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ARTICLE

Decisive modality and intentionality effect

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Abstract

This article discusses the grammatical role played by the interpretation of an action as either intentional or accidental. It focuses on two grammatical restrictions that exhibit sensitivity to such interpretation. The first concerns 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 article, an important property of subject obviation is that it is weakened in the case of 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 is the case with subject obviation, the aspectual restriction in Slavic is lifted when the action is interpreted as accidental. This article argues for a unified semantic-pragmatic account of the weakening of subject obviation and aspectual restriction. It also shows that this weakening of obviation and of aspectual restriction is part of a larger picture where the interpretation of an action as intentional versus accidental plays a central role.

Keywords: accidental; aspect; intentional; obviation; subjunctive mood

Résumé

Cet article examine le rôle grammatical de l'interprétation d'une action comme intentionnelle ou accidentelle. Il porte sur deux restrictions grammaticales sensibles à cette distinction. La première concerne ce que l'on appelle l'obviation du sujet, selon laquelle, dans de nombreuses langues européennes, le sujet de la proposition subjonctive ne peut pas désigner le même individu que celui de la proposition matricielle. Dans le cadre de cet article, une propriété importante de l'obviation du sujet est son affaiblissement dans le cas d'actions accidentelles. La seconde restriction porte sur une contrainte aspectuelle dans les impératifs négatifs et les énoncés de désir en slave, qui interdit l'aspect perfectif dans ces constructions. Comme pour l'obviation du sujet, cette contrainte aspectuelle est levée lorsque l'action est interprétée comme accidentelle. Cet article avance une explication sémantico-pragmatique qui unifie l'affaiblissement de l'obviation du sujet et la restriction aspectuelle, et montre que ce phénomène s'inscrit dans une optique plus générale,

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où l'interprétation d'une action comme intentionnelle ou accidentelle occupe une place centrale.

Mots clés: accidentel; aspect; intentionnel; obviation; mode subjonctif

1. Introduction

This article investigates the role interpretation of an action as intentional or accidental plays in the grammar.[1] While the effects of interpreting an action as intentional or accidental have been discussed in the literature with respect to a number of phenomena, to the best of my knowledge only a handful of studies have tried to make a connection between different phenomena sensitive to an action's intentionality.[2]

My goal 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 previously unified. The intentionality effect of interest is a situation where a particular grammatical restriction is lifted or weakened when an action is interpreted as accidental, as opposed to intentional.[3]

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

(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)

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 (2a). However, this aspectual restriction is lifted when the action expressed by the verb is interpreted as accidental, see (2b) (e.g., Bogusławski 1985).

[1] Abbreviations used: MP = Modus Ponens

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

[3] This article uses 'intentional' in the strong sense: an action is *intentional* if it is initiated intentionally and is fully controlled by the agent. If an action is not initiated intentionally or the agent's control over the action is limited, the action is *non-intentional* or *accidental*. Also, in this article, '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).

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

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

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

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

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

What unifies desire statements (as with the obviation in (1) and the second sub-type 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*. To account for the intentionality effect in constructions with decisive modality, we will build on Kaufmann's (2019) semantic-pragmatic analysis. 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. I propose a modification of Kaufmann's analysis of directive obviation, introducing a new pragmatic condition on constructions with decisive modality.

It must be stressed at the outset that the goal of this article 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.

Looked at 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 transferred to other grammatical domains where the intentionality effect is also attested. To avoid future limitations along these lines, the article concludes with a general discussion of intentionality in grammar and presents some other phenomena showing sensitivity to the interpretation of an action as intentional versus accidental.

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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 the analysis thereof put forward in Kaufmann (2019). Section 4 presents the modification of this analysis and demonstrates how it can explain the 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 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. Example (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 (e.g., Bouchard 1983; Ruwet 1984, 1991; Picallo 1985; Kempchinsky 1986, 2009; Farkas 1992; Schlenker 2005, 2011; Costantini 2006; 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. (French)
'Pierre wants to leave.'

b. Pierre_1 veut qu'il $*_{1/2}$ parte.
'Pierre wants for him to leave.'

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A number of accounts have been proposed to explain subject obviation, both syntactic (see e.g. Kempchinsky 1986) and semantic-pragmatic (see e.g., Schlenker 2005, 2011; Costantini 2006; Farkas 1992), the most notable of which will be discussed 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.[4] This lack of control can be conveyed by using a passive construction, as in (6a), or a modal as in (6b). It can also be expressed by mental state predicates like *se tromper de* 'to be mistaken about', see (6c), or experiencer object verbs like *amuser* 'to amuse', see (6d) (see e.g., Ruwet 1984, 1991; Zaring 1985; Farkas 1992).

