

## **Building Involuntary States in Slavic**

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### **1. Introduction<sup>1</sup>**

Based on English, Vendler (1957) proposed that Vs divide into the classes in (1), which has proven an influential source of inspiration for debates on event structure.

(1) a. States: *love, know*  
b. Activities: *run, work, push a cart*  
c. Achievements: *notice, recognize, die*  
d. Accomplishments: *build a house, eat an apple, write a letter*

In later literature, it has been debated whether the division in (1) and subsequent modifications are meant to characterize Vs / roots, or Vs once they compose at the VP-level with arguments and some modifiers. Nevertheless, there seems to be agreement that the syntactic domain of event composition is VP, corresponding to the level that Chomsky (1995) calls vP, Hale & Keyser (2002) call l-syntax (lexical-syntax), and Ramchand (2008) dubs First Phase Syntax. A common view is that event syntactic / semantic composition relevant for (1) often stops at such a level, commonly identified as the domain of Aktionsart / Situation Aspect (Smith 1991).

Within the above perspective, this paper examines constructions known in Slavic

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as *Involuntary States*, with two related aims. One is to explore the contribution to event structure of constituents that are not arguments of V, or included in the verb's template, but arguably are external to VP. The other aim is to contribute to a better understanding of crosslinguistic variation affecting building blocks in the linguistic representation of eventualities, in particular those with a *stative* dimension.

A common idea is that the linguistic representation of Vendlerian states lacks, or is very poor in, internal event structure, in contrast with the other classes. Slavic *Involuntary States* are interesting from this perspective, as they display a *stative* nature that, arguably, is not determined by V / VP, and instead involves structures that dominate VP. In addition, Involuntary States identify variation in the expression of eventualities, as they exist in two semantic varieties in Slavic, pointing to microvariation within one family. Moreover, Involuntary States lack exact counterparts in at least Germanic and Romance, indicating crosslinguistic macrovariation.

Let us introduce *Involuntary States* (ISs). They are found in all the Slavic languages with a similar syntax, but different semantics, as (2a-b) representing West Slavic and Russian vs. (3) representing South Slavic illustrate.

(2) a. *Jankowi tańczyło się dobrze.* Polish

*J*<sub>DAT</sub>      *danced*<sub>NEUT</sub>      REFL    well

‘John {danced/was dancing}, and could not help feeling well about his dancing.’

b. *Mne xorošo rabotaet -sja.* Russian

*I*<sub>DAT</sub>      well      work<sub>PRES.3SG</sub>    -REFL

‘I am working well and I feel well about it.’

‘I am feeling well in my working.’ (Benedicto 1995: (32c))

(3)	<i>Janezu</i>	<i>se</i>	<i>je</i>	<i>plesalo.</i>	Slovenian
	$J_{DAT}$	REFL	$be_{3S}$	danced <sub>NEU</sub>	

‘John {was in the mood for/ felt like} dancing.’

The comparison of (2a-b) and (3) suggests that ISs share form, but may differ in meaning. In syntax and morphology, ISs may minimally consist of (a) a human dative subject, (b) a verb without agreement, and (c) a reflexive. However, they display readings with contrasting truth conditions (Rivero 2003, Rivero & Sheppard 2003), dividing the family into two groups we label *Factual* and *Desiderative* respectively. *Factual ISs* characteristic of Russian and West Slavic (Polish, Czech, Slovak) illustrated in (2a-b) speak both of ‘real’ events /actions, and states related to those actions. Polish (2a), for instance, tells us about a past dancing event by John, and about his mental state; that is, such an activity placed him in a joyful state indicated by *dobrze* ‘well’. In this way, the dative in Factuals combines characteristics of both agents, and experiencers. *Desiderative ISs* characteristic of South Slavic illustrated in (3) speak of impulses of the dative, not actions in the ‘real world’. More precisely, (3) alludes to John’s past urge to dance, not his dancing. Datives in Desideratives are reminiscent of experiencers, not agents.

The *Involuntary State* label, then, is applied in Slavic to constructions with similar syntax, but different semantics: *factual* vs. *desiderative*. The two types differ in truth conditions, but both allude to an uncontrollable *state* of the dative, which can thus be called *involuntary*. Factuals relate such a state to an ongoing action (or similar). Thus, (2a) closely corresponds to English John danced, and could not help feeling good about his dancing, with the adverb naming the quality of the state. Desideratives speak of

a state not paired to an ongoing action (or similar), so report a disposition that need not materialize. Slovenian (3), then, has a close paraphrase in English John felt the urge to dance, and does not imply that John acted.

The desiderative type of South Slavic is absent from West Slavic and Russian, and the factual type is not found in South Slavic, so the two types fail to coexist in one language. An important goal in this paper is to develop an analysis that captures similarities and differences between Factuals and Desideratives, including their essential contrast in truth conditions.

Factuals and Desideratives share two characteristics supporting the hypothesis that their *stative* nature does not derive from V / VP, but from additional morphology. A first one illustrated later is that all ISs may contain Vs in the classes in (1): activity, stative, achievement, and accomplishment Vs/VPs. Irrespective of V-class, however, readings remain factual in the West, and desiderative in the South. Slavic Vs, then, cannot be classified by their ability to form ISs, so we propose that the *stative* nature of such constructions depends on syntactic composition closely tracked by morphology. A second characteristic of ISs is to productively alternate with constructions with nominative subjects, agreeing Vs, and no reflexive. Thus, Factual (2a) and Desiderative (3) alternate with (4a) and (4b) respectively.

(4) a. *Janek*            *tańczył*            *dobrze*.            Polish

      J<sub>NOM</sub>            danced<sub>MASC</sub>            well

      ‘John danced/was dancing well.’

      b. *Janez*            *je*            *plesal*.            Slovenian

      J<sub>NOM</sub>            be<sub>3S</sub>            danced<sub>MASC</sub>

‘John danced/was dancing.’

ISs display a more complex structure than their ‘regular’ counterparts, with (4a-b) containing the same lexical items as (2a) and (3), but without reflexive and dative markers. Since (4a-b) also lack the relevant *stative* character, this supports the contention that stativity in ISs does not depend on V/VP, but on additional morphology/syntax.

In sum, Factuals and Desideratives are *Complex States* that involve semantic/syntactic composition. In this paper, we capture this state of affairs by updating analyses in (Rivero 2003, 2009, Rivero & Sheppard 2003, Rivero & Frackowiak 2008, and Rivero, Arregui & Frackowiak 2009a-b). We argue that reflexive morphology and dative morphology each signals a distinct level of structure above VP. On the one hand, all ISs contain so-called impersonal reflexive constructions: *Tańczyło się* ‘Someone, people danced’ in (2a), and *Plesalo se je* ‘Someone, people danced’ in (3). Their reflexive indicates the external (or only) argument of V in a Voice Phrase linked to a Tense Phrase, so is indicative of *Second Phase Syntax*. On the other hand, dative subjects are in an Applicative Phrase above the Tense Phrase, and thus signal a structure we dub *Third Phase Syntax*, resulting in (5).

(5) [Third Phase=ApplP Dat<sub>i</sub> [Second Phase=TP i [VoiceP Refl<sub>i</sub> [First Phase=VP V]]]]

The skeleton in (5) shared by ISs of both semantic types captures their formal similarities: (a) datives as notional subjects, (b) obligatory reflexives with a resumptive function, and (c) (intransitive) Vs with default morphology.

One semantic similarity between Factuals and Desiderative ISs is that they both involve a mental state in the dative viewed as uncontrollable. We propose to capture such a characteristic in terms of an implicit universal circumstantial modal CM (Kratzer 1981,

1991), which heads the High Applicative in both types of ISs, as in (6).

(6) [App<sub>IP</sub> Dat<sub>i</sub> [App CM [TP<sub>i</sub> [Voice<sub>P</sub> Refl<sub>i</sub> [VP V]]]]]

Factual and Desiderative ISs, however, are not identical. In this paper we address two of their differences. A first one is that Factuals usually require a manner phrase, while Desideratives do not, as (2a-b) vs. (3) illustrate. We assume that Factuals contain a CM with a manner phrase as argument, as in (7) (Rivero, Arregui & Frackowiak 2009a-b). On this view, Factuals make a claim about the subject's lack of control *over the manner of the action, process, or state*, which is not the case in Desideratives.

(7) [App<sub>IP</sub> Dat<sub>i</sub> [[CM [[[TP<sub>i</sub> [Voice<sub>P</sub> Refl<sub>i</sub> [VP V]]]]] [Manner Phrase]]]

A second crucial difference concerns truth conditions not satisfactorily addressed in the past. Why is it that ISs with a similar V dance in (2a) and (3) differ so radically in interpretation? Factual (2a) reports both an activity and an attitude, while Desiderative (3) reports just an attitude. In this paper, we derive such a contrast from variation in Imperfectives in Viewpoint Aspect (Smith 1991) in (8).

(8) [App<sub>IP</sub> Dat<sub>i</sub> [App CM [TP<sub>i</sub> Tense [Asp<sub>P</sub> Viewpoint [Voice<sub>P</sub> Refl<sub>i</sub> [VP V]]]]]

We show that Viewpoint Imperfectives display microvariation in Slavic, with a consequent effect on the interpretation of ISs. On the one hand, Aspect values do not affect factuality in West Slavic and Russian ISs, which can be Imperfective or Perfective. Whether Imperfective as in (2a), or Perfective as in (9) adapted from Wierzbicka, Factual ISs allude to actions in the 'real' world.

(9) *Tak mi się napisalo* ... Polish

This.way 1<sub>SG.DAT</sub> Refl write<sub>PERF.NEUT</sub>

'It "wrote itself to me" like that, ...'

(Wierzbicka 1988: p.424)

By contrast, South Slavic ISs must be Imperfective, (10a), and are ungrammatical if Perfective: (10b).

