Anatomy of a Polish Circumstantial Modal[*]

María Luisa Rivero, Ana Arregui, and Ewelina Frąckowiak
University of Ottawa

To appear in
<u>Formal Approaches to Slavic Linguistics 18, 2009: The Cornell Meeting</u>.
Michigan Slavic Publications, Ann Arbor, MI.

1. Introduction·

In this paper, we combine a new syntactic analysis with a new formal semantic analysis of Polish sentences of type (1-3). Such patterns are sometimes dubbed *Involuntary State Constructions* (ISCs), a label we adopt. Intuitively, this label indicates that ISCs involve a dative participant standing for an agent that lacks control over the event denoted by the verb, and thus acts while being in a *state* that is *involuntary*.

(1) Jankowi   czytało   się   tę książkę
     John$_{DAT}$ read$_{NEUT}$ REFL   this book$_{ACC}$
     z   przyjemnością.
     with   pleasure
     '(Somehow), John read this book with pleasure.'

(2) Ewie   miło   ogląda   się
     Eve$_{DAT}$ nice   watch$_{PRESENT}$ REFL
     swoje   zdjęcia.
     POSSESSIVE   photos$_{ACC}$
     'Eve enjoys looking at her own pictures.' (Dziwirek 1994: (175))

(3) Wesoło   nam   się   podróżowało
     Happily   we$_{DAT}$ REFL   traveled$_{NEU}$
     po   tej   pięknej   krainie.
     over   this   beautiful   country
     'We enjoyed traveling all over this beautiful country.'
     (Dąbrowska 1997: (103))

The syntax of ISCs is characterized by (a) a human / personified dative subject (DAT), (b) a verb in default form, (c) a reflexive clitic

(REFL), (d) and a manner expression, which is obligatory except under two circumstances identified in §2. ISCs may contain complements in the accusative (ACC) as in (1-2), or the genitive with negation, or the instrumental with certain verbs (not illustrated).

Rivero (2003: §2), and Rivero & Sheppard (2003: §5) identify variation in ISCs in Slavic, noting that such constructions are found in all the languages, and divide into two groups with different truth conditions. On the one hand, Polish, Czech, and Slovak ISCs belong to a type with datives that associate with an agentive dimension, which we label *factual*. On the other hand, South Slavic ISCs speak of just predispositions, with datives that resemble experiencers, as in (4) (Rivero 2009 for recent discussion), so are *desiderative*, not *factual*.

(4)   South Slavic Desiderative Involuntary State Construction:
         Janezu   se   je   plesalo.   Slovenian
         J$_{DAT}$ REFL   be$_{3S}$ danced$_{NEU}$
         'John was in the mood for dancing.'

This paper concentrates on the *factual* type of ISC found in Polish, and updates proposals by Rivero (2003: §2), and Rivero & Sheppard (2003: pp.131-150) to account for its properties, arguing that its syntactic structure contains a silent modal. Such a modal heads a novel semantic type of High Applicative Phrase, inspired in part by the semantic distinction between High and Low of Pylkkänen (2002 / 2008), and in part by the structure of the High Applicative in desiderative ISCs in (Rivero 2009). This modal head takes a dative specifier, and two arguments, and carries a circumstantial modal meaning in the sense of Kratzer (1981, 1991). One argument of the modal consists of a Tense Phrase complement with a reflexive pronoun restricted to humans, which functions as a variable for the dative. This is the factor that restricts ISCs to human / personified logical subjects, a characteristic often noted in the literature on ISCs. The other argument of the modal is a Manner Phrase, which is why a manner expression is most often obligatory in *factual* ISCs, as also noted in the literature dealing with Polish.

In Slavic, Polish belongs with Czech and Slovak to the semantic group with *factual* ISCs with dative agents, and differs from South Slavic, with desiderative ISCs with dative experiencers. Crosslinguistically, Polish ISCs bear a close semantic resemblance to

Out-of-Control constructions in Salish languages in British Columbia. As the comparison of Polish (5) with St'át'imcets (6) suggests, both languages display constructions with agents that lack control over the event, and may act accidentally.

(5) <u>Polish Involuntary State Construction:</u>
Zaprószyło mi się ogień w łóżku.
PREF.set.on.fire$_{NEU}$ I$_{DAT}$ REFL fire$_{ACC}$ in bed
'I accidentally started a fire in my bed.'

(6) <u>St'át'imcets Out Of Control Construction:</u>
Ka -gwél-s =kan **-a** ta=ngúy'tten =a.
CIRC-burn-CAUS=1SG.SUBJ-CIRC DET=bed =EXIS
'I accidentally set my bed on fire.'
(Davis, Matthewson & Rullmann 2007)

Out-of-Control constructions (Demirdache 1997, Davis & Demirdache 2000, Davis, Matthewson & Rullmann 2007, a. o.) contain *ka-...-a* attached to the verb, as in (6). For Davis, Matthewson & Rullmann (2007), such a morpheme is a modal with a circumstantial meaning; our semantic analysis for Polish ISCs is inspired by their proposal, and we refer the interested reader to (Rivero, Arregui & Frąckowiak 2009) for a comparison.

Our proposals seek to contribute to an understanding of crosslinguistic variation in modality. Polish ISCs provide an unusual window into modal meanings, in terms of both syntactic and semantic organization. In the syntax, we find a modal meaning constructed with resources outside the inflectional system and verbal paradigm, using a new type of High Applicative that stands above TP. In the semantics, such a novel Applicative contains a specialized circumstantial modal indicating that the dative has *no control* over the *manner* of the action.

The paper is organized as follows. Section 2 discusses the structure of factual ISCs. Section 3 proposes a denotation for the circumstantial modal they contain. Section 4 concludes the paper.

2.   The structure of Polish ISCs

Consider the ISC in (7) with dative *Jankowi* as logical subject, a V *tańczyło* with default agreement morphology, so Neuter, a reflexive clitic pronoun *się*, and a manner adverb *dobrze*.

(7)   Jankowi   tańczyło   się   dobrze.
           John_{DAT}   danced_{NEUT}   REFL   well
           'John danced, and could not help enjoying it.'

ISCs of the type in (7) contrast in both syntax and semantics with 'regular' sentences such as (8), where the logical subject *Janek* is nominative, the verb *tańczył* agrees in gender (MASC(uline)) and number (SING(ular)) with this nominative, and there is no reflexive clitic.

(8)   Janek   tańczył   dobrze.
           John_{NOM}   danced_{MASC.SING}   well
           'John danced well.'

Sentence (7) with the factual ISC syntactic frame tells us both that there was a past dancing event with John as the agent, and that John could not help enjoying himself when dancing. The ordinary sentence with a nominative subject in (8) also tells us about a past dancing event with John as the agent, but contrasts with (7) in stating that the quality of the dance was good. Thus, if John danced horribly, the sentence with a dative subject and a reflexive clitic in (7) could be true, but the sentence with a nominative subject and no reflexive in (8) would be false.

Two important semantic characteristics often noted in the literature of Polish are the agent without control, and the nearly obligatory manner expression. The analysis developed in this paper relates these two characteristics in a principled way. The 'lack-of-control' meaning of the dative source of the *Involuntary State* label is noted using different terms by Gołąb (1975), Dąbrowska (1997), Dziwirek (1994), Wierzbicka (1988), and Frąckowiak & Rivero (2008), a. o. For Gołąb (1975), the dative of ISCs "… 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 (…)." Dziwirek (1994) assigns an unwilling character to the dative. Dąbrowska (1997) speaks of luck and external conditions to achieve the goal. Frąckowiak & Rivero (2008) call dative subjects in ISCs 'unintentional agents', which does not seem appropriate because agents may act intentionally in ISCs.

In this paper, we propose to capture the dative's lack of control and the need for a manner phrase by building on the intuition that in ISCs the *manner of the eventuality* is 'forced' on the agent by the circumstances, and that 'out of control' in Polish should be understood in terms of an implicit circumstantial modal (Kratzer 1981, 1991). In other words, Polish ISCs make a claim about the subject's lack of control *over the manner of his/her action*.
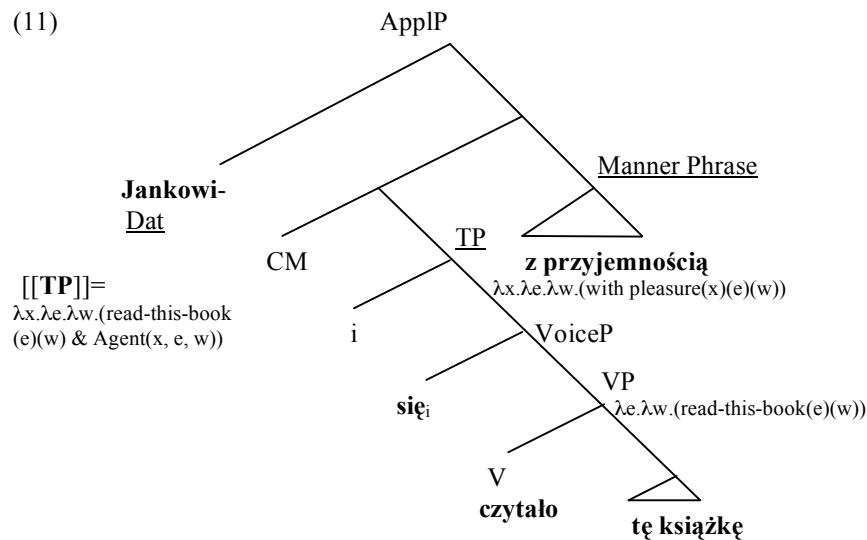
Before we introduce our analysis, we note two situations where ISCs need not contain an overt manner. ISCs do not require a manner with phonological content when its semantic content is recoverable either (a) from the verb, or (b) from the context, as illustrated below. First, an example of an ISC with a manner component recoverable from the verb is in (5). That is, *Zaprószyło mi się ogień w łóżku* 'I accidentally started a fire in my bed' is grammatical without an adverb, because the denotation of the verb contains a manner that is inherently *not voluntary*. The PWN corpus of Polish (http://korpus.pwn.pl) defines *zaprószyć ogień* as *niechcący spowodować pożar* 'to cause a fire involuntarily'. The inherent adverbial meaning of this verb, then, allows (5) to sound complete in contrast with (7), which sounds incomplete / ungrammatical without the manner adverb: **Jankowi tańczyło się.* Second, a situation mentioned by Davis, Matthewson & Rullmann (2007) for St'át'imcets is also suitable to illustrate an ISC whose manner can be recovered in context: "… you draw with a blindfold on ... When you take your blindfold off, you discover that you have accidentally written your name." Under the situation just quoted, the ISC in (9) is felicitous, with the manner of the action understood as 'by accident', and no need for an overt adverb.

(9)   Napisało   mi   się   własne imię.
        PREF.wrote_NEU   I_DAT   REFL   own   name_ACC
        'I wrote up my own name (by accident).'

With the above observations in mind, we can introduce our analysis. Following and updating Rivero (2003, 2009) and Rivero & Sheppard (2003), we propose that the syntactic structure of ISCs consists of an applicative phrase (ApplP) that is headed by a silent circumstantial modal (CM), and dominates three obligatory constituents. On this view, the ISC in (10) corresponding to (1) has the structure in (11).

(10)   Jankowi   CM   [czytało się   tę książkę]
        John$_{DAT}$ CM   read$_{NEUT}$ REFL   this book$_{ACC}$
        [z   przyjemnością].
        with   pleasure
        '(Somehow), John read this book with pleasure.'

In (11), the three constituents of the Applicative Phrase headed by the modal appear underlined. ApplP dominates the structure as in (Rivero 2009), 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.

(11)

Let us introduce each of the underlined constituents.

2.1.   The Dative Subject as Specifier of the Applicative Phrase

ISCs are oriented towards the dative, which is the logical subject of the construction located in the specifier position of the High Applicative Phrase. As stated in the literature on Polish, such a dative is presented as unable to control the way the eventuality develops. We repeat that for Wierzbicka (1988:219), the agent of ISCs experiences his action as proceeding well for reasons independent of him. In (10), for instance, there is every reason to think that John is acting as 'intentional' / 'willing' reader, but the pleasure he derives from his reading activity is not under his control, so seems surprising to him. In §3, we will make a proposal for the denotation of CM in (11) that captures the semantic role of the dative subject of ISCs in precise terms.

2.2.   TP as an Impersonal Construction with an Indefinite się

The Tense Phrase constituent is the first argument of CM in (11), and consists of an impersonal construction with the so-called indefinite pronoun *się* (Rivero & Sheppard 2003). That is, without a dative subject and a manner phrase, the TP on its own is the complete impersonal sentence in (12), with (a) an indefinite reflexive clitic meaning 'someone', (b) a default verb in the Past (here Neuter), and (c) an ordinary accusative object as complement of the verb.

(12)   Czytało   się   tę książkę.
        Read$_{NEUT}$ REFL   this book$_{ACC}$
        'One/people/someone read this book.'

   The TP in (12) is similar in both syntax and semantics to Romance impersonal constructions with a reflexive clitic in Italian, as in *Si canta* 'People sing.' (see Cinque 1988, Chierchia 1995, a. o), or Spanish *Se castigó a los niños* 'People punished children.'

   In the ISC skeleton in (11), we propose that the reflexive clitic introduces a variable for an agent in a Voice Phrase in the sense of Kratzer (1996) (and see also (Frąckowiak & Rivero 2008)), with i being an index abstracting over the pronoun *się$_i$* (see Heim and Kratzer 1998). The Voice Phrase is dominated by TP, and the reflexive clitic is responsible for restricting ISCs to *human* subjects, thus capturing another obligatory aspect of ISCs frequently noted in the literature.

   Following Chierchia (1995) and Rivero & Sheppard (2003), we

characterize impersonal *się* as a specialized variable that introduces a human presupposition. For Chierchia, Italian impersonal *si* in sentences like *Si canta* 'People sing.' binds off a property, and quantifies over the nominative subject position. In ISCs, *się* only does part of that job: it introduces a variable which is bound by a freely-generated index to create a property of individuals (see Heim & Kratzer 1998), which is the right argument to feed modal CM in ApplP, as we shall see in §3. On this view, once the human presupposition is added to (11), TP has the denotation in (13), accounting for why ISCs are only possible with human subjects, i.e. restricted to personal modality, and excluded with non-human or non-personified dative subjects, as in (14).

(13)   [[**i   się$_i$ czytało   tę książkę**]] =
        λx: x is human. λe. λw. e is a reading of this book
        by agent x in w.

(14)   *Słońcu   się   wzeszło.
        Sun$_{DAT}$ REFL   came.out$_{NEU}$
        '*The sun (somehow) came out.'

    In simple terms, the impersonal reflexive clitic is restricted to humans, and is obligatory in ISCs where it is linked to the dative. Therefore, ISCs are also restricted to human and personified dative subjects.

2.3.   The Manner Phrase as an argument of the modal
We noted that a manner phrase is usually obligatory in ISCs, and can only be omitted when its semantic content is recoverable from the verb in the construction, or from the context.

    Three arguments support the claim that manner in the syntactic structure in (11) is a constituent of ApplP, not TP. One is that impersonal constructions (TPs) do not *require* manner, as illustrated in (15). If the manner phrase in ISCs was inside TP, it would be unclear why it is obligatory.

(15)   Kiedy się   było młodym, było   się   szczęśliwym.
        When   REFL   was young,   was   REFL   happy
        'When one was young, one was happy.' (adapted from Rivero

& Sheppard 2003)

A second argument to attach manner to ApplP in the syntax is that there may be more than one manner phrase in ISCs, where one serves as argument of CM, and the other operates within the embedded TP (with points of contact with the analysis of double adverbs in desiderative ISCs in South Slavic in (Rivero 2009)). This is illustrated in (16), where initial *dobrze* 'well' combines with CM, and *fatalnie* 'terribly' describes the quality of the dancing.

(16)   Dobrze Jankowi   tańczyło   się   fatalnie.
        Well   John$_{DAT}$ danced$_{NEU}$ REFL   terribly
        'John enjoyed dancing terribly.' (i.e. he could not help enjoying his awful dancing)

A third argument is based on stative Vs. All Vendler's Vs participate in ISCs, with activities illustrated in (3), and accomplishments in (1-2). States, however, prove of particular relevance, because manner adverbs seldom modify them, but are quite natural in ISCs embedding such Vs, as shown in (17). This situation also suggests that manner in the ISC structure in (11) is under ApplP, not TP / VP.

(17)   Basi   dobrze mieszka   się   u   swojej   siostry.
        B$_{DAT}$ well   live$_{3SG}$ REFL   at   her   sister
        'Barbara enjoys living at her own sister's.'
        (Dziwirek 1994: (28b))

Finally, we began this section by noting the semantic effect of manner in ISCs, where it is interpreted *relative to the dative subject*. The denotation of *dobrze* 'well' in (8) *Janek tańczył dobrze*, as a property of events, contrasts with (7) *Jankowi tańczyło się dobrze* 'John danced, and could not help enjoying it', with goodness relativized to the dative subject. Sentence (8) with a nominative subject tells us that the manner of dancing was good, closely corresponding to English *John danced well*. By contrast, in the ISC in (7) with the dative subject, the reading is that dancing brought pleasure to John. Manner in ISCs, then, is shifted to a property of individuals and events, and thus relativized to an entity, as in [[**dobrze**]] = $\lambda x.\lambda e.\lambda w.$ *e is good for x in w*. With this interpretation, the

manner expression can operate as an argument of the modal heading the High Applicative Phrase, as our denotation of the modal in §3 will show.

Under the analysis we propose, the modal of ISCs resembles modals in teleological constructions such as *You must/ ought to take the train to go to Harlem*. According to Von Fintel & Iatridou (2005), among others, teleological modals (a) take goal clauses as *arguments,* and (b) those clauses can remain implicit with enough contextual support. In our proposal, the circumstantial modal in an ISC takes a manner clause as an argument, and such a clause may remain implicit with enough contextual support, as we showed above.

In sum, we propose that the Manner Phrase of ISCs is a constituent of the Applicative Phrase in the syntax, and functions as an argument of the modal, an analysis that makes CM in the structure in (11) reminiscent of goal/teleological modals.

3.   The denotation of the Polish Circumstantial Modal

Having examined the syntax and semantics of ISCs in §2, let us now turn to the denotation of their modal.

Inspired by Davis, Matthewson & Rullmann (2007)'s recent account of Out-of-Control in Salish, we characterize CM in ISCs as a circumstantial modal (as in Kratzer 1981, 1995). With circumstantial modals, we are interested in necessities or possibilities that follow from contextually identified facts.

One peculiarity of CM is that both its type of modality and its quantificational force are fixed: ISCs make a claim about the inevitability of the manner of the eventuality for the subject, given the relevant circumstances. In other words, on the one hand CM has universal quantificational force as a lexical property, and thus resembles an English modal such as *must*. On the other hand, CM has a circumstantial modal base that is hardwired, i.e. determined by linguistic form. In this way, CM contrasts with an English modal such as *have to,* whose type of modality is defined by context (via what Kratzer calls a 'conversational background') as 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*, and so on. In specific contexts, other readings are possible for such English modals. This type of contextual variation in meaning is absent from Polish ISCs.

Wierzbicka (1988) notes that ISCs take the *eventualities* themselves for granted. In other words, in the ISC in (10), the following claim is understood as true: *John read the book*. This property distinguishes the *factual* ISCs of Polish, Czech, and Slovak (and Russian) from the *desiderative* ISCs of South Slavic, where the eventualities are not taken for granted (i.e. no dancing takes place in Slovenian (4)). In our terms, the ISC modal in *factual* (11) presupposes the existence of an event that fits the restriction. Here, we will not examine this aspect of the meaning of factual ISCs in any detail. Instead, we will treat eventualities as presupposed, and simply encode this in the denotation of the modal, without committing ourselves to an analysis of event presuppositions (but see among others, Bhatt 1999, 2006, Hacquard 2006, Arregui 2005, 2007).

With these ingredients in place, we propose that the modal of factual ISCs has the denotation in (18):

(18)　　$[[\mathbf{CM}]]^{\,w,\,\text{f-circumstantial}}\,(P_{<e,\,<l,\,<s,\,t>>>})(Q_{<e,\,<l,\,<s,\,t>>>})(x_e)(w) = 1$
　　　　iff $\{w': w' \in \cap\quad f_{\text{circumstantial}}\,(w)\ \&\ P(x)(e)(w') = 1\} \subseteq \{w':$
　　　　$Q(x)(e)(w') =\quad 1\}$
　　　　where e is a presupposed salient eventuality and $f_{\text{circumstantial}}$　is　a
　　　　salient circumstantial modal base.

According to the proposal in (18), CM takes two properties as arguments, and results in a property of individuals which, given the structure in (11), will be predicated of the dative subject. The restrictor of the modal is TP, and the nuclear scope is the Manner Phrase. CM claims that in all the worlds in the salient circumstantial modal base in which the restrictor property is true of the relevant individual and event, the nuclear scope property is also true of the relevant individual and event. So, in all the worlds that fit the relevant circumstances in which the dative participates in the event, the manner of the event is as described: i.e. given the circumstances, the manner of the event is INEVITABLE.

In (19), we show the denotation for (10), given the structure in (11) and the denotation of the modal in (18):

(19)　　$[[[\mathbf{Jankowi}\ [[\mathbf{CM}\ [\mathbf{i\ się_i\ czytało\ tę\ książkę}]]$
　　　　$[\mathbf{z\ przyjemnością}]]]]]^{\,w,\,\text{f-circ}} =$

λw_s. {w': w' $\in \cap$ **f$_{circ}$** (w) & **e** is a reading of this book by John in w'}$\subseteq$ {w': **e** is good for John in w'}.

where **e** is a salient reading eventuality and **f$_{circ}$** is the modal base.

Given (19), the interpretation of the sentence in (10) is defined because John satisfies the human presupposition in the property corresponding to TP (we assume that modal base and event presuppositions are also satisfied). According to (19), the ISC in (10) is true in a world iff all the worlds that satisfy the modal base (i.e. those matching the actual world as to relevant circumstances) including the presupposed event of John reading this book, are also worlds in which the event was pleasurable for John. In other words, given the circumstances, the pleasurable manner was inevitable, and so *out of John's control*.

To summarize our analysis of Polish 'out of control', ISCs consist of a High Applicative Phrase headed by a null modal with universal quantificational force relativized to a dative subject linked to a human reflexive pronoun. Such a morphosyntactic make-up restricts modality in ISCs to the personal variety, and excludes the impersonal type in English *It must be raining*.

The modal of ISCs has a hardwired / linguistically encoded modal base that is circumstantial. Thus, type of modality in ISCs does not crucially hinge on context / a conversational background, unlike what is usually observed in an English modal such as *have to*, which may also function as a circumstantial depending on the precise situation.

The ISC modal takes two arguments: a TP-clause that restricts its modal base, and a Manner Phrase formally reminiscent of a purpose clause in goal-oriented modality. In other words, ISCs must contain an impersonal reflexive construction as part of their structural core, and they must also (almost always) contain an overt manner expression.

Since the modal requires manner, the manner of the eventuality with the dative agent is inevitable.

In *factual* ISCs, the eventuality is taken for granted / presupposed. We have encoded this meaning characteristic in the denotation of the modal, and left its precise source to future research.

In sum, Pol ISCs associate with 'out of control' on the part of a dative human / personified subject in the precise sense of *no choice as to the manner of the presupposed eventuality*.

4.   Conclusions

In this paper, we have viewed Polish ISCs in terms of an analysis that characterizes them as involving circumstantial modality. Our discussion has proven fruitful for several reasons.

On the one hand, our proposals partially inspired by (Rivero 2009) expand the typology of Applicatives in UG. Pylkkänen (2008) distinguishes between Individual / Low Applicatives within the VP, which establish a relation between two entities / individuals, and Event / High Applicatives, which stand between the Voice Phrase and the VP, and establish a relation between an individual and an event. In this paper, we have argued for *Modal Applicatives*, which stand above TP in the CP-domain (see Rivero 2009), and establish a modal relation between individuals and features of events. This is both a novel type of applicative, and a novel location for a modal head. On the other hand, the study of Polish ISCs gives us a glimpse on the wide range of cross-linguistic variation in the morphosyntactic expression of modality, which has not been addressed in the traditional literature on this topic. In examining Polish, we see a new way in which languages may (re)combine the basic building blocks of modal meanings mediated by syntax and morphology. We have also glimpsed at some cross-linguistic variation involving the parameters proposed by Kratzer (1981, 1991) for the analysis of modality. This includes the idea that the modal base of the ISC modal is lexically specified as circumstantial. This contrasts with a variety of modals in other Indoeuropean languages, in which the modal base is determined by context. It also includes the idea that CM may be representative of a 'manner oriented modality' that is partially reminiscent but not identical to goal oriented modality.

References

Arregui, Ana. 2005. *On the Accessibility of Possible Worlds: The Role of Tense and Aspect*. Doctoral dissertation, University of Massachusetts, Amherst.

Arregui, Ana. 2007. When aspect matters: the case of would-conditionals. *Natural Language Semantics* 15.3: 221-264.

Bhatt, Rajesh. 1999. *Covert Modality in Non-Finite Contexts*. Doctoral dissertation, University of Pennsylvania, Philadelphia.

Bhatt, Rajesh. 2006. *Covert Modality in Non-finite Contexts*. Berlin: Mouton de Gruyter.

Chierchia, Gennaro.1995. The Variability of Impersonal Subjects. In *Quantification in Natural Language*, ed. by Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara Hall Partee, 107-143. Dordrecht: Kluwer.

Cinque, Guglielmo. 1988. On *Si* Constructions and the Theory of *Arb*. *Linguistic Inquiry* 19: 521-583.

Dąbrowska, Ewa. 1997. *Cognitive Semantics and the Polish Dative*. Berlin: Mouton de Gruyter.

Davis, Henry, and Hamida Demirdache. 2000. On Lexical Verb Meanings: Evidence from Salish. In *Events as Grammatical Objects*, ed. by James Pustejovsky, and Carol Tenny, 97-142. Stanford, CA: CSLI Publications.

Davis, Henry, Lisa Matthewson, and Hotze Rullmann. 2007. "Out of Control" Marking as Circumstantial Modality in St'at'imcets. To appear in a volume edited by Lotte Hogeweg, Helen de Hoop, and Andrey Malchukov. Amsterdam: John Benjamins.

Demirdache, Hamida. 1997. Out of control in St'át'imcets Salish and event (de)composition. In *Theoretical Issues in the Morphology-Syntax Interface* [Supplement to the International Journal of Basque Linguistics and Philology], ed. by Amaya Mendikoetxea, and Myriam Uribe-Etxebarria, 97-143. San Sebastian: ASJU.

Dziwirek, Katarzyna. 1994. *Polish Subjects*. New York: Garland.

Frąckowiak, Ewelina and María Luisa Rivero. 2008. Distinguishing between Unintentional Agents and Unintentional Causers. *Proceedings of the 2008 annual conference of the Canadian Linguistic Association.*
http://www.chass.utoronto.ca/~cla-acl/actes2008/actes2008.html

von Fintel, Kai, and Sabine Iatridou. 2005. Anatomy of a Modal. In *New Work on Modality*, ed. by Jon Gajewski, Valentine Hacquard, Bernard Nickel, Seth Yalcin. In *MIT Working Papers in Linguistics* 52. Cambridge, MA: MIT.

Gołąb, Zbigniew. 1975. Endocentricity and endocentrization of verbal predicates: illustrated with Latin and Slavic material. *General Linguistics* 15: 1-35.

Hacquard, Valentine. 2006. *Aspects of Modality.* Doctoral dissertation, MIT, Cambridge, MA.

Heim Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar.* Oxford: Blackwell.

Kratzer, Angelika. 1981. The notional category of modality. In *Words, Worlds, and Contexts*: *new approaches in word semantics,* ed. by Hans-Jürgen Niekmeyer, and Hannes Rieser, 38-74. Berlin: Mouton de Gruyter. (Reprinted (2002) in *Formal Semantics.The Essential Readings*, ed. by Paul Portner and Barbara Partee. Oxford: Blackwell.)

Kratzer, Angelika. 1991. Modality. In *Semantics: An International Handbook of Contemporary Research*, ed. by Arnim von Stechow, 639-650. Berlin: Walter de Gruyter.

Kratzer, Angelika. 1996. Severing the External Argument from its Verb. In *Phrase Structure and the Lexicon*, ed. by Johan Rooryck, and Laurie Zaring, 109-138. Dordrecht: Kluwer.

Pylkkänen, Lina. (2002) 2008. *Introducing Arguments*. Cambridge, MA: MIT Press.

Rivero, María Luisa. 2003. Reflexive clitic constructions with datives: syntax and semantics. In *Formal Approaches to Slavic Linguistics (FASL) 11*, ed. by Wayles Browne, Ji-Yung Kim, Barbara H. Partee, and Robert A. Rothstein, 469-494. Ann Arbor, MI: Michigan Slavic Publications.

Rivero, María Luisa. 2009. Intensionality, high applicatives, and aspect: involuntary state constructions in Bulgarian and Slovenian. *Natural Language and Linguistic Theory* 27: 151-196.

Rivero, María Luisa, and Milena M. Sheppard. 2003. Indefinite Reflexive Clitics in Slavic: Polish and Slovenian. *Natural Language and Linguistic Theory* 21: 89-155.

Rivero, María Luisa, Ana Arregui, and Ewelina Frąckowiak. 2009. Circumstantial Modals in Polish and St'at'imcets. To appear in *Proceedings of the 2009 annual conference of the Canadian Linguistic Association.*
http://www.chass.utoronto.ca/~cla-acl/actesproc.html

Wierzbicka, Anna. 1988. *The Semantics of Grammar*. Amsterdam: John Benjamins.