(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. It is also found in Slavic languages, see (7a) for Russian and (7b) for Polish. It is worth noting 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 relatives
intended: 'I want for me to visit relatives.'

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

(i) Je voudrais bien que je parte tôt. (French)
'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.

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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.[5]

(8) a. Mark$_1$ (ne) xočet čtoby on$_{1/2}$ (opjat') opozdyval / opozdal. (Russian)
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. (Polish)
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).

(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
'I want for me not to fall down.'

(Szabolcsi 2010: 3–4)

Szabolcsi (2021) points out that the Hungarian data is important because they demonstrate that subject obviation is not limited to subjunctive clauses. In particular, Szabolcsi (2021) discusses two verbs, *remélni* 'hope' and *sajnálni* 'regret', which can only take indicative complements in Hungarian. Similar to what is found in subjunctives, these verbs trigger the obviation effect in intentional contexts, see (11a,b) and (12a,b), but not in non-intentional contexts, see (11c,d) and (12c,d).[6]

(11) a. * Remélem, hogy fél lábon állok. (Hungarian)
hope-1SG that up on.foot stand-1SG.IND

[5] As pointed out to me by an anonymous reviewer, overt subjects of *want* complements, unless focused, 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). See also Kaufmann et al. (2021) for Serbian.

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

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'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. (Hungarian)
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.'

d. Sajnálom, hogy untatlak.
regret-1SG that bore.you-1SG.IND
'I regret that I'm boring you.' (Szabolcsi 2021: ex.25)

The 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.[7]

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).[8] Negative imperatives, on the other hand, are well-formed only with the imperfective, see (14). This

[7] More research is needed to investigate subject obviation cross-linguistically. For example, we would like to know why subject obviation appears to be more tightly connected to the subjunctive mood in Romance languages (e.g., Costantini 2006) than in Hungarian. Likewise, as mentioned in Szabolcsi (2021), the weakening effect seems to be more robust in Hungarian than 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.

[8] 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 reviewer for pointing out this work to me.

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aspectual restriction on imperatives has been amply discussed in the literature (e.g., Forsyth 1970, Bogusławski 1985, Zaliznjak 2006, Paducheva 2013, Despić 2020).[9],[10]

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

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 that interests us here is that the aspectual 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, as 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)

[9] An anonymous reviewer asks how Slavic languages express requests/commands to not carry out an action to completion. Several strategies can be used here. A speaker can use the imperfective with adverbials meaning 'till the end'. Alternatively, imperfective verbs can be used with perfectivizing prefixes. The latter strategy is widespread in Slavic languages (see Schuyt 1990).

[10] In some Slavic languages, such as Russian, Ukrainian, and Belarusian, the aspectual restriction is also found with strong deontic modals and desire statements (see section 2.2.2). There appears to be cross-Slavic variation with respect to which (modal) constructions give rise to the aspectual restriction. This variation may be attributed to the well-known West-East split in the Slavic aspectual system (e.g., Barentsen 1998, Dickey 2000). See, for example, Goncharov (2020b, 2020c) for a proposal along these lines.

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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.[11]

(16) Context: You let your canary out of its cage and leave the room, warning 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 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

In the previous section we saw the aspectual restriction with imperatives. We will now see that the aspectual restriction and its weakening 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.

[11] 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 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 leave the investigation of this variation for future research, concluding simply that the 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!'

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(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 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 (18a,b), as well as with unaccusatives, see (18c).

(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 in Zaliznjak (2006). More research in this area is needed to explore (among other things) cross-Slavic variation of the phenomenon.[12]

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

To illustrate, 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.

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

[12]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. 10.

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

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

2.2.3 Combining the facts about aspectual restriction

We have seen 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 (e.g., Morgan 1970, Chierchia 1989). The latter constructions are important because they show us that aspectual restriction and subject obviation are independent of each other, demonstrating that the intentionality effect is a grammatical phenomenon in its own right and has to be studied as such.

We can summarize our observations for negatives in Russian in table 1, where the ban on PFV does not lead to the impossibility of the matrix subject/director and the embedded subject/instigator referring to the same individual or vice 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, which constitutes the topic of this article.

To summarize, in this section we saw two sets of data that demonstrate the intentionality effect. The first set concerns the weakening of subject obviation in non-intentional contexts. The second set pertains to the 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 of 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, among others). This type of modality covers imperatives, desire statements, and deontic modals.[13] The data discussed in section 2 show clear parallelism with regard to the intentionality effect, calling 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 Kaufmann's (2019) semantic-pragmatic analysis of an infrequently discussed phenomenon she calls directive obviation. We will use this discussion as a foundation for our explanation of the intentionality effect in the next section.

[13]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. More work is needed to extend the analysis proposed in this article to these examples. For some informal suggestions see Szabolcsi (2021).

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3.1 Directive obviation

Directive obviation in its simplest configuration can be illustrated by the 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 speech acts. In this case, we can say that the speaker plays the role of a *director* while 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 for the speaker to send an email to Anna. This is because in this case, both the director and instigator are the same individual – the speaker.[14] The ban on having the director and instigator of the directive speech act 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
intended: 'Tomorrow, I should send an email to Anna.'
(Oikonomou 2016: 168)

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

(22) Avrio na ksipniso stis 6:00 a.m. (Greek)
tomorrow SBJV wake-1SG at.the 6:00 a.m.
'Tomorrow, I should wake up at 6:00 a.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- and first-person *inclusive* or by *naj*-subjunctives with third person. Crucially, first-person *exclusive* forms are unavailable (see Stegovec and Kaufmann 2015; Stegovec 2017, 2019), among others). This paradigm is illustrated in (23). As with the Greek example

[14]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 article, I will put this reading aside. As 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.

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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 article, it suffices to point out that the phenomenon is widespread and that there are convincing arguments that it is 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 (24a) with (24b):

(24) a. Rekel (ti) je, da mu pomagaj. (Slovenian)
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 in 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: 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: 644)

The ungrammaticality of (24b), 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 (24c). This demonstrates that the phenomenon is grammatical in nature.

3.2 Semantic-pragmatic account of directive obviation

Kaufmann (2019) builds her account of directive obviation from 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 in which directives can be felicitously used. These restrictions derive

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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 formalized using multi-agent modal logic with two unary operators $\Box$ and $\Diamond$ indexed for epistemic and prioritizing relations with respect to different individuals.[15] Interpretation proceeds with respect to a frame F = < W, D, B, R>, 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), $R \subseteq W \times W$ is the salient prioritizing modal flavour.[16] For convenience, two additional modal operators based on B are defined:[17]

(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)
   b. 'must ϕ' translates to $\Box^R p$

More definitions are needed 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 $q \in \Delta$, CONTROL(a,q), where CONTROL(a,q) := TRY(a,q) $\rightarrow$ q (that is to say, a has control over bringing about q)

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

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

[17] Kaufmann (2019) uses 'Mutual Joint Belief' rather than 'Common Ground Belief', which we will use here.

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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 $q \in \Delta$

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: $\Box^{B_a}\Box^R q \rightarrow TRY(a,q)$

(32) (EAC) Epistemic Authority Condition: The speaker has perfect knowledge of R: for any $p \in \Delta$, $\Box^R p \leftrightarrow \Box^{B_S}\Box^R p$

(33) *(EUC)* Epistemic Uncertainty Condition: In uttering a sentence translated as $\Box^R p$, speaker S holds possible both p and $\neg$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" (Kaufmann 2019: 654). As we will see in section 4, the inclusion of the Control Condition (i.e., CONTROL(a,q)) in *DM* is problematic when accounting for imperatives with accidental actions; I will propose a modification 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), 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]
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

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S. The identity between the director and instigator results in contradiction as shown below:

(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 be the director and that 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 (37a), and imperatives used for wishes, see (37b,c).[18] 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 (37b) illustrates a wish with an absent addressee. The example in (37c) shows a situation where the prejacent is settled, that is to say – "the prejacent

[18]The discussion at the beginning of section 4 greatly benefited from comments and suggestions made by Magda Kaufmann (p.c.) and an anonymous reviewer.

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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 pointed out to me by a 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 a reviewer, this kind of solution would go against linguistic evidence. The distinction between commands and wishes as defined in Kaufmann (2016) is morphologically encoded in some languages. For example, 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 I propose here draws a line between commands, practical wishes, or warnings, on the one hand, and non-practical wishes on the other. Non-practical wishes are examples like (37b,c), which are referred to simply as 'wishes' by 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. This example can be used in two different contexts: (i) as a silent wish while watching somebody from afar (in which case it is 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.[19]

(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 call this condition an *Intentionality Effect Condition (IEC)*.

[19]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.

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

This definition 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 redefine 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).[20] 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 $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$

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 cases where there are indications that the action described by *p* is accidental. That is to say, *IEC* is satisfied in the 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 $\Diamond^{PB_S}\Diamond^{B_S}(TRY(a,p) \wedge \neg p)$ and $\Box^{PB_S}$(TRY(a,p) → 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) → 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

[20] I am grateful to a reviewer for helpful suggestions about how to formalize *IEC*, in particular, regarding weakening the indications of accidentality from Common Ground beliefs to the speaker's public beliefs.

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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 not marked as accidental (where accidental means 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: $\Box^{B_x}(\text{TRY(a,p)} \rightarrow \text{p})$
b. Accidental action: $\Diamond^{B_x}(\text{TRY(a,p)} \wedge \neg \text{p})$

Consider, for example, the verb *win* in *John won the lottery*. In this case, *win* describes a prototypical accidental action. According to (45b), 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 materialize. By contrast, for *John lifted his finger*, it is normally believed that if John tries to lift his finger, he will succeed.

There is another aspect 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; this will be further discussed 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 is realized 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.

(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 $\Box^{PB_S}(\text{TRY(a,p)} \rightarrow \text{p})$.

(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,

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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 $\neg\Box^{PB_S}(\text{TRY(a,p)} \rightarrow \text{p})$. *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

Much research has pointed out the connection between directive obviation and subject obviation (Kempchinsky 2009; Oikonomou 2016; Kaufmann 2019; Stegovec 2019, among others). 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 (5b) and (6d).

(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. In this case, the inconsistency lies in the speaker's belief set rather than the context set.

Let us see how this works. Heim (1992) shows that desire statements carry an uncertainty presupposition; in other words, 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).

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(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 conversation participants to all rational agents. With this generalization, it is important to be careful with the clause in (31c), repeated in (52c). 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 $\neg\Box^{B_{ah}} p$. This 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.[21]

[21] A reviewer asks why, given these assumptions, we do not observe subject obviation with infinitives, such as French *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 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 (2019) and Kaufmann (2019), who assume different modal operators for imperatives/subjunctives

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Before moving to the aspectual restriction, I would like to mention a number of points that I consider to be important but do not have the space to develop here. First, the account of subject obviation presented above does not directly depend on the presence of the subjunctive in the embedded clause, but rather on factors such as the presence of the uncertainty condition and the possibility of deriving *AHA*. This is 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 encyclopedic knowledge about some actions (*win, lose*, etc.). A detailed exploration of these points is beyond the scope of this article.

4.3 Explaining aspectual restriction and its weakening

To explain the intentionality effect with aspectual restriction in Slavic, I will look more closely at the meaning contribution of the perfective and imperfective aspects in these languages. Following recent work by Grønn (2003), Zinova and Filip (2014), among others, I assume that the perfective aspect in Slavic asserts that the action has achieved its endpoint 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 formalize these intuitions, 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 article as they emphasize the main relevant difference between PFV and IPFV. Both PFV and IPFV are functions from a set of events

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.

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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.[22]

(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 the event stand in an asymmetrical entailment relation, PFV, but not IPFV, has enriched truth-conditions, as shown in (58c).[23]

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

[22] 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 article we concern ourselves only with the dimension relevant to us.

[23] For the purpose of this article, 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), among others). What is important 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 future research (for example, they can be more similar to 'soft presuppositions', as in, for instance, Romoli 2012). The denotations of aspectual markers are assumed to be intensional. Reference to possible worlds is omitted from the formulas for simplicity.

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Using the abbreviations above, imperatives will look as follows (where S = the speaker and the director, u is the addressee):[24]

(61) a. 'not open-IMP.PFV door!'
$\Box^{PB_S}\Box^{R}\neg FIN(open(u,d)) \wedge \Box^{PB_S}BEG(open(u,d))$
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).[25]

(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 (61a). Recall that in intentional contexts, these give rise to the aspectual restriction, as in (14), which is lifted in accidental contexts, as in (16). According to our system, the aspectual inference of PFV, 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.[26]

(63) Proof:

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

[24]We make the standard assumption that in negative imperatives, negation scopes below the imperative operator (Han 1999; Zeijlstra 2006, among others). 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, among others).

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

[26]As a reviewer points out, 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. 26.

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The situation with negative imperatives with IPFV, as in (61d), 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 does not interact with *IEC* in either intentional or accidental contexts.[27]

It is easy to see that an identical explanation applies to infinitival desire under 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 of deriving *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) when the action is not fully controlled by the instigator. In these cases, we find the weakening effect.

5. Previous linguistic accounts

There have been a number of previous accounts of the weakening effect in subject obviation and aspectual restriction. 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 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's (1988) goal was to explain controller choice in sentences like (64), that is to say the fact that in (64a) the implicit argument PRO in the embedded clause refers to John, whereas in (64b), 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)

[27] 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.

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Farkas (1988) argues that RESP is not reducible to the traditional thematic role of 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.

According to Farkas, *convince* and *promise* are RESP-inducing in that they have RESP among their satisfaction conditions. The difference between (64a) and (64b) 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's work is that it demonstrated the need to distinguish intentionality from agentivity, a closely related but distinct grammatical concept.

To account for weakening of subject obviation, Farkas (1992) applies RESP 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 RESP is deficient, the obviation effect is weakened, as we saw in section 2.1.

The RESP-account has been criticized regarding its direct application to subject obviation. For example, Schlenker (2005) provides the examples in (67) to question whether RESP is in fact the right kind of relation, pointing out that they do not make it obvious in what sense Jean is responsible for being handicapped. Nonetheless, the obviation effect holds, compare (67a) with (67b). 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 set it aside and refer the interested reader to the cited papers for details.[28]

(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,

[28] A reviewer points out that *se consoler* 'console himself' 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).

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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, see (68). In canonical control, Sen comes with an unvalued ϕ-feature, which triggers domain suspension as in Bobaljik and Wurmbrand (2013), making the searchable domain of canonical control as large as the matrix CP, see (68a). In non-canonical control, Sen comes only with an unvalued feature [uD], valued by PRO via Spec-head agreement, and the domain is closed off at SenP, see (68b). In non-control cases, Sen has no uninterpretable features and thus can host any perspectival expression, see (68c).

(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 (2018) proposes that subjunctive sentences are ambiguous between non-canonical control, as in (68b), and non-control, as in (68c). 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 to account 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 are no fully developed formal semantic/pragmatic accounts of aspectual restriction weakening in Slavic languages, although the literature mentioned in section 2.2 discusses this effect in various descriptive terms.[29]

One fully fledged syntactic account of the aspectual restriction in Slavic and exceptions to it 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, among others). 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

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

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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 (70a). 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 (70b).

(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 only account for 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 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.[30]

[30]A 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*. In BCS, *nemoj* can form analytic imperatives. These imperatives are possible with perfective verbs under the intentional interpretation, as in *Nemoj pojesti tu jabuku!* 'Don't eat-PFV that apple'. Semantic/pragmatic accounts need to say that the meaning of analytic imperatives formed with *nemoj* is different from that of regular imperatives. One suggestive piece of evidence here is the fact that *moj* originates from the modal *moći* 'can, be able to' (e.g., Despić, 2020, 8). As discussed in fn. 10, there is cross-Slavic variation with respect to whether the aspectual restriction is present with modals or not. This variation is connected to the West-East split in the Slavic aspectual system, which could explain the acceptability of analytic imperatives with perfective verbs in BCS.

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

6. General notes on intentional and accidental actions

This section contains some general notes regarding the notion of intentionality 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.

6.1 Philosophical remarks

Here I discuss the development of concepts related to intentions and intentional actions in philosophy, with the goal of providing some preliminary background to the idea of capturing intentions in terms of beliefs used in this article.

Beginning in Ancient Greece, Aristotle defined an action as voluntary if its outcome is desirable, the action is "in a man's own power", and it 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, among others). 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 an everyday sense), although the outcome may be highly desirable 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). Borrowing 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 happened 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 article.

6.2 Other linguistic phenomena with intentionality effect

Though this article has focused on co-reference and aspect choice, these are not the only grammatical domains sensitive to the interpretation of an action as intentional

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versus accidental, and similar phenomena have been observed in other languages than those we have looked at. 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 that they show a mirror pattern: strong NPIs under *not 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 among others).

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 yet been formulated.

7. Conclusion

Natural languages have developed multiple ways to mark the presence or absence of intentions, ranging from the availability of a co-referential interpretation in subject obviation configurations in many European languages and aspect choice in Slavic (explored in this article) 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 article represents one step 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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