CIRCUMSTANTIAL MODALS IN POLISH AND ST'AT'IMCETS.[*]

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1.   Introducing Polish and St'át'imcets Circumstantial Modals

The comparison of the **bolded** phrases in examples (1) and (2) suggests that Polish (Pol) constructions combining a dative subject and a reflexive clitic and St'át'imcets (St') (Lillooet) constructions with the so-called Out-of-Control morpheme __ka__-…-__a__ attached to the verb may display similar meanings (all the examples in St' are borrowed from Davis, Matthewson & Rullmann (DMR) (2007), who cite their primary sources).

(1) *Marta chciała zjeść ciastko, a   **jej   się   kichnęło**.*
     M. wanted eat cookie,   but   she.Dat Refl   sneezed.Neu
     'Marta wanted to eat a cookie, but **she could not help sneezing**.'
                     <u>Polish Involuntary State Construction</u>

(2) *Kens-7ílhen ku=t'éc szaq', t'u7   **ka-nsnán7-a**.*
     try-eat   DET=sweet bread, but   CIRC-sneeze-CIRC
     'She wanted to eat a cookie, but **she suddenly had to sneeze**.'
                     <u>St'át'imcets Out Of Control Construction</u>

Pol patterns of type (1) are known as *Involuntary State Constructions* (ISCs), and St' patterns of type (2) fall under the name *Out of Control Constructions* (OCCs), two labels we adopt in this paper.
        The similarity between Pol and St' can be further illustrated by recalling the following situation mentioned by DMR (2007) for Out-of-Control in St': '... *you draw with a blindfold on and then look and see how your drawing came out. When you take your blindfold off, you discover that you have accidentally written your name.'* Pol (3) is a felicitous answer under the situation we just quoted, and can thus be compared to St' (4), the example reported by DMR to be a suitable answer in the cited context.

(3) *Napisało   mi   się   własne   imię.*
     Pref.wrote.Neu   I.Dat   Refl   own   name.Acc
     'I wrote up my own name (by accident).'

(4) ***Ka-***   *mets-s= kan-*   ***á=***   *k'a*
     CIRC-   write-CAUS=1SG.SUBJ- ***CIRC=***   EPIS

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ti=n-skwáts̓its=a.
DET=1SG.POSS-name=EXIS
'I drew my name by accident.'

The similarity between Pol and St' has not attracted particular attention. However, it has long been noted on independent grounds that an important characteristic of constructions such as (1) and (2) in each of the two languages is to involve agents without control over the event. For Pol, this semantic dimension source of the traditional *Involuntary State* label has been noted by Gołąb (1975), Dąbrowska (1997), Dziwirek (1994), and Wierzbicka (1988), among several others. Davis & Demirdache (2000), DMR (2007), and Demirdache (1997) are among several authors who note the lack-of-control reading of circumflex **_ka_**-…-**_a_** in St'.

Demirdache (1997) proposed an early analysis of Out-of-Control in St' in terms of Aktionsart / Inner Aspect. She postulated a lexical type-shifting rule, which, oversimplifying her account, deleted a subpart of the event structure of the verb, turning more complex templates such as those for processes into the simpler template of states. More recently, DMR (2007) have developed an alternative proposal with Out-of-Control signaling a circumstantial modal in the sense of Kratzer (1981, 1991). Inspired by DMR's modal analysis of OC, in this paper we build on the intuition that in Polish ISCs the manner of the eventuality is 'forced' on the dative agent by the circumstances, and that 'out of control' in this Slavic language should be understood in terms of an implicit circumstantial modal. On this view, ISCs contain a silent modal that partially resembles the OC modal of St'. However, we also argue that the 'out-of-control' constructions of the two languages are not identical, and in §3 we show how the Pol modal's lexical properties and the syntactic environment discussed in §2 contribute towards the differences we identify.

In our comparison, we note the following contrasts between ISCs in Pol and OCCs in St', which we derive from the different characteristics of their two circumstantial modals. One contrast is that the Pol modal has a fixed reading, while OC displays several readings, which we attribute to variation in quantificational force. DMR (2007) argue that a general property of modals in St' is not to be specified for quantificational force. On this view, OC is among modals that may display both existential-like and universal-like readings in St'. By contrast, we show in §2 that the Pol modal has inherent quantificational force as a lexical property: the ISC modal is universal.

Another difference is that OC in St' may be personal, that is connected to a human subject, and impersonal or unrelated to a human subject. By contrast, the Pol modal must be human–dependent, that is personal, a characteristic we derive from its syntax. We argue that the ISC modal heads a High Applicative with a dative specifier and a clausal complement, which is a Tense Phrase (TP). Such a TP holds a reflexive *human* pronoun resuming the dative, which corresponds to the so-called impersonal reflexive clitic *się*. Pol ISCs, then, display sensitivity to the (dative) subject based on a combination of dative and reflexive morphological marking that is hardwired into the interpretation of the

modal, which must be personal, i.e. involve a human or personified entity encoded in the dative. By contrast, the affixal OC morpheme displays optional sensitivity to the subject- i.e. can appear in sentences without human subjects-, so modality can remain impersonal in St'.

Still another difference between ISCs and OCCs is that the Pol modal is manner-oriented, so ISCs make a claim about the (dative) subject's lack of control *over the manner of the eventuality*. By contrast, OC is not oriented to manner, and may express 'out-of-control' with respect to various factors.

A last difference noted in passing and left to future research relates to logical entailments/ event presuppositions. In Pol, past ISCs denote that the event described by the verb happened in the real world. More technically, ISCs display non-cancelable actuality entailments in the sense of Bhatt (1999, 2006). By contrast, DMR argue that in past episodic contexts, OCCs need not denote an event that happened in the real world. Thus, they propose that past OCCs pair up with a cancelable pragmatic implicature, not with a so-called actuality entailment in Bhatt's sense.

Our proposals on Pol and our comparison with St' seek to contribute to an understanding of crosslinguistic syntactic and semantic variation in modality. In our view, Pol ISCs provide an unusual window into modal meanings, in terms of both syntactic and semantic organization. In the syntax, we find a meaning constructed with resources outside the inflectional system and verbal paradigm, using a new type of High Applicative with modal properties that stands above TP, extending the typology originally proposed by Pylkkänen (2008) (and see also Rivero 2003, 2009). In the semantics, we find a specialized circumstantial modal indicating that the dative has *no control* over the *manner* of the action. Borrowing some scenarios from DMR (2007), §2 discusses the Pol circumstantial modal, and §3 compares it to the OC modal in St'.

2. A Circumstantial Modal in Polish = Inevitability

Consider the ISC in (5) characterized by dative *Jankowi* functioning as the logical subject of the sentence, a default V *tańczyło* in Neuter form that does not agree in gender or number with the dative, a reflexive clitic pronoun *się*, and a manner adverb *dobrze*. This sentence makes a claim about the subject's lack of control over the manner of the action, and contrasts with the regular sentence in (6), with a logical subject *Janek* in the nominative, a verb *tańczył* that agrees in gender and number with the nominative, and no reflexive clitic.

(5)   *Jankowi*   *tańczyło*   *się*   *dobrze*.
      John.Dat   danced.Neut   Refl   well
      'John danced, and could not help enjoying it.'
(6)   *Janek*   *tańczył*   *dobrze*.
      John.Nom   danced.Masc   well
      'John danced well.'

Sentence (5) with the ISC 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. In Wierzbicka's words (1988: 219), in ISCs "the agent experiences his own action as proceeding well (or not well) for reasons independent of him and unspecifiable (…)", and "[the] 'goodness' of the experience is attributed… to the environment in which the action took place (…)." (Wierzbicka 1988:426). The ordinary sentence with a nominative subject in (6) also tells us that there was a past dancing event with John as the agent, but it contrasts with (5) 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 (5) could be true, but the sentence with a nominative subject and no reflexive in (6) would be false.

Following and updating Rivero (2003) and Rivero & Sheppard (2003), we propose that the structure of ISCs consists of an applicative phrase (ApplP) headed by a silent circumstantial modal (CM) with three obligatory constituents. On this view, the ISC in (7) below has the structure found in (8).

