain this curious effect. Moreover, recent accounts recognise the need to construct a unified analysis. The present paper can be viewed as part of this joint effort by combining two phenomena that have not been treated together so far.

6. General notes on intentional and accidental actions

This section contains some general notes regarding the notion of intentions and its presence in the grammar. I start with some cursory philosophical remarks about intentions (section 6.1) and then present a list of additional linguistic phenomena that are sensitive to the interpretation of an action (section 6.2). The goal of this section is to attract interest to the topic and provide some preliminary resources to interested scholars.

'Don't eat that apple!' (Despić, 2020, ex 4a)

These BCS facts, indeed, can be straightforwardly explained by the syntactic account: since by assumption *moj* is located in T, the impenetrability of vP in negative imperatives is not an issue for imp in C agreeing with *moj*. The facts are more puzzling for semantic/pragmatic accounts, including the present analysis. These accounts need to say that the meaning of analytic imperatives formed with *nemoj* is slightly different from the meaning of regular imperatives and this difference accounts for the facts. One suggestive piece of evidence pointing towards this solution is the fact that *moj* originates from the modal *moči* 'can, be able to' (e.g., Despić, 2020, 8). As discussed in fn. 9, there is a cross-Slavic variation with respect to whether the aspectual restriction obtains with modals or not. This variation is connected to the West-East split in the Slavic aspectual system.

6.1 Philosophical remarks

This section discusses the development of concepts related to intentions and intentional actions in philosophy. It is not a review of the relevant philosophical literature. Nor does it make justice to the complexity ot the subject. Its goal is to provide some background to the idea of capturing intentions in terms of beliefs used in this paper.

We start in Ancient Greece. Aristotle defines an action as voluntary if its outcome is desirable, the action is "in a man's own power", and is done "with knowledge, i.e. not in ignorance either of the person acted on or of the instrument used or of the end that will be attained" (Aristotle, Ethica Nicomachea, V, 10 in Aristotle 1941). Since Aristotle, philosophical reflections on the nature of intentions and intentional actions have revolved around two key components: desire and belief (Anscombe, 1957; Davidson, 1963, 1980, 2001; Bratman, 1987, 1999; Velleman, 1989; Raz, 2011, a.o.). If the agent of the action does not desire to bring about a particular outcome and/or the outcome is not foreseen, the action has been considered to be unintentional/involuntary.

In the recent literature, a third component - control, "man's own power" - is added, (e.g., Mele and Moser, 1994). When an action is beyond one's abilities or is performed under coercion, such an action is not voluntary or intentional (in everyday sense), although the outcome may be highly preferable and foreseen.

However, the presence of control (in addition to desire/motive and belief/foreseeing) does not necessarily guarantee that the success of one's action is immune to luck (Pritchard, 2005, 2016; Horst, 2015). Let me borrow an example from Pritchard 2016. Imagine a skillful archer who confidently hits the target, but unbeknownst to her most targets on the field are fitted with an invisible force field that repels arrows and she just happens to choose the one that is not. Intuitively, the archer's success is still accidental, although all three ingredients - desire, belief, and

control (or skillfulness) - are present. It is this notion of epistemic luck that has been exploited in this paper.

6.2 Other linguistic phenomena with intentionality effect

Co-reference and aspect choice discussed in this paper are not the only domains of the grammar sensitive to the interpretation of an action as intentional versus accidental, Similar phenomena have been observed in different languages and different domains of the grammar. By putting these observations side by side, I want to underscore the universal nature of the intentionality effect.

The first two phenomena I mention here concern the polarity system. Szabolcsi (2004, 2010) observes that PPI anti-licensing in the infinitival complement of *not want* is sensitive to the interpretation of the action in the complement clause. When the action is intentional, a PPI cannot be interpreted under negation, whereas with accidental actions, a PPI can be interpreted under negation. It has also been shown that strong Negative Polarity Items (NPIs) are also sensitive to the interpretation of an action as intentional versus accidental, but they show a mirror pattern: strong NPIs under *want* are fully acceptable with intentional actions, but are degraded with accidental actions (Goncharov, 2020a). A related observation is made about Free Choice Items (FCIs) (polarity sensitive expressions similar to English *whatever*). Their acceptability is also affected by the interpretation of an action as intentional versus accidental (Choi and Romero, 2008; Alonso-Ovalle and Menendez-Benito, 2017, a.o.).

Another phenomenon already mentioned above concerns verbal inflection in Newari (Sino-Tibetan). In Newari, the so-called disjunct inflection with co-referential subjects is normally ungrammatical, but it becomes possible when the action is accidental or non-controlled, (e.g., Hale, 1980; Wechsler, 2018; Zu, 2018).

Additionally, interpretation of an action as intentional versus accidental affects case marking in Hindi/Urdu and Central Pomo (Tuite et al. 1985; Mithun 1991 and can be signalled by a specialized 'out-of-control' circumfix in Salish (Demirdache 1997; Davis et al. 2009).

These phenomena demonstrate the range and diversity of grammatical domains affected by the interpretation of an action as intentional versus accidental. Little research has been carried out on these phenomena and then only focused on individual cases or a subset of cases. No overarching theory of the linguistic underpinnings of the intentionality effect has been formulated yet.

7. Conclusion

Natural languages have developed multiple ways to mark the presence or absence of intentions ranging from availability of a co-referential interpretation in subject obviation configurations in many European languages and aspect choice in Slavic (explored in this paper) to a dedicated 'out-of-control' morpheme in Salish and different case marking in Hindi/Urdu and Central Pomo. These observations call for an overarching theory of the intentionality effect in the grammar. This paper is one of the steps towards such a theory. It focuses on two concrete phenomena – weakening of subject obviation and the aspectual restriction – and proposes a unifying semantic-pragmatic account for these phenomena.

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