(10) a. *Janezu*      *se*      *je*      *umiralo*      *doma.*      Slovenian  
             J<sub>DAT</sub>      Refl      be<sub>3S</sub>      die<sub>IMPF.NEU</sub>      at.home  
             “John felt like dying at home.”      (Rivero & Sheppard 2008)

b. *\*Janezu*      *se*      *je*      *umrlo*      *samo enkrat.*  
             J<sub>DAT</sub>      Refl      be<sub>3S</sub>      die<sub>PERF.NEU</sub>      only once.  
             “\*John felt like dying only once.”      (Rivero & Sheppard 2003)

In our view, the above aspectual contrast is the clue to the semantic difference between *Factuals* and *Desideratives*. In §4, we argue that Imperfectives display semantic variation in Slavic, dividing the family into two groups. West Slavic and Russian Imperfectives may display ongoing, habitual, and generic readings. South Slavic Imperfectives may also display those readings, but, in addition, display an intentional reading absent in West Slavic and Russian. This contrast has several consequences, but the crucial one for the aims of this paper is that it prevents West Slavic and Russian ISs from having a desiderative reading. We capture Imperfective variation in Slavic via restrictions on Kratzerian modal bases for an Imperfective Operator, proposing that South Slavic Imperfectives may access a **purely preparatory modal base** we dub **P-inertia MB**, which is not available to West Slavic and Russian Imperfectives, which thus remain factual.

The paper is organized as follows. Section 2 discusses *Factuals*. Section 3 deals with *Desideratives*. Section 4 develops an account of the interpretation of the Imperfective Operator, and section 5 offers a semantic account of *Factuals* and

Desideratives involving the values of such an Imperfective Operator.

## 2. Factual Involuntary States: West Slavic and Russian

Involuntary States divide into two semantic types in Slavic: Factuals topic of this section, and Desideratives in §3. §2.1 informally introduces some characteristics of Polish, Czech, Slovak, and Russian Factuals relevant for our proposals. §2.2 recalls the analysis of Polish ISs in (Rivero, Arregui, & Frackowiak 2009a-b), extending it to other West Slavic languages, and to Russian.

## 2.1. Characteristics of Factual Involuntary States

Factual ISs of types (2a) repeated in (11a) and (11b-d) are found in West Slavic and Russian, but are absent in South Slavic.

(11)	a.	<i>Jankowi</i>	<i>tańczyło</i>	<i>się</i>	<i>dobrze.</i>	Polish
		$J_{\text{DAT}}$	danced <sub>NEUT</sub>	REFL	well	
‘John danced/was dancing, and could not help enjoying it.’						
b.		<i>Nam</i>	<i>xorošo</i>	<i>rabotalo</i>	$-s'$ .	Russian
		$We_{\text{DAT}}$	well	worked <sub>NEUT</sub>	-REFL	
		‘We worked well.’			(Whalen 1978)	
c.		<i>Janovi</i>	<i>se</i>	<i>pracovalo</i>	<i>hezky.</i>	Czech
		$J_{\text{DAT}}$	REFL	worked <sub>NEUT</sub>	nicely	
		‘John worked with pleasure.’			(Rivero & Sheppard 2003)	
d.		<i>Spi</i>	<i>sa</i>	<i>mi</i>	<i>dobre.</i>	Slovak
		Sleep <sub>PRES.3SG</sub>	REFL	$I_{\text{DAT}}$	well	
		‘To me the sleeping goes well.’			(Ružičková 1971)	

**2.1.1. The Factual Property.** We formalize meaning in §5, but informally stress here

that the above *affirmative* ISs all share the *Factual Property* that crucially distinguishes them from South Slavic Desideratives in §3. Namely, they all take for granted a past activity in the real world. Ružičková (1971), for instance, states that *dobre* in (11d) ‘describes the feeling of the experiencer of his own action’, thus the dative is **acting**. Since the constructions in (11) all involve a ‘real’ activity of the dative, they all crucially differ from affirmative Desiderative ISs in South Slavic, which count as dispositions that *do not* take for granted an activity in the real world.

The above contrast may be neutralized by the compositional effect of constituents that include the negation. Negative Factuals resemble Desideratives in apparently not taking for granted an activity in the real world, which requires future study. To illustrate, Whalen (1978) renders Russian (12a) by *We just couldn't work*, with a modal flavor. For Benedicto (1985), (12b) may be rendered by *I don't feel like reading, I'm not in the mood for reading*, or *I can't read*. Szucsich (2006) translates (12c) by *Marina doesn't feel like singing /doesn't manage to sing*. Dziwirek (1994) renders Polish (12d) by *I can't think today*, stressing that what is negated is the quality of the action: I cannot think well.

(12) a. *Nam ne rabotalo -s'.* Russian

We<sub>DAT</sub> NEG work<sub>NEUT</sub> -REFL (Whalen 1978)

b. *Mne ne čitaet- sja.* Russian

I<sub>DAT</sub> NEG read<sub>PRES.3SG</sub> REFL (Benedicto 1985)

c. *Marine ne poet- sja.* Russian

M<sub>DAT</sub> NEG sing<sub>PRES.3SG</sub> REFL (Szucsich 2006)

d. *Nie myśli mi się dzisiaj.* Polish

NEG think<sub>PRES.3SG</sub> I<sub>DAT</sub> REFL today (Dziwirek 1994)

In Factual ISs, then, Neg triggers a reading that is sometimes similar to (the denial of) a disposition in Desideratives in South Slavic. *Want* has a similar effect, so (13) speaks of a past disposition to sing, not a singing activity. Pending future research on the compositional effect of negation and similar items, the past affirmative patterns in (11a-d), however, establish that West Slavic and Russian lack *inherent* desiderative ISs of the South Slavic type, the crucial point.

(13) *Chciało mi się śpiewać.* Polish  
 Want<sub>NEUT</sub> I<sub>DAT</sub> REFL sing  
 ‘I felt like singing’ (Wierzbicka 1988)

**2.1.2. Morphosyntactic variation.** Examples (11a-d) illustrate that the syntax / morphology of Factual ISs with intransitive Vs may consist of similar (a) dative subjects, (b) Vs in default form, so Neuter or 3Sg, (c) reflexives, and (d) usually obligatory manner expressions. With transitive Vs, however, ISs exhibit morphosyntactic variation if their notional object is overt, which does not affect readings, but distinguishes Polish from other languages (Rivero 2003, Rivero & Sheppard 2003). Polish Factuals with transitive Vs may contain accusative objects, (14-15) (genitive objects in negative sentences), which is not possible in the other languages in the factual group.

(14) *Ewie miło ogląda się swoje zdjęcia.* Polish  
 Eve<sub>DAT</sub> nice watch<sub>PRESENT</sub> REFL POSS photos<sub>ACC</sub>  
 ‘Eve enjoys looking at her own pictures.’ (Dziwirek 1994)

(15) *Jankowi czytało się też książki z przyjemnością.* Polish  
 John<sub>DAT</sub> read<sub>NEUT</sub> REFL this book<sub>ACC</sub> with pleasure  
 ‘(Somehow), John read this book with pleasure.’

Czech, Slovak, and Russian notional objects must be nominative and agree with V, irrespective of order: (16).

(16) *Ta kniha se Janovi četla dobře.* Czech  
 this book<sub>NOM.FEM</sub> REFL John<sub>DAT</sub> read<sub>FEM.</sub> well  
 ‘John read this book with ease.’

Rivero & Sheppard (2003) attribute the contrast between Polish and Czech to morphosyntactic variation in reflexives, since ISs contain a reflexive construction that may stand as an independent sentence, as in (17) for (15).

(17) *Czytało się tę książkę z przyjemnością.* Polish  
 read<sub>NEUT</sub> REFL this book<sub>ACC</sub> with pleasure  
 ‘People read this book with pleasure.’

The assumption is that Czech, Slovak, and Russian lack constructions with accusative objects of type (17), and exhibit ‘passive’ reflexives with nominative objects, as in (18), whose Polish equivalent is deviant (Siewierska 1988, a.o.).

(18) *Ta kniha se četla dobře.* Czech  
 this book<sub>NOM.FEM</sub> REFL read<sub>FEM.</sub> well  
 ‘One/people read this book with ease.’

Reflexives with nominative or accusative objects, however, share the similar semantics of indeterminate humans, and play the same role in ISs. Thus, Czech (16) and Polish (15) are Factuals that differ in form, but are parallel in meaning.

Summing up, morphosyntactic variation in Factuals resides on two reflexive types without effect on readings: ‘nominative’ reflexives as the only option in Polish, vs. ‘passive’ reflexives as the only option in Russian, Czech, and Slovak. In §3, we mention

a similar morphosyntactic variation in Desideratives.

**2.1.3. Factual ISs and Vendler.** ISs may contain Vs in all classes identified by Vendler. Thus, the *Stative Property* / attitude in the dative subject does not derive from V/VP, but from an added morphology indicative of a complex syntactic structure.

Factual ISs have a double semantic character. They speak of ‘real’ actions by an agent - *Factual Property*-, and an attitude of such an agent: *Stative Property*. Ružičková (1971) notes this character when stating that in (19) ‘the agent is at the same type the experiencer, who subjectively ‘feels through’ his own action, always evaluating it.’ (we add a morpheme-by morpheme gloss) . Thus, this sentence takes for granted the activity named by V, and also tells us that the agent feels fine about it.

(19)	<i>Básen</i>	<i>sa</i>	<i>mi</i>	<i>číta</i>	<i>dobre.</i>	Slovak
	Poem <sub>NOM</sub>	REFL	I <sub>DAT</sub>	reads	well	Ružičková (1971)

‘To me the poem reads well.’ Lit: The poem itself to me reads well.

Factual ISs with Vs in any Vendlerian class combine the two characteristics. Polish (11a) speaks of John’s activity as a past dancer –*Factual Property*-, and the pleasure he experienced when dancing –*Stative Property*. Czech (16) *Ta kniha se Janovi četla dobrě*. ‘John read this book with ease’, and Polish (15) count as accomplishments, and also allude to a state, and so on and so forth. Polish ISs cited in (Dąbrowska 1997, Dziwirek 1994, Wierzbicka 1988 a.o) contain Vs/VPs for activities, accomplishments /achievements, and states, all characterized both as actions, etc. taken for granted, and states usually named by manner adverbs. Factual ISs, then, combine (a) a *Factual Property* related to the lexical content of V / VP, and (b) a *Stative Property* related to a manner expression. We see next that ISs with stative Vs also combine a state taken for

granted, and an additional attitudinal state.

At first sight, Russian seems problematic for the hypothesis that ISs may contain any Vendlerian V, since not all Vs can participate in ISs (Benedicto 1995, Franks 1995, Moore & Perlmutter 2000, Markman 2003, Szucsich 2006, a.o.). However, we view such restrictions as syntactic (also Franks 1995),<sup>2</sup> and propose that Russian shares semantics with West Slavic. Russian ISs are often negative, (12a-c), with activity Vs in intransitive patterns with unergative flavors: i.e. equivalents of *dance*, *play*, *run*, and *work*. Less often, they display transitive Vs with / without overt logical objects: (20) (see the grammaticality test reported in Szucsich 2006). Benedicto mentions considerable variation with respect to the acceptability of (20) and (22b) later.

(20) *Mne udobno čitalo- s', [sidja pod lampoj.]* Russian  
 I<sub>DAT</sub> comfortably read<sub>NEU-REFL</sub> seat<sub>GER</sub> next lamp (Benedicto 1995)

Our translation: 'I somehow read comfortably sitting next to the lamp.'

In spite of such limitations, Russian is similar to Polish, with (20) parallel in reading to (21), so also taking for granted an eventuality of reading - *Factual Property*-, and alluding to a state named by the adverb: *Stative Property*.

(21) *Jankowi najlepiej myśli się [siedząc w fotelu.]* Polish  
 John<sub>DAT</sub> best think<sub>3SG</sub> REFL seat<sub>GER</sub> in armchair  
 'John thinks best sitting in an armchair.' (Dziwirek 1994)

ISs with stative Vs in both Russian, (22a-b), and Polish, (23a-b), are particularly interesting for our purposes.

(22) a. *Mne xorošo zivet-sja* Russian

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<sup>2</sup> In our analysis, ISs contain a type of reflexive construction that is more restricted in Russian than in West Slavic, which could account for some syntactic limitations.

	$I_{DAT}$	well	live <sub>3SG</sub> -REFL	(Whalen 1978)
b.	<i>Emu</i>	<i>zivet-sja</i>	<i>skučno.</i>	Russian
	$He_{DAT}$	live <sub>3SG</sub>	boringly	(Benedicto 1985)
(23) a.	<i>Basi</i>	<i>dobrze mieszka</i>	<i>sie u swojej siostry.</i>	Polish
	$B_{DAT}$	well	live <sub>3SG</sub>	REFL at her sister's
				'Barbara enjoys living at her own sister's.'
				(Dziwirek 1994)
b.	<i>Stalo</i>	<i>mu</i>	<i>sie niewygodnie.</i>	Polish
	Stood <sub>NEU</sub>	he <sub>DAT</sub>	REFL	uncomfortably
				'It was uncomfortable for him to stand.'
				(Dziwirek 1994)

Comparing (22a) to *Ja xorošo zivu* with a nominative subject, Whalen (1978) translates them both by 'I live well', but adds that (22a) "implies a general state in which the experiencer finds himself"; this general state is our *Stative Property*. Namely, (22a) speaks of living as taken for granted—*Factual Property*—, and an attitude: *Stative Property*. The Russian examples we cite are not translated by Whalen and Benedicto, but could be rendered by *He lives and enjoys it*, (22a), and *He lives, and is bored by it*, or *It is boring for him to live*, (22b), and Polish (23a-b) are similar. In sum, the syntax of Russian VPs seems restricted, but the semantics of ISs are factual, as in West Slavic.

To conclude, all Factuals contain activity, accomplishment/achievement, or stative Vs naming a *Factual Property* —i.e. an action/ process/ state taken for granted—, and usually a manner adverb naming an attitude: *Stative Property*.

**2.1.4. Dative and Manner in Factual ISs.** Factuals, then, consist of at least a dative viewed as both agent and experiencer, and a nearly obligatory manner expression. To understand their combined effects, recall that ISs such as (11a) *Jankowi tańczyło się*

*dobrze* ‘John danced, and could not help enjoying it’ - or counterparts in Czech, Slovak, and Russian - alternate with ordinary sentences of type (4a) now repeated in part in (24).

(24) *Janek tańczył (dobrze).* ‘John danced/was dancing (well).’ Polish

Factuals of type (11a) contrast in syntax and semantics with type (24), with a nominative subject *Janek*, an agreeing V *tańczył*, an (optional) adverb, and no reflexive. The sentence with the IS frame tells us that there was a past dancing event with John as agent, and reports on John’s state: he could not help enjoying dancing. Sentence (24) tells us about a past dancing event by John, and reports that the quality of the dance was good. Thus, if John danced horribly, the IS sentence could be true, but the one with a nominative would be false.

The ‘out-of-control’ reading of the IS dative captured by ‘could not help enjoying’ in (11a) underlies the *Involuntary State* label, and has been noted repeatedly in Polish (Gołęb 1975, Dąbrowska 1997, Dziwirek 1994, Wierzbicka 1988, Frąckowiak & Rivero 2008, a.o.). As to Russian, Benedicto (1995), Moore & Perlmutter (2000), and Markmann (2003) also note that the event is beyond the control of the dative in ISSs. Views on Polish seem particularly insightful to understand why the dative of Factuals may be called both ‘agent’ and ‘experiencer’. For Gołęb (1975), the dative “... does not cause the quality of the action...[which] results from circumstances independent of him.” Wierzbicka (1988:219) tells us that “[s]entences of this kind mean that the agent experiences his own action as proceeding well (or not well) for reasons independent of him and unspecifiable.” Wierzbicka adds (1988: 426) that “[the] ‘goodness’ of the experience is attributed... to the environment in which the action took place (...).” These comments describe the *Stative Property*. In §5 we provide an analysis in which the dative is the

subject of a circumstantial modal with universal force that brings about a flavor of ‘out-of-control’/inevitability.

The Manner adverb of ISs is consistently interpreted *relative to the dative subject*, and also contributes to the *Stative Property*. That is, *dobrze* ‘well’ in *Janek tańczył dobrze* contrasts with *Jankowi tańczyło się dobrze* ‘John danced, and could not help enjoying it’, with goodness relativized to the dative. The sentence with a nominative tells us that the manner of dancing was good while in the IS, dancing brought pleasure to John. Manner in ISs, then, is shifted to a property of individuals and events, and thus relativized to an entity, which has not escaped notice in the literature. Ružičková (1971) treats adverbs as higher predicates of an evaluative clause that embeds the remainder of the construction. In her insightful discussion, Benedicto (1985) proposes that the dative-oriented adverb functions like a second order evaluative predicate. In §2.2, we treat Manner Adverbs in Factuals as syntactic constituents and semantic arguments of the modal with the dative subject. On this view, the *Stative Property* in Factuals does not depend on operations shifting V / VP from activity/ accomplishment/ state into a (different) state, but on a Modal combined with a manner expression as argument.

Manner phrases may be absent in some situations mentioned in our earlier work on Polish briefly recalled here. Factuals do not require a manner expression when its content is recoverable from V, or the context. Examples of both cases are provided below. In (25) we see an IS with manner recoverable from V.

(25) *Zaprószyło mi się ogień w łóżku.* Polish  
 PREF.set.on.fire<sub>NEU</sub> I<sub>DAT</sub> REFL fire<sub>ACC</sub> in bed  
 ‘I accidentally started a fire in my bed.’

The Polish PWN corpus (<http://korpus.pwn.pl>) defines *zaproszyć ogień* in (25) as *niechcący spowodować pożar* ‘to cause a fire involuntarily’. Manner in the denotation of the VP allows (25) to sound complete.

In (26) we see an example with manner recovered from the context, inspired by an example of ‘out of control’ in St’át’imcets (Davis, Matthewson & Rullmann 2009). Suppose you are drawing with a blindfold on, and when you take it off, you discover that you have accidentally written your name. In this situation you could utter (26), where the ‘by-accident’ manner can be recovered from the context.

(26)	<i>Napisał</i>	<i>mi</i>	<i>się</i>	<i>własne imię</i>	Polish
	wrote	PERF.NEU	I <sub>DAT</sub>	REFL	own name <sub>ACC</sub>
‘I wrote up my own name (by accident).’					

## 2.2. The structure of Factual ISs

In this section, we outline some basic features of the structure we assume for Factuals, and provide supporting evidence. The semantic analysis will be presented in §5. The current syntactic proposal builds on Rivero, Arregui & Frackowiak (2009a-b), following Rivero (2003, 2009) and Rivero & Sheppard (2003). Rivero, Arregui & Frackowiak (2009a-b) propose that Polish ISs consist of an applicative (ApplP) headed by a silent circumstantial modal (CM), which dominates three obligatory constituents. We summarize this analysis to adopt it with some modifications in §5, proposing that it extends to Czech, Slovak, and Russian ISs.

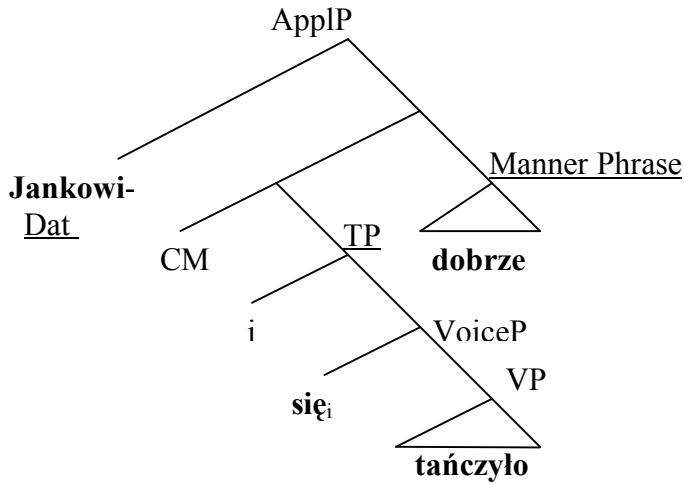
Factual (11a) partially repeated in (27) has the structure in (28) repeated from (7).

(27)	<i>Jankowi tańczyło się dobrze.</i>	‘John danced, and could not help enjoying it.’
------	-------------------------------------	--

ApplP dominates the total structure, takes a human dative specifier (Dat), and includes

both arguments of CM as embedded clauses: a Tense Phrase (TP) serving as restrictor, and a Manner Phrase serving as the modal's nuclear scope. *i* in TP is an index abstracting over the reflexive pronoun in Voice Phrase.

(28)



**2.2.1. The Dative Subject as Specifier of the Applicative.** ISCs are oriented towards the dative in the specifier of the Applicative, which is not an argument of V, VP, or Voice Phrase (also Benedicto 1985). A reason to locate it in the Applicative is in § 2.2.2. Namely, like applicative arguments, the dative is optional; if removed from an IS, the result is a reflexive construction that can function as an independent sentence.

The dative is presented as unable to control the way the eventuality develops. In (15) *Jankowi czytało się tę książkę z przyjemnością*. '(Somehow), John read this book with pleasure.', John is a 'willing' reader, but the pleasure derived from this activity is not under his control. Similar comments apply to Czech (16) *Ta kniha se Janovi četla dobře* 'John read this book with ease.' and Russian (20) *Mne udobno čitalo-s* 'I somehow read comfortably'. They all identify a dative agent unable to control some dimension of his past reading. §5 provides a denotation of CM in (28) that captures the semantic role of the dative.

**2.2.2. TP as an Impersonal Reflexive Construction.** Tense Phrase as first argument of CM in (28) consists of a reflexive construction (also Ružičková 1971, Benedicto 1985). Without dative and manner phrases, TP is the impersonal sentence in (29), with (a) reflexive ‘someone’, and (b) a default V. *Mutatis mutandis*, the same holds for all reflexives in (11b-d): Russian *rabotalo-s'*, Czech *pracovalo se*, and Slovak *spí sa*.

(29) *Tańczyło się*. ‘One/people/someone danced. Polish

TP in (28) is similar to Romance reflexive impersonal constructions: Italian *Si canta* ‘People sing.’ (Chierchia 1995, a. o). In the IS in (28), the reflexive introduces a variable for a participant in a Voice Phrase (Kratzer 1996, Frąckowiak & Rivero 2008), i within TP above VoiceP is an index abstracting over the reflexive (see Heim and Kratzer 1998 for indices as abstractors) (also Benedicto 1985).

ISs are restricted to human dative subjects. Dziwirek (1994; 119), for instance, tells us that non-human and inanimate subjects are possible if ‘imbued with an ability to perceive pleasure and hardship, good and evil’. In our analysis, the human restriction derives from the reflexive. Rivero, Arregui & Frackowiak (2009a-b) follow Chierchia (1995) and Rivero & Sheppard (2003), and characterize impersonal reflexives as specialized variables with a human presupposition. For Chierchia, *si* in *Si canta* ‘People sing.’ binds off a property, and quantifies over the nominative subject position. In ISs, impersonal reflexives introduce a variable specialized for humans that is bound by a freely-generated index to create a property of individuals as the right argument to feed modal CM in ApplP.

§2.1.2 identified variation in ISs with transitive Vs, and attributed it to reflexives: they could coexist with accusative objects in Polish, or nominative objects in Russian,

Czech, and Slovak. In extending the analysis of Factuals to Russian, Czech, and Slovak, let us note in passing how to incorporate such a variation into (28). Little *v* (Chomsky 1985) is equivalent to Voice Phrase in (28), and may have different flavors: agentive, causative, etc. (Davis & Demirdache 2000, Folli & Harley 2005, a.o.). Alexiadou, Anagnostopoulou & Schäfer (2006) reformulate the proposal in terms of Voice Phrases: Active, Passive, Causative, etc. In (28), the human reflexive is in Voice, so the assumption that Voice Phrases display different syntactic flavors could capture the observed variation. That is, Active Voice is the one that values Accusative on an internal argument of V, as in Polish, while Passive Voice in Czech, Slovak and Russian ISs does not value Accusative, so the object is valued by finite T under usual assumptions for nominative objects. From a semantic perspective, however, the reflexive is identical in all the languages, and is a resumptive for the dative in the Factual IS structure in (28).

**2.2.3. The Manner Phrase as an argument of CM.** A manner phrase is usually obligatory in Factuals. Rivero, Arregui & Frackowiak (2009a-b) give three arguments to support the claim that it is a constituent of *ApplP*, not *TP* in (28). The first is that impersonal reflexive constructions, i.e. *TPs*, do not *require* manner, as in the Polish copular sentence in (31).

(31) *Kiedy się było młodym, było się szczęśliwym.* Polish

When REFL was young, was REFL happy

‘When one was young, one was happy.’ (adapted from Rivero & Sheppard 2003)

Czech, Slovak, and Russian disallow impersonal reflexives in copular constructions, but the argument can also be made with impersonal reflexives as in Russian (32): the main V with impersonal *sja* takes an infinitive complement, and there is no manner. Manner is

not required in bare impersonal reflexive constructions, so if it were inside TP in ISSs it would be unclear why it is obligatory in such constructions.

(32)	<i>Po</i>	<i>trave</i>	<i>xodit'</i>	<i>vospres̄aet-</i>	<i>sja</i>	Russian
	On	grass	walk	forbids-	REFL	(Whalen 1978)

‘It is forbidden to walk on grass.’

A second argument for manner in ApplP is that there may be more than one manner phrase in ISSs. In (33), initial *dobrze* ‘well’ combines with CM, and *fatalnie* ‘terribly’ describes the quality of the dancing.

(33)	<i>Dobrze Jankowi</i>	<i>tańczyło</i>	<i>się</i>	<i>fatalnie.</i>	Polish
	Well John <sub>DAT</sub>	danced <sub>NEU</sub>	REFL	terribly	

‘John could not help enjoying his awful dancing.’

A third argument is that Manner adverbs that seldom modify stative Vs are quite natural in ISSs with such Vs, as in Russian (22a-b) and Polish (23a-b). This too suggests that Manner is under ApplP, not TP / VP in (28).

Under the proposed analysis, CM resembles modals in teleological constructions such as *You must/ ought to take the train to go to Harlem*. For Von Fintel & Iatridou (2005), a. o., such modals take goal clauses as *arguments*, which can remain implicit with contextual support. In the proposed analysis, the manner clause is an argument of CM, which may remain implicit with contextual support.

In sum, Factual ISSs in Polish consist of a High Applicative headed by a null CM relativized to a dative subject linked to a human reflexive pronoun. The IS modal takes two arguments: TP with a reflexive, and a Manner Phrase. CM requires manner, so the

manner of the eventuality with the dative participant is inevitable. In this paper, we have extended this analysis to Czech, Slovak, and Russian, as the basis for proposals in §5.

### 3. Desiderative Involuntary States: South Slavic

In §1, we divided Slavic ISSs into two semantic types: *Factuals*, and *Desideratives* that are ‘inherent’ dispositions found in South Slavic, but not West Slavic / Russian. Key features of Desideratives will be discussed in this section, with a semantic analysis provided in §5.

### 3.1. Characteristics of Desideratives

In examining Desideratives, we will be keeping in mind Factuals. Consider Slovenian (4b) vs. (3) repeated in (34a) and (34b) respectively.

(34) a. *Janez* *je* *plesal.* Slovenian  
           J<sub>NOM</sub>                   be<sub>3S</sub>                   danced<sub>IMPF.MASC</sub>  
           ‘John danced/was dancing.’

b. *Janezu* *se* *je* *plesalo.*  
           J<sub>DAT</sub>            REFL            be<sub>3S</sub>            danced<sub>IMPF.NEU</sub>  
           ‘John was in the mood for dancing. John felt like dancing.’

Sentence (34a) alludes to a past dancing activity with nominative *Janez* as agent, which agrees in gender / number with the imperfective V *plesal* ‘danced’, and number with past auxiliary *je*. By contrast, *Desiderative* (34b) with a dative subject, a reflexive, and a similar imperfective V with default morphology speaks of John’s past disposition to dance, not of his past dancing activity, so differs in reading from (34a), and *Factuals* in §2 with similar datives, reflexives, and default Vs, such as Polish (11a) *Jankowi tańczyło*

*się dobrze*, which alludes to John's past dancing. South Slavic ISSs, then, differ from ISSs in West Slavic and Russian in lacking the *Factual Property*: they **do not** take for granted the action, process, or state indicated by their V/VP.

Desideratives exist in all South Slavic languages, as Bulgarian (35a) and Serbocroatian (35b) illustrate.

(35) a. *Na Ivan mu se raboti mnogo.* Bulgarian

P Ivan he<sub>DAT</sub> REFL work<sub>3SG</sub> much

‘John feels like working a lot. John is in the mood to work a lot.’

b. *Jovanu se spava.* Serbocroatian

J<sub>DAT</sub> REFL sleep<sub>3SG</sub>

‘John feels like sleeping/ is sleepy.’

Besides sharing human dative subjects, default Vs, and reflexives with Factuals, Desideratives productively alternate with constructions with (agentive) nominative subjects. Bulgarian *Ivan raboti mnogo* ‘Ivan works a lot’, for instance, is the agentive counterpart of dispositional (35a), and so on and so forth.

Another similarity with Factuals is morphosyntactic variation without effect on interpretation. Bulgarian datives are prepositional phrases doubled by clitics in Desideratives: *Na Ivan ... mu* in (35a). By contrast, in standard Serbocroatian and Slovenian, datives are prepositionless, nouns are casemarked, and there is no clitic doubling. Nevertheless, bare datives play the same semantic role in (34b-35b) as the prepositional dative doubled by a clitic in (35a). Desideratives mirror morphosyntactic contrasts in Factuals in §2: variation in case / agreement with transitive Vs with overt notional objects (Rivero 2003, Rivero & Sheppard 2003, 2008). In such a situation,

Slovenian offers two options: a) a nominative object that agrees with V, (36a), or b) an accusative object, (36b). Other South Slavic languages opt for just the first option: (37).

(36) a. *Janezu se je pila voda.* Slovenian

J<sub>DAT</sub> REFL be<sub>3SG</sub> drunk<sub>FEM.SG</sub> water<sub>FEM.SG.NOM</sub>

b. *Janezu se je pilo vodo.*

J<sub>DAT</sub> REFL be<sub>3SG</sub> drunk<sub>NEU</sub> water<sub>FEM.ACC</sub>

‘John felt like drinking water.’

(37) *Jovanu se jedu jabuke.* Serbocroatian

J<sub>DAT</sub> REFL eat<sub>3PL</sub> apples<sub>NOM.PL</sub>

‘John feels like eating apples.’

The variation account in §2 extends to Desideratives: IS reflexives as resumptive pronouns for dative subjects may combine with a nominative or accusative object. Variation in Factuals and Desideratives alike rests on a familiar GB proposal recently revived by Reinhart & Siloni (2005): ‘passive’ reflexives reduce the capacity of V to assign/check/value Accusative. In our terms, Slovenian allows both for Active and Passive Voices, thus sharing ISs with accusatives with Polish. Other South Slavic languages opt for a Passive Voice, and thus resemble Czech, Slovak, and Russian.

Desideratives share with Factuals Vs/VPs for activities, (35), accomplishments, (38), achievements, (39), or states, (40).

(38) *Na Ivan mu se četeše knigata.* Bulgarian

P Ivan 3<sub>SG.DAT</sub> REFL read<sub>IMP.3SG</sub> book.the

‘John felt like reading the book.’

(39) *Janezu se je umiralo doma.* Slovenian

	$J_{DAT}$	REFL	$be_{3SG}$	$die_{NEU}$	at.home	
‘John felt like dying at home.’						
(40)	$Na$	$men$	$mi$	$se$	$\check{z}ivee.$	Bulgarian
	P	1 <sub>SG</sub>	1 <sub>SG.DAT</sub>	REFL	live <sub>3SG</sub>	
‘I feel like living.’						

Factuals share this property, and we concluded that their *Stative Property* does not derive from V/VP. We can extend this idea to Desideratives: namely, they are dispositions/states whose reading does not result from a shifting type of V or VP, but from additional morphology/syntax.

In spite of morphosyntactic similarities, Factuals and Desideratives are not identical, and two of their differences play a central role in our proposals in §5. First, Desideratives contrast with Factuals in not requiring manner, as the above examples illustrate. Second, Desideratives speak of impulses/urges, with (34b) and (35b) informing us that John is sleepy, and (36a-b) of his thirst. The dative, then, is in a state *he does not control* in both instances. Since Desideratives share with Factuals an ‘out-of-control’ flavor, they may be unified under the *Involuntary State*. In this paper, we capture the ‘inevitable flavor of Desideratives by proposing that they share the Circumstantial Modal of Factuals in §2.

To our view, the crucial difference affecting truth conditions in Factuals and Desideratives resides in Viewpoint Aspect. The above examples illustrate imperfective Desideratives, and they are ungrammatical if perfective (Rivero 2009, Rivero & Sheppard 2008). The minimal pair in Slovenian (41a-b) depicts the contrast: (41a) with

Perfective *napisala* is deviant, while (41b) with (secondary) Imperfective *napisovala* is well formed.

(41) a. *\*Janezu so se napisala pisma.*  
           J<sub>DAT</sub>      Aux<sub>3PL</sub>      REFL      write<sub>PER</sub>      letters<sub>NOM</sub>  
           “\*John felt like writing up (the) letters.”

b. *Janezu so se napisovala pisma.*  
           J<sub>DAT</sub>      Aux<sub>3PL</sub>      REFL      write<sub>IMPF</sub>      letters<sub>NOM</sub>  
           “John felt like rewriting up (the) letters.” (Rivero & Sheppard 2008)

By contrast, Factuals are well formed when imperfective as in (11a-d), or perfective, as in Polish *Napisał mi się własne imię*. ‘I wrote up my own name (by accident).’ In §5, we propose an analysis of ISs that allows imperfective aspect to play a crucial role. We relate the difference in the interpretation of ISs in the two Slavic groups to differences in the interpretation of imperfectives, and thus speak of Imperfective **microvariation**.

Crosslinguistically, South Slavic ISs belong amongst desideratives, but differ from many constructions with such a label in lacking an overt constituent expressing desires/urges. To illustrate, Sanskrit desideratives are formed with suffix *-sa-* and a reduplicative syllable as prefix- (42a) vs. (42b)-, so bear a resemblance to Bulgarian (43a), where the addition of *mu se* seems to trigger a dispositional reading.

(42) a. *Jí- jīvi -sa -ti* ‘(He) wants to live’ Sanskrit  
           b. *Jīvati* ‘(He) lives’

(43) a. *Živee* *mu se* Bulgarian  
           Live<sub>3SG</sub>      3SG.DAT      REFL      ‘He feels like living.’  
           b. *Živee* ‘(He) lives’

However, the similarity is misleading, because Bulgarian arguably lacks specialized desiderative morphemes, since markers in (46a) are pronouns: *mu* as dative subject, and *se* as ‘impersonal’ reflexive. Quechua desideratives contain oblique subjects reminiscent of ISs, but they combine them with desiderative markers: *naya* in (44) adapted from (Cole & Hermon 1981).

(44) *Juzi-ta*      *puñu-*      *naya-* *n.*      Quechua  
 Jose-Acc      sleep-      desid- 3SG      ‘Jose wants to sleep/Jose is sleepy.’

In sum, South Slavic ISs display a dispositional reading- *Stative Property-*, which does not originate in V/VP, or an overt morpheme with a stative denotation. In §5, we derive such a reading compositionally from the circumstantial modal with a dative subject, and a type of Imperfective.

Rivero (2009) proposes that South Slavic ISs<sup>3</sup> consist of applicatives with dative subjects as specifiers, and Tense Phrases as complements with an Imperfective: (45).

(45) [App<sub>IP</sub> NP<sub>DAT</sub> [App<sub>1</sub> Appl [TP Tense [Asp<sub>P</sub> IMPF<sub>V</sub>P[V VP]]]]]

We propose that the Applicative head in Desideratives is also CM. Thus, the skeleton we assume for Desideratives is (46), once the reflexive is added.

(46) [App<sub>IP</sub> NP<sub>DAT</sub> [App<sub>1</sub> CM [TP<sub>i</sub> Tense [Asp<sub>P</sub> IMPF [Voice<sub>P</sub> Refl<sub>i</sub> [VP]]]]]]]

Rivero, Arregui, & Frackowiak (2009a-b) propose (28) for Factuals . We repeat this structure in (47), with Aspect added.

(47) [App<sub>IP</sub> NP<sub>DAT</sub> [App<sub>1</sub> [App CM [TP<sub>i</sub> Tense [Asp<sub>P</sub> Aspect [Voice<sub>P</sub> Refl<sub>i</sub> [VP]]]]]]]  
 [MannerP]]]

On this view, Factuals and Desideratives display similar VPs, reflexives as variables in

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<sup>3</sup> Alternative analyses of Slavic Desideratives include (Marušić & Žaucer 2004, 2006) a.o.

VoiceP, High Applicatives with a TP complement with Tense above Aspect, dative subjects linked to reflexives, and both are headed by a universal CM, so speak of **inevitable** states. However, Factuals are manner-oriented, and Desideratives must be imperfective.

Given our proposals, Factuals and Desideratives differ in **two** factors we encode in CM. One, Factual CM selects for Manner, but Desiderative CM does not. Two, Desiderative CM selects for a kind of Imperfective that is unavailable in West Slavic and Russian, while Factual CM is not aspectually restricted. In sum, **Factuals** are **Manner-oriented** while Desideratives are not, and **Desideratives** are **Aspect-oriented** while Factuals are not, with the contrast in **Manner** vs. **Aspect orientation** residing in the requirements of the Applicative Modal.

#### 4. The semantics of the Imperfective Operator

Factual ISs in (47) and Desiderative ISs in (46) are syntactically constructed states via parallel High Applicatives, but display micro-variation in interpretation. In this section, we argue that there is variation in the interpretation of imperfectives in Slavic, and in §5 we develop a compositional account for ISs, locating variation in the syntax-semantic interface of the Modal in the Applicative, and of IMPF in Aspect.

In §4.1, we discuss Imperfective microvariation in Slavic, which proves to be the clue to the different truth values of Factuals and Desideratives. In 4.2, we make a proposal for IMPF to account for such a variation.

##### 4.1. Imperfective variation in Slavic

Imperfectives (Impfs) may display multiple readings depending on the language: ongoing, habitual, iterative, generic, intentional, etc. However, languages vary as to the

range of interpretations. Hindi Impfs have a generic reading, but lack an ongoing reading, which is reserved for progressives (Bhatt 2006). In Spanish, Impfs have ongoing and intentional readings, and progressives have ongoing but not intentional readings.

In our view, Slavic Impfs are interesting because they display variation dividing the family into two groups. Following many, we adopt the standard position that Slavic Imperfectives share ongoing, habitual, iterative, and generic readings.<sup>4</sup> However, we propose that they differ as to the availability of the intentional kind. That is, **Intentional Impfs** reminiscent of Spanish *Juan llegaba mañana* ‘John was arriving tomorrow’ (Cipria & Roberts 2000, a.o.) are found in South Slavic, but not Russian and West Slavic. Thus, South Slavic (48-49) with past imperfective Vs to indicate past plans made for some future time are fine. By contrast, similar Russian and West Slavic examples in (50-52) are all deviant, because Intentional Impfs are unavailable in this second group.

(48) *Dnes, po plan, Ivan leteše za Sofia.* Bulgarian

Today, per plan, Ivan fly<sub>PAST,IMPF</sub> to Sofia

‘Today, according to plan, Ivan was flying to Sofia.’

(49) *Še včera smo jutri leteli v London,*

Still yesterday Aux<sub>1PL</sub> tomorrow fly<sub>IMPF</sub> to London

(*danes pa zvemo, da so vsi leti v London odpovedani.*) Slovenian

today but find.out that Aux all flights to London cancelled

‘ Still yesterday we were flying to London tomorrow, (but today we find out that all flights to London are cancelled.)’

(50) \* *Ivan uletal zavtra v Ispaniyu.* Russian

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<sup>4</sup> See general grammars, Dickey 2000; for Russian: Borik 2005, Grønn 2003, Klimonov & Klimonov 2008, a.o.

Ivan                    fly<sub>PAST.IMPF.</sub>            tomorrow        to Spain

Intended: '\*Ivan was flying to Spain tomorrow.'<sup>5</sup>

(51) \*Jan lecial jutro do Hiszpanii. Polish

Jan      fly<sub>PAST.IMPF</sub>      tomorrow      to Spain

Intended: '\*Ivan was flying to Spain tomorrow.'

(52) *\*Marie odjížděla zítra.* Czech

Mary leave<sub>PAST IMPF</sub> tomorrow (Kučerová 2009)

Intended: '\*Mary was leaving tomorrow.'

The following contrast between Russian / Polish vs. Bulgarian also illustrates the difference in the availability of intentional imperfectives. Grønn (2008) notes that past imperfectives cannot express future plans in Russian. He provides the following dialogue

‘ The exam is cancelled! What a relief! **In case of failure I would have been thrown out of the university**’ to mention that the Russian equivalent of the bold sentence in (53) is grammatical with a Past Perfective Conditional *vygnali by* ‘They would have thrown (me) out’, but not with a Past (secondary) Imperfective *vygonjali* ‘They were trowing (me) out’.

(53) *V slučae provala menja {a. vygnali by/ b. \*vygonjali} iz universiteta.*

{a. Past Perfective+Conditional/b.\* Past Imperfective}

Polish is parallel to Russian, as we show in (54). The dialogue is well formed in Polish if the conclusion contains *wyrzucili-by*, a Past Perfective Conditional, and ungrammatical with *wyrzucali*, a Past (Secondary) Imperfective.

<sup>5</sup> We exclude *Praesens pro futuro*, as in (i), which behaves similarly in both Slavic groups, and in many languages (German, Spanish, etc.)

(i) *Zavtra ja uezzaju v Moskvu.*  
Tomorrow I leave<sub>PRES IMPF</sub> to Moscow

## Russian

‘Tomorrow I am leaving for Moscow.’

(54) *Gdybym nie zdal, {a. wyrzucili-by/ b. \*wyrzucali}*

When.Cond<sub>1SG</sub> not pass {a. Past.Perf.-Cond / b.\* Past.Impf }

*mnie z uniwersytetu.*

me from university

‘If I did not pass, they {would throw/\*were throwing} me out of the university.’

Bulgarian differs, with both a Past Conditional *šjaha da ižvurljat*, and an Imperfect *ižvurljaha* for ‘They were throwing me out’ grammatical, as in (55) (Spanish may also use an Imperfect tense in this context).

(55) *Inače (v slučai na proval na izpita), (utre)*

Otherwise (in case of failure at exam.def), (tomorrow)

{a. *šjaha da me ižvurljat/ b. me ižvurljaha}*

{a. Conditional da me throw.out/ b. me throw.out<sub>PAST.IMPF</sub>}

*ot universiteta.*

from university

‘Otherwise, (in case of failure at the exam), (tomorrow) they {a. would throw=Cond/ b. were throwing=Impf} me out of the university.’

Another Bulgarian example with an Imperfect V for a past plans towards a future time is

(56) (again, Spanish is parallel, and may use an Imperfect tense).

(56) *Ako se provaljah na izpita utre,*

If REFL fail<sub>PAST.IMPF</sub> on exam tomorrow

*napravo me ižvurljaha ot universiteta.*

directly me throw.out<sub>PAST.IMPF.3PL</sub> from university.def

‘If I failed (Past.Impf) the exam tomorrow, they were directly throwing me out (Past.Impf) of the university.’

We propose in §4.2 that South Slavic displays a variety of IMPF unavailable in Russian and West Slavic. This variety is behind the intentional readings above, and also the desiderative interpretation of ISs, which as we know must be imperfective. Thus, we conclude that the Slavic languages that display Desiderative IS are also the ones that allow for Intentional imperfectives. By contrast, the Slavic languages that display Factual ISs are the ones where intentional Impfs are not available.<sup>6</sup>

#### 4.2. The modality of IMPF

In Slavic, IMPF may combine with a variety of tenses, giving rise to past, present, or future imperfectives. In this section we discuss its interpretation, assuming that Tense dominates Aspect, and the external argument of V is in Voice, as in (57). With VPs characterized as properties of events (Kratzer 1998), Aspect will map properties of events to properties of times, which then combine with tense for proposition-type meanings.

$$(57) \quad [_{\text{TP}} \quad \text{T} \quad [_{\text{AspP}} \text{IMPF} [_{\text{VP}} \quad \text{Voice} \quad [_{\text{VP}} \text{V}]]]]$$

Our main concern is the modal dimension of IMPF, and its different impact on Desideratives vs. Factuals. Our proposal is inspired by Cipria and Roberts’s analysis (2000)<sup>7</sup> based on situations semantics (Kratzer 1989) for Spanish imperfectives (always oriented towards the past). Situations as parts of worlds, with temporal, spatial, and world

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<sup>6</sup> Rivero & Arregui (2010) note a third difference between the two groups - morphology in futures-, which they also attribute to Imperfective microvariation. We omit argumentation for lack of space, but mention the contrast. All languages with Factual ISs use different morphological means to express imperfective and perfective futures: imperfective futures are expressed with auxiliaries, perfective futures with present Vs with perfective prefixes, and the combination of a prefixed V with a future auxiliary is ungrammatical. By contrast, Desiderative languages all express both perfective and imperfective futures with future auxiliaries (Slovenian, SerboCroatian), or future particles (Bulgarian, Macedonian).

<sup>7</sup> Modal analyses of imperfectives include Dowty 1979, Landman 1992, Portner 1998, Copley 2002, Ippolito 2004. See also Zucchi 1999.

coordinates are ideal for the analysis of imperfective morphology, which may encode both temporal and modal information.

Cipria and Roberts argue for a unified quantificational core for the semantics of IMPF, with accessibility relations we call ‘modal bases’ (MB) provided by context. Our proposal in (58) embodies a parallel strategy:<sup>8</sup>

$$(58) \quad [[\text{IMPF}]] = \lambda P_{\langle l, \langle s, t \rangle \rangle}. \lambda s. \forall s': \text{MB}_\alpha(s)(s') = 1, \exists e: P(e)(s') = 1.$$

Given (58), IMPF combines with a property of events  $P$  (a function from events to propositions), and has as output a proposition true in a situation  $s$  iff in all  $s'$  accessible to  $s$  by means of  $\text{MB}_\alpha$ , there exists a  $P$ -event. Context determines the accessibility relation  $\text{MB}$  that identifies the domain of quantification of IMPF. Different choices of  $\text{MB}$  result in different domains of quantification, and thus flavors for IMPF. Two examples of MBs associated with IMPF in Slavic and elsewhere (also mentioned by Cipria and Roberts in the context of Spanish) are in (59a-b):

$$(59) \quad a. \quad \text{MB}_{\text{ongoing}} = \lambda s. \lambda s'. s' \leq s$$

(access to subparts of a  $s$ , results in *ongoing* interpretation)

$$b. \quad \text{MB}_{\text{generic}} = \lambda s. \lambda s'. s' \text{ is a characteristic situation in } s$$

(access to typical parts of  $s$ , results in *generic* interpretation)

The modal bases in (59a-b) are *extensional*: they both identify a domain of quantification for IMPF within the evaluation world. (59a) may give rise to so-called ongoing, iterative,

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<sup>8</sup> Some terminology will be useful. We use  $s$  as variable ranging over situations, and also the type corresponding to situations. Situations may stand in a part-of relation, indicated with  $\leq$ :  $s \leq s' = s$  is part of  $s'$ . We follow Kratzer’s Lewis-style treatment of individuals, and assume that for any situation  $s$ , there is at most one world  $w$  such that  $s \leq w$  (i.e. situations are part of at most one world). Worlds themselves are simply maximal situations, not proper parts of any other situations (Kratzer 1989, 2002, 2009 on the situations framework). Unlike Cipria and Roberts, we do not encode past in the denotation of IMPF. We also simplify homogeneity. See Kratzer 1991 on how MBs may be mapped to accessibility relations, and vice versa.

and episodic readings, which as noted in §4.1. are shared by past imperfectives in Slavic, and the modal base in (59b) is for generic readings, also generally available in that family.

In more detail, (59a) gives IMPF access to situations part of the input situation, resulting in an ongoing interpretation. If the input situation has parts large enough to accommodate more than one instantiation of the relevant property of events, it gives rise to an iterative interpretation. Some properties of events, such as states, have very fine granularity - can be true in very small situations-, with (59a) resulting in homogeneity: the property will be true both of large and smaller subparts. With the input accommodating only one instantiation of the relevant property, (59a) gives rise to a single-event/episodic reading. As to the MB in (59b), it gives IMPF access to situations that are typical /characteristic within the input situation. When the input is a world, for example, the result is a standard generic reading (Kratzer 1989 on genericity in a situations framework). The views in (59a-b), then, clearly link IMPF to modals, which display different flavors depending on contextually given modal bases (Kratzer 1981, 1991). IMPF projects in Aspect, but resembles modals whose flavors derive from different accessibility relations in various contexts.<sup>9</sup>

In addition to extensional readings, we are also interested in *intensional* interpretations where IMPF quantifies over situations in other worlds, which prove particularly important for variation in Slavic. Cipria and Roberts use an intensional accessibility relation giving IMPF access to *inertia situations* found in worlds different

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<sup>9</sup>(59) omits constraints on the relation between the time of the eventuality and reference time (or situation time) : the traditional view where event time is within reference time not suitable for intentional imperfectives. However, (59) could be refined to include such constraints when relevant (for a discussion of tense in a situations framework, see Kratzer 2009).

from the evaluation world. For Cipria and Roberts inertia embodies two different notions. On the one hand, inertia may embody purely preparatory stages of events as in English futurate progressives: *John was going to the movies tomorrow, but he changed his mind*. On the other hand, inertia may embody events that have already started, as in the progressive paradox: *John was crossing the street when a truck hit him*. Our claim in this paper is that the variation in the use of imperfectives in Slavic languages discussed in §4.1 provides support for the view that accessibility in terms of inertia needs to be more fine-grained. A comparison of the interpretation of imperfectives in Slavic leads us to conclude that there is more than one notion of inertia that needs formalization, and that languages may differ with respect to the type of inertia MBs they allow for IMPF. In Slavic there are two distinct groups.

The division in Slavic suggests that purely preparatory stages should be distinguished from incomplete stages, and thus that the preparatory phase of an event can give rise to an inertia-style accessibility relation that differs from the one for cases in which the event has already started. To capture this distinction, we propose to differentiate two types of ‘inertia’ accessibility relations that we label Preparatory Inertia (**P-Inertia**), as in (60), and Event Inertia (**E-Inertia**), as in (61).

(60) **Preparatory Inertia:**

$MB_{prep\ inertia} = \lambda s. \lambda s'. s'$  is a P-inertia situation for  $s$  (where  $s'$  is a preparatory inertia situation for  $s$  iff all the events that are in preparatory stages in  $s$  continue in  $s'$  in the way they would if there were no interruptions).

(61) **Event Inertia:**

$MB_{\text{event inertia}} = \lambda s. \lambda s'. s'$  is an E-inertia situation for  $s$  (where  $s'$  is an event-inertia situation for  $s$  iff all the events that have actually started in  $s$  continue in  $s'$  in the way they would if there were no interruptions).

**P-inertia** in (60) appeals to the intuition that events may have preparatory phases before any culmination or change of state takes place, which are situations during which wheels are set in motion for things to happen that have not yet happened (see a.o. Moens & Steedman 1988). The nature of preparatory phases can vary. Plans, for example, may count as a preparatory phase for an event. The preparatory phase will hold during the period when one has the intentions corresponding to the plans. If those intentions bear fruit as planned, an event of the appropriate kind will occur. But preparatory phases are not necessarily tied to an agent's plans, and may be associated with events without agent, like the sun coming up. Context will affect what exactly counts as a preparatory phase. What is important is that in inertia situations corresponding to preparatory phases, the events set in motion continue as normal without interruptions.<sup>10</sup>

With these pieces in place, let us briefly return to intentional imperfectives in §4.1, as in (48) partially repeated in (62). These should be possible only in languages that allow IMPF to be interpreted with respect to MBs that give access to plans, since with other kinds, the event would be actual.

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<sup>10</sup> Inertia analyses of IMPF go back to Dowty (1979). Our proposal relativized to events is inspired by Landman (1992), so could potentially be subject to objections found in (Portner 1998). That is, it presupposes that we can say that an event (or event preparation) 'stops' and 'continues' in (a situation in) another world, which Portner considers impossible without taking into account properties used to describe the event. We do not attempt to settle this matter here, but any notion of inertia / cross-world-identification-of-parts-of- events that proves relevant could apply equally to E-inertia and P-inertia. In one we deal with events already in motion, and in the other with preparations for events. What is important is that accessibility relations separate the two, with languages differing as to options available for IMPF.

(62) *Dnes, po plan, Ivan leteše za Sofia.* Bulgarian

‘Today, according to plan, Ivan was flying to Sofia.’

The ‘plan-in-the-past’ interpretation is possible in (62) given the availability of  $MB_{P\text{-inertia}}$  in (61), with the sentence receiving the truth-conditions in (67):

(63) Where  $s$  is a past situation,  $[(62)](s) = 1$  iff

$\forall s': MB_{P\text{-inertia}}(s)(s') = 1$ , there exists an event of Ivan flying to Sofia today in  $s'$   
(we do not attempt to analyze past tense).

According to (63), (62) is true in a past situation  $s$  iff all situations  $s'$  in which the preparations set in motion in  $s$  bear fruit, there exists an event of Ivan flying to Sofia today.

IMPF in Russian and West Slavic can access ongoing, (59a), generic, (59b), and ‘imperfective-paradox’ MBs, (60), but not  $MB_{P\text{-inertia}}$  in (61). Thus, intentional readings will not be available. In West Slavic and Russian, the imperfective cannot describe plans for a future time that held in the past, as we illustrated in (50) through (54).

## 5. On the interpretation of Factual and Desiderative Involuntary States

In this section, we propose a compositional account of the semantics of Factuals and Desideratives, locating variation in the syntax-semantic interface of the Modal in the Applicative, and IMPF in Aspect.

### 5.1 Factual Involuntary States: West Slavic and Russian

Factual ISs contain a TP embedded within an applicative with a dative subject and a manner phrase, and convey that the manner of the eventuality is inevitable for the dative subject, as in (64a-b) where (64a) repeats (2a). In this section we spell out a

compositional analysis of Factuals that captures semantic properties by the interaction of CM and IMPF.

(64) a. *Jankowi tańczyło się dobrze*. ‘John danced, and could not help enjoying it.’

b. [App<sub>IP</sub> John [App CM [TP i Past [Asp<sub>P</sub> IMPF [Voice<sub>P</sub> Refl<sub>i</sub> [VP dance]]]]] [MP well]]]

**5.1.1 On the interpretation of CM in Factuals.** As discussed in §2, Rivero, Arregui & Frackowiak (2009a-b) characterize CM in Factuals as a circumstantial modal; our proposal in this paper builds on this analysis, elaborating on the role of IMPF. Under the assumption that both Factuals and Desideratives contain CM, we propose that semantic variation arises from the specialization of this modal, coupled to variation in the interpretation of IMPF.

Recall that the modality associated with ISs is the modality of inevitability: circumstances conspire to make things happen. Factuals make a claim about the *inevitability* of the manner of the eventuality for the subject given the circumstances (‘eventuality’ covers activities, accomplishments/achievements, and states). Both the type of modality and the quantificational force of the modal appear fixed, so CM has universal force, and selects a manner phrase as argument. On this view, CM resembles English modals in having hard-wired force as part of its lexical meaning: it is a universal quantifier, such as *must*, or *have to*. It differs from English modals in having also a hard-wired modal base. English modals have modal flavors determined by context (e.g. *have to* can be epistemic, as in the most salient reading of *It has to be snowing*, or circumstantial, as in the preferred reading of *I have to sleep*, or deontic as in *You have to be quiet*). This type of contextual variation in meaning is absent from Factual ISs, which

always have a circumstantial interpretation oriented towards manner.

Wierzbicka (1988) notes that Factuals take the *eventualities* themselves for granted. The IS in (2a), for example, makes us understand that John has actually danced. This property distinguishes Factuals in Polish, Czech, Slovak, and Russian from Desideratives in South Slavic, where the eventualities are not taken for granted. Rivero, Arregui & Frackowiak (2009a-b) do not examine this aspect of the meaning of Factuals, and here we simply assume that there is a presupposition that an event satisfying the VP property exists in the evaluation world (for event presuppositions, see a.o., Bhatt 1999, 2006, Hacquard 2006, Arregui 2005, 2007, 2009). With these ingredients in place, we propose the denotation in (65) for CM in Factuals:

(65) For all properties P, Q of type  $\langle e, \langle s, t \rangle \rangle$ , entities x and worlds w,

$$[[\mathbf{CM}]]^{w, f\text{-circ}}(P)(Q)(x)(w) = 1 \text{ iff} \\ \{w': w' \in \cap f\text{-circ}(w) \& \exists s. P(x)(s) = 1 \& s \leq w'\} \subseteq \{w': \exists s. Q(x)(s) = 1 \& s \leq w'\}^{11}$$

According to (65), the modal is interpreted relative to a Kratzerian modal base -a function from worlds to sets of propositions-, and gives rise to universal quantification over possible worlds. It combines with two properties, giving rise to an output that is a property of individuals. Given (64b), this property is predicated of the dative. The ‘restrictor argument’ to the modal is TP, and the ‘nuclear scope’ is the selected Manner Phrase. The claim is that in all the worlds in the salient circumstantial modal base in which the restrictor property is true of the relevant individual, the nuclear scope property

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<sup>11</sup> (65) is based on a simplified Kratzerian approach to modality, ignoring ordering sources. We give the truth conditions of the modal only with respect to situations that are worlds in a manner that stays close to familiar Kratzerian denotations. An equivalent characterization of accessibility in terms of a relation between worlds would also be possible.

is also true of that individual. So, in all the worlds that fit the relevant circumstances in which the dative participates in an event that fits the restrictor (with a presupposition that there is such an event!), the manner of the event is as described. This means that, given the circumstances, the manner of the event is INEVITABLE.

### 5.1.2. On the arguments of the modal in Factuals

Given (65), the arguments of CM are TP (restrictor), and manner phrase (nuclear scope). We examine their interpretations in turn. ISs embed an impersonal construction, which in Factuals serves as restrictor to CM. The subject position within Voice is saturated by an impersonal pronoun. Abstraction over this variable leads to a property of individuals that is a suitable argument for CM.

In the structures of interest, Aspect is in the embedded clause. As noted, there is microvariation in the interpretation of IMPF in Slavic: in West Slavic and Russian, IMPF does not have access to the preparatory MB we call P-Inertia, so cannot receive an intentional reading. We propose that in this language group, the factual interpretation of ISs is tied to a non-intentional interpretation of IMPF, namely the *ongoing* MB proposed in (59a), and now illustrated in (66) for (64a-b):

$$(66) \quad [[ [_{TP} i \text{ Past } [IMPF [_{VoiceP} sie_i [_{VP} \text{dance}]]]] ] ] =$$

$\lambda x: x \text{ is human. } \lambda s: s \text{ precedes the speech time. } \forall s': MB_{ongoing}(s)(s') = 1, \exists e: e \text{ is a dancing by agent } x \text{ in } s'$

This is a property true of entities that are human (presupposition introduced by reflexive) and situations that are past (past tense in (68)). Given a human  $x$  and a past situation  $s$ , the outcome will be true iff in all situations  $s'$  that are made accessible to  $s$  by the  $MB_{ongoing}$ , there is an event of  $x$  working (i.e.  $x$  is working throughout in past  $s$ ).

Given (64b), the second property associated with CM is provided by the manner adverb. In order to fit into the argument frame of CM, the adverb receives a ‘shifted’ interpretation according to which it is a property of individuals, not simply a property of events, as in (67).

$$(67) \quad [[\text{well}]] = \lambda x. \lambda s. s \text{ is good/enjoyable for } x.$$

(67) says that a situation/event was good/enjoyable for someone, not that the situation/event in itself was good. With this denotation, the truth conditions for (68a) claim that the sentence is true iff in all the worlds quantified over, there exists a situation that is good for the (dative) subject.

Given our proposal for IMPF, CM, and the structure in (64b), (68a) receives the truth condition in (68b):

$$(68) \quad \begin{aligned} \text{a. } & [[\text{App}_1 \text{P} \text{ John } [[\text{App}_2 \text{ CM } [\text{TP}_1 \text{ i Past } [\text{IMPF } [\text{Voice}_1 \text{ Refl}_1 [\text{VP}_1 \text{ dance}]]]]] [\text{MP}_1 \text{ well}]]]] \\ \text{b. } & \text{For all worlds } w, [[(68a)]](w) = 1 \text{ iff} \\ & \{w': w' \in \cap f\text{-circ}(w) \& \exists s: s \text{ precedes the speech time.} \} \end{aligned}$$

$$\begin{aligned} & \forall s': \text{MB}_{\text{ongoing}}(s)(s') = 1, \exists e: e \text{ is a dancing by agent John (human) in } s' \text{ and} \\ & s \leq w' \} \subseteq \{w': \exists s. s \text{ is good for John} \& s \leq w'\} \end{aligned}$$

(68b) shows the interaction between the interpretations of CM and IMPF. The modal quantifies over all worlds that match the evaluation world with respect to contextually relevant circumstances in which there is a past situation in which the imperfective is true. As noted in § 4.2, an ongoing modal base available to past Imperfectives in all Slavic languages may give rise to an episodic interpretation. Thus, IMPF in (68a) can quantify over worlds in which there is a past situation  $s$  such that in all situations  $s'$  made accessible to  $s$  by the contextually given MB (the situations that are part of  $s$ ), there is an

event of John working. This can be true if there exists an event of John working.

A concern about (68b) could be that nothing ties the event associated with the dative subject to the situation good for that subject. However, quantification takes place over all the worlds that satisfy the circumstances corresponding to the modal base, so the possibility of an accidental link between the two situations seems ruled out.

### 5.1.3 Summary of Factual ISSs

Our compositional account of Factuals in West Slavic and Russian treats them as quantificational claims over possible worlds that are true in a world  $w$ , given properties  $P$  and  $Q$  and an individual  $x$ , iff all the worlds that are like  $w$  with respect to some (contextually relevant) circumstances in which  $P$  is true of  $x$ , are also worlds in  $Q$  is true of  $x$ . Since  $Q$  corresponds to a *manner* and quantification is universal, this means that the subject had no control over  $Q$ ; circumstances forced the manner on the subject, which thus was out of the subject's control.

We derive the reading of Factuals from the interaction of the interpretations of CM and IMPF. Restrictions on the modal bases associated with IMPF in West Slavic and Russian - the MB we called P-Inertia is not available – have as one consequence that in structures like (64b), the semantics of IMPF contributes to the factual interpretation of ISSs. Intentional, non factual, interpretations are not possible for such constructions.

## 5.2. Desiderative ISSs: South Slavic

Desideratives in South Slavic such as Slovenian (3) *Janezu se je plesalo* ‘John was in the mood for dancing’ convey that the dative could not help feeling like dancing, was in the mood for dancing, or had an out-of-control/involuntary urge to do so. That is, what is

inevitable in this instance is the subject's urge to carry out some eventuality corresponding to the state of being in the **purely preparatory** phase for an event.

We noted earlier numerous structural parallelisms between Factuals and Desideratives, but let us recall key differences: Factuals are headed by a circumstantial modal that selects a manner phrase **-Manner Orientation-**, while Desideratives are headed by a circumstantial that selects an imperfective with a preparatory modal base-**Aspect Orientation**. In Factuals, CM generates the interpretation of a *manner* out of control, while in Desideratives, CM generates the interpretation of an *urge* out of control.

We begin our account with the structure of Desideratives in (69):

(69) [App<sub>IP</sub> John [App CM [TP<sub>i</sub> Past [IMPF [Voice<sub>P</sub> Refl<sub>i</sub> [VP dance]]]]]]]

Given (69), CM has only one syntactically articulated argument, so its restrictor remains implicit, provided by context. The argument of the modal is TP as impersonal clause. The result of combining CM and TP is a property of individuals that applies to the dative.

**5.2.1 On the interpretation of CM in Desideratives.** In Desideratives and Factuals alike, CM has a lexically encoded universal quantificational force, and a circumstantial flavor, so this is a modality that pays attention to relevant facts in the evaluation world. The modals differ with respect to selectional properties. In Desideratives, CM selects a complement clause with an IMPF operator that is interpreted relative to a preparatory modal base P-Inertia, which is intentional. A proposal for the denotation of CM in Desideratives is provided in (70):

(70) For all properties P of type <e, <s, t>>>, entities x and worlds w,

$$[[\mathbf{CM}]]^{w, \text{f-circ}}(P)(x)(w) = 1 \text{ iff}$$

$$\{w': w' \in \cap \text{f-circ}(w) \} \subseteq \{w': \exists s: P(x)(s) = 1 \& s \leq w'\}$$

(70) characterizes CM in a Kratzerian framework. Again, CM is interpreted in relation to a contextually supplied circumstantial MB, but combines with only one property, and the claim it makes will be true given a property P, individual x, and world w, iff all the worlds that fit the modal base are also worlds in which there exists a situation in which P holds of x. This means that in all the worlds w' that are like the actual world with respect to some contextually identified features, P happens to x in w' (the circumstances force P to happen to x).

**5.2.2. On the argument of CM in Desideratives.** Given (70), CM in Desideratives combines with only one property. The restriction for the modal is hardwired in the denotation of CM itself. Its domain of quantification will be identified on the basis of the facts relevant in the context. The syntactically visible argument of CM, that is TP, corresponds to its nuclear scope. The claim is that CM selects for an IMPF with a particular interpretation in the embedded clause: IMPF must be interpreted with respect to the **P-inertia Modal Base**. The interpretation of TP sister to the modal is given in (71) for Slovenian (3):

(71)  $[[_{\text{TP}} \mathbf{i} \text{ Past IMPF } \mathbf{se}_i \text{ dance}]] = \lambda x: x \text{ is human. } \lambda s: s \text{ precedes the speech time.}$

$$\forall s': \text{MB}_{\text{P-inertia}}(s)(s') = 1, \exists e: e \text{ is dancing by the agent } x \text{ in } s'$$

Again, the denotation in (71) is restricted to humans due to the presupposition of the impersonal pronoun, and past situations due to past tense in (3). The property in (71) will be true of a (human) entity x and a (past) situation s iff in all situations s' that are **P-Inertia** situations for s, there exists an event of x dancing in s'. This means that in all the situations s' that continue the eventualities set in motion in s, there exists an event of x dancing in s'.

The Preparatory interpretation of IMPF does not give rise to a factual reading: (3) does not claim that an event of John dancing actually takes place. The claim is that the wheels have been set in motion for such an event to happen. If things had continued in accordance with the events set in motion in the past, John would have danced.

**P-Inertia** modal bases target events that have been set in motion. Different kinds of processes can set events in motion (i.e. events may have different preparatory phases): the agent may have a plan, laws of nature may conspire to make something happen, etc. What is important in desiderative ISs is that, given the (relevant) actual world circumstances, the subject cannot help being in the preparatory phase for a certain event. Given absence of control, it seems more accurate to characterize the interpretation of desiderative ISs as urges, not wishes or decisions.

Let us illustrate how all pieces fit. Given CM in (70), the denotation for TP in (71) and structure (69), (72a) receives the truth conditions in (72b):

(72) a.  $[\text{App}_{\text{IP}} \text{ John } [\text{App} \text{ CM } [\text{TP}_i \text{ Past } [\text{IMPF } [\text{Voice}_P \text{ Refl}_i [\text{VP } \text{dance}]]]]]]$

b. For all worlds  $w$ ,

$[(72a)] (w) = 1 \text{ iff}$

$\{w': w' \in \cap f\text{-circ}(w)\} \subseteq \{w': \exists s: s \text{ precedes the speech time.}$

$\forall s': \text{MB}_{\text{P-inertia}}(s)(s') = 1, \exists e: e \text{ is dancing by the agent John (human) in } s' \& s \leq w'\}$

According to (72b), (72a) will be true iff in all the worlds that fit the relevant circumstances, there is a past situation that is the preparatory phase for a dancing event by agent John (human). This means that in all the worlds that fit the relevant

circumstances, things were set in motion for John to dance, so John just ‘had to’ dance, which is what happens when he feels the urge to do so.

**5. 2. 3. Summary of Desideratives.** In our compositional analysis of Aspect-oriented Desideratives, CM selects for a particular type of IMPF in the embedded clause. Desiderative flavors arise because IMPF is exclusively interpreted in relation to a **P-inertia** MB, with CM and IMPF combining to make this preparatory phase inevitable, giving rise to urge-type interpretations (amongst others!). Given the link between desiderative interpretations and intentional MBs for IMPF, we correctly predict the absence of desiderative readings in ISs in West Slavic and Russian. In these languages, **P-Inertia** MBs are not available for IMPF, and impersonal constructions embedded under CM only give rise to factual interpretations in imperfective Factuals.

## 6. Conclusions

In this paper, we have provided an analysis of Involuntary States in Slavic. The difference between such constructions and regular sentences in Slavic is made visible by specialized morphological patterns: regular sentences carry standard verb agreement and nominative marking on the subject, while Involuntary States show neutral agreement, a reflexive pronoun, and dative marking on the subject. We have argued that this morphology corresponds to profound differences in the syntax, with Involuntary States headed by a modal high applicative that takes the dative as its subject, and imposes selectional restrictions on its arguments, with manner or aspect orientation.

The typology of ISs clearly expands our knowledge of applicative constructions, identifying a type of applicative not found in Romance or Germanic. But it also expands

our knowledge of the parameters of variation in the interaction between aspect and modality. In our pan Slavic study of ISs we have seen that differences in the interpretation of IMPF have an impact not only on the interpretation of ordinary imperfective sentences, but also on the range of interpretations available in ISs. To account for variations in the interpretation of IMPF, it has been necessary to go beyond the standard view of inertia in progressives and imperfectives in order to distinguish two subtypes: Preparatory inertia and Event inertia. These subtypes divide the Slavic family in two: Russian and West Slavic do not have access to Preparatory inertia, whereas South Slavic does. Variation in IMPF has been modeled on variation in the interpretation of modals: like modals, IMPF associates with contextually restricted modal bases, with some hard-wired language-specific restrictions that account for microvariation. The study of ISs across Slavic allows us to see how variation at the level of the interpretation of IMPF can have compounded effects in more encompassing structures involved in the interpretation of ISs.

The paper began by recalling Vendler's verb classes, expanded in the literature to take into account combinations of verbs and arguments as VPs. The study of ISs shows that event composition can result from the interaction of syntactic elements projected very high in the clause, above tense and aspect. ISs recombine large structures that are tensed clauses into applicative configurations that compose into new complex states.

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