(7) *Jankowi CM   [czytało się   tę książkę]   [z przyjemnością]*.
     J.Dat   CM   read.Neut Refl   this book.Acc   with pleasure
     '(Somehow) John read this book with pleasure.'

In the tree in (8), the three constituents of the Applicative Phrase headed by CM appear underlined. ApplP takes a human dative specifier (Dat), and includes both arguments of CM as embedded clauses: a TP serving as restrictor, and a Manner Phrase serving as the modal's nuclear scope. Let us consider each of these underlined constituents in turn, beginning with the dative phrase.

(8)

ApplP
  Jankowi-Dat
  CM
  TP
  z przyjemnością $\lambda x.\lambda e.\lambda w.(\text{with pleasure}(x)(e)(w))$
  Manner Phrase
  i
  VoiceP
  się$_i$
  VP $\lambda e.\lambda w.(\text{read-this-book}(e)(w))$
  V **czytało**
  tę książkę

$[[\textbf{TP}]]= \lambda x.\lambda e.\lambda w.(\text{read-this-book}(e)(w)\ \&\ \text{Agent}(x, e, w))$
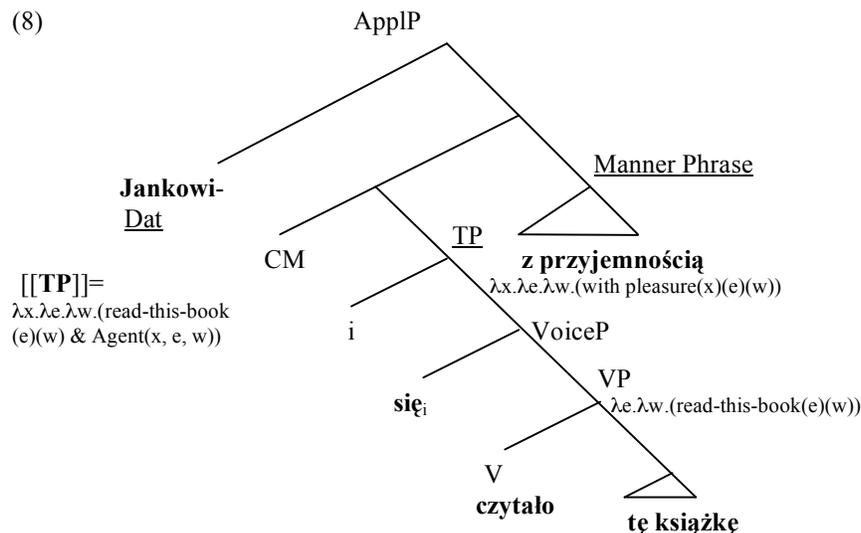
2.1 The Dative Subject as Specifier of the Applicative Phrase

ISCs are oriented towards the dative, which is the logical subject of the construction. As noted in the introduction, in the Pol literature, such a dative is presented as unable to control the way the eventuality develops. For Gołąb (1975: 27), "the logical subject … does not cause the quality of the action … [which] results from circumstances independent of him." We repeat that according to Wierzbicka (1988:219), the agent of ISCs experiences his action as proceeding well for reasons independent of him. In the case of (7), for instance, John could have been reading the book willingly, but the pleasure seems unexpected (Frąckowiak and Rivero (2008) dub this kind of dative subject an 'unintentional agent', which is not an accurate label given the proposals in this paper). In §2.4, we will make a proposal for the denotation of CM in (8) 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

Now let us examine the TP constituent , which is the first argument of CM in (8), 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 (9), with (a) an indefinite reflexive clitic meaning 'someone', (b) a default V (here Neuter), and (c) an ordinary accusative object as complement of the transitive verb.

(9) *Czytało   się   tę   książkę*.
     Read.Neut   Refl   this   book.Acc
     'One/people/someone read this book.'

The TP in (9) is similar in both syntax and semantics to Romance impersonal constructions with a reflexive clitic in languages like Italian (Cinque 1988, Chierchia 1995, a. o), as in *Si canta* 'People sing.' or Spanish *Se castigó a los niños* 'People punished children.'

   In the ISC in (8), 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*. The Voice Phrase is dominated by TP, and the clitic is responsible for restricting ISCs to *human* subjects.

   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. On

this view, TP in (8) has the denotation in (10), accounting for why ISCs are only possible with human subjects, i.e. restricted to personal modality.

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

In simple terms, since the impersonal reflexive clitic is restricted to humans , is obligatory in ISCs and linked to the dative, ISCs are also restricted to human dative subjects/personal modality.

2.3.   The Manner Phrase as an Argument of the Modal

As often noted in the literature on Pol, a manner phrase is generally obligatory in ISCs. If omitted, it gives rise to ungrammaticality, unless it is recoverable from (a) the content of the verb in the construction, or (b) the context. An illustration of an ISC whose manner component is recoverable from the verb was given in (1), and is now partially repeated in (11). The verb *sneeze* shown in bold defines a manner that is inherently *not voluntary*, allowing the ISC pattern without a phonologically overt manner adverb to be well-formed.

(11) *Marta chciała zjeść ciastko, a **jej się kichnęło***.
      'Marta wanted to eat a cookie, but **she could not help sneezing**.'

      An ISC whose manner component can be recovered from the context was illustrated in (3) and coupled to a situation mentioned by DMR (2007) for OCC in St'. It is now partially repeated in (12). The context was of a speaker who drew with a blindfold on, in which case the manner of the action was understood as 'by accident', without the need for an overt manner expression.

(12) *Napisało mi się własne imię.*
      'I wrote up my own name (by accident).'

      Three arguments support the claim that manner in the applicative structure in (8) is a constituent of ApplP, not TP. One is that impersonal constructions (TPs) do not <u>require</u> manner, as illustrated in (13). If the manner phrase in ISCs was inside TP, it would be unclear why it is obligatory.

(13) *Kiedy   się   było młodym,   się   było szczęśliwym*.
      When   Refl   was young,   Refl   was happy
      'When one was young, one was happy.' (Rivero & Sheppard 2003)

A second argument to attach manner to ApplP 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. This is illustrated in (14), where *dobrze* 'well' combines with CM, and *fatalnie* 'terribly' describes the dancing.

(14) *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 the observation that all Vendler's Vs participate in ISCs, including states. Manner adverbs seldom modify statives, but are quite natural in ISCs embedding such Vs, as shown in (15). This situation also suggests that manner in the ISC structure in (8) is under ApplP, not TP / VP.

(15) *Basi   dobrze mieszka   się   u swojej siostry.*
      B.Dat   well   live.3Sg   Refl   at her.own sister
      'Barbara enjoys living at her sister's.'   (Dziwirek 1994: (28b))

Finally, we already noted the semantic effect of manner in ISCs, where it is interpreted *relative to the dative subject*. The denotation of *dobrze* 'well' in (6) as a property of events contrasts with (5), with goodness relativized to the dative subject. Sentence (6) 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 (5) 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, it can operate as an argument of CM in ApplP, as our proposal for the denotation of the modal in (16) will show in §2.4. Under the analysis we propose, CM resembles modals in teleological constructions such as *You must/ ought to take the train to go to Harlem*. According to Von Fintel and Iatridou (2005) a.o., teleological modals (a) take goal clauses as *arguments,* which (b) can remain implicit with enough contextual support. In our proposal, the circumstantial modal in an ISC takes a manner clause as an argument, and this argument may remain implicit with enough contextual support, as we showed.

In sum, we propose that the Manner Phrase of ISCs is an argument of the modal , an analysis that makes CM in (8) reminiscent of goal-modals.

2.4.   The Semantics of the Polish Circumstantial Modal

Having examined the syntax of ISCs, let us now turn to the semantics of CM in (8).

Following DMR's account of OC, 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 in ISCs is that both type of modality and quantificational force are fixed: ISCs make a claim about the inevitability of the manner of the eventuality for the subject, given the relevant circumstances. Wierzbicka (1988) notes that ISCs take the *eventualities* themselves for granted,

and here we will treat eventualities as presupposed and simply encode this in the denotation, without committing ourselves to an analysis of event presuppositions (but see a.o. Bhatt 1999, 2006, Hacquard 2006, Arregui 2005, 2007). With these ingredients in place, we propose that the modal of ISCs has the denotation in (16):

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

According to the proposal in (16), CM takes two properties as arguments, and results in a property of individuals which, given the structure in (8), 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 (17), we show the denotation for (7), given the structure in (8) and the denotation of the modal in (16):

(17) $[[[$**Jankowi** $[[$**CM** $[$**i się**$_i$ **czytało tę książkę**$]]$
$[$**z przyjemnością**$]]]]]^{w,\ f\text{-circ}} =$
$\lambda w_s.\ \{w': w' \in \cap\ \mathbf{f_{circ}}\ (w)\ \&\ \mathbf{e}$ is a reading of this book by John in w'$\}$
$\subseteq \{w': \mathbf{e}$ is good for John in w'$\}$.

The interpretation of the sentence in (7) 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 (17), the ISC in (7) 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 Pol 'out of control', ISCs consist of a High Applicative headed by a null universal modal relativized to a dative subject linked to a human reflexive pronoun, which restricts modality to the personal variety. The modal has a hardwired / linguistically encoded circumstantial modal base, and 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. The eventuality is taken for granted / presupposed. The modal requires manner, so the manner of the eventuality with the dative agent is inevitable.

Thus Pol ISCs associate with a dative 'out of control' in the precise sense of *no choice as to the manner of the presupposed eventuality.*

In §3, we argue that such characteristics are at the base of the more restricted interpretation of the Pol modal in comparison to OCC in St'.

3.   Comparing ISCs in Polish and OOCs in St'át'imcets

We began by noting that Pol ISCs bear a close semantic resemblance to one subset of St' constructions with the OC circumfix *ka… á*, which for Demirdache (1997), and Davis & Demirdache (2000), among others, involve an agent not in control, and an action not done on purpose. Inspired by the circumstantial analysis of OCCs in (DMR 2007), in §2 we captured the resemblance between Pol and St' with an analysis of Pol ISCs in terms of a circumstantial modal. However, Pol ISCs differ from St' OCCs because the two modals are not identical and contrast in several respects, as we now argue in more detail.

A first difference is that ISCs display a fixed reading, while OCCs may superficially display five readings illustrated below, which DMR reduce to two, as summarized next.

DMR argue that it is a general characteristic of St' modals not to be specified for quantificational modal force, so in this language all modals may display readings with universal quantificational force together with readings where quantificational force appears weaker than necessity (see Rullmann, Matthewson & Davis to appear for discussion). On this view, DMR classify two of the meanings of OC as existential, namely the 'ability' and 'manage-to' readings illustrated in (18a) and (18-b) respectively.

(18)   **Existential OC**:

     a.   *Wá7*   *=lhkan*   ***ka-***   *cát-s-*   ***a***
             IMPF   =1SG.SUBJ   CIRC-   lift-CAUS-   CIRC
             ta=k'ét'h=a.
             DET=rock-EXIS
             'I can lift the rock.'

     b.   ***Ka-*** *cwák-s=kan-**a***   *na=wá7*
             CIRC-   wake-CAUS=1SG.SUBJ-CIRC   DET=IMPF
             xúqʼwleqs   *n-snúkʼwa7.*
             snore   1SG.POSS-friend
             'I managed to wake up my snoring friend.'

In addition, DMR classify the remaining three meanings of OC as universal: the 'accidentally' reading in (4) now repeated as (19a), the 'suddenly' reading in (19ba), and the 'non-controllable' reading in (19c).

(19)   **Universal OC**:

a.   ***Ka-*** *mets-s=* *kan-*   ***á=***   *k'a*
  CIRC-   write-CAUS=1SG.SUBJ- ***CIRC=*** EPIS
  ti=n-skwátsits=a.
  DET=1SG.POSS-name=EXIS
  'I drew my name by accident.'

b.   ***Ka-***   *hex-*   *min-*   *its*   *=kaka*   ***-a***.
  CIRC-   comes. Up-RED- 1SG.OBJ=2SG.SUBJ   -CIRC
  'You came up to me all of a sudden.'

c.   **Ka-** lhéxw   **-a**   ta=snéqwem=a.
  CIRC-come. Up   -CIRC   DET=sun=EXIS
  'The sun came out.'

The core idea unifying the universal readings in (19a-c) is that they involve a lack of choice. In 'accidentally' (19a), an agent could be in control but in fact is not, and in impersonal 'non-controllable' (19c), no agent could potentially be in charge. DMR argue that the modal base in such readings is circumstantial because if an event happens without any choice, then facts in the world conspire to make it inevitable. DMR propose that the Out-of-Control morpheme stands for a modal with a linguistically encoded circumstantial modal base, and varying modal force. In their view, this modal has two different denotations (i.e. two different lexical entries). The denotation reproduced in (20) corresponds to personal modality, and the denotation in (21) is for impersonal modality.

(20)   **Personal modality:**
   $[[ka\text{-}...\text{-}a]]^c$ is only defined if c provides a circumstantial modal base B and a stereotypical ordering source.
   If defined, $[[ka\text{-}...\text{-}a]]^c = \lambda P_{<e,<s,t>>}$. λx . λw. $\forall w'[w' \in f_x (B(w)) \rightarrow P(x)(w')]$

(21)   **Impersonal modality:**
   $[[ka\text{-}...\text{-}a]]^c$ is only defined if c provides a circumstantial modal base B and a stereotypical ordering source.
   If defined, $[[ka\text{-}...\text{-}a]]^c = \lambda p_{<s,t>}$. λw. $\forall w'[w' \in f_x (B(w)) \rightarrow p(w')]$

Formally, DMR locate variation in force in a choice-function choosing a potentially proper subset from the modal base, thus weakening modality. The formulas in (20) and (21) contain universal $\forall$, and in this sense resemble the denotation we proposed for CM in Pol in (16), but allow for existential–like readings.

  By contrast with OC constructions in St', Pol ISCs have *one* fixed reading. Such a reading resembles the OC reading in (19a) called 'accidentally'. ISCs do not display the other four readings of OCCs. Our analysis in §2 can account for this difference by appealing to the quantificational force of the Pol

modal combined with the effect of dative and reflexive morphological marking.

Partly, such variation in readings between Pol and St' comes from cross-linguistic differences in quantificational strength. Our proposal is that the quantificational force of the Pol modal is lexically determined as in English modals, and CM is universal. This makes the correct prediction that Pol ISCs should not display readings with a quantificational force weaker than necessity , namely those dubbed 'ability' and 'manage-to' in St' illustrated in (18a) and (18b) respectively.

Two of the three universal-like readings of OCCs are also absent in Pol ISCs, and this follows in our proposals from syntax and morphology. DMR tell us that the 'suddenly' flavor of OC in (19b) is cancelable /pragmatic, so its absence in Pol requires no discussion. The pattern in (19c) called 'non-controllable' displays impersonal modality, and its translation into a Pol ISC results in ungrammaticality, as shown in (22).

(22) *Słońcu   się   wzeszło.
       Sun.Dat   Refl   came.out.Neu
       '*The sun (somehow) came out.'

It is frequently noted in the Pol literature that ISCs are restricted to human/personified dative subjects. In §2, we derived this restriction from a sensitivity to the subject hardwired into the interpretation of the Pol modal, and linked to dative marking in the ApplP and reflexive marking in its TP complement. That is, indefinite *się* carries a human presupposition, and as an obligatory constituent of TP in (8) plays the role of a variable for the dative subject in ApplP. Borrowing terms used by DMR (2007) for OCCs, Pol ISCs are thus restricted to *personal* modality and cannot associate with *impersonal* modality as in (22), in contrast with the affixal OC modal *ka-... -a*, which displays a sensitivity to the subject that is optional. As shown in (20) and (21), DMR formally encode this optionality by considering that the OC modal is ambiguous: there is one lexical entry for subject-oriented modality, and another one for impersonal modality.

Still another difference between the circumstantials of the two languages is that in Pol, CM is specialized for manner, while OC in St' expresses 'out-of-control' with respect to various factors, without help from a manner expression, as the above examples illustrate. Thus, when Pol ISCs involve an implicit manner recoverable from the verb or the context, the similarity between them and the OC patterns dubbed 'accidentally' in St' appears striking. We already illustrated the meaning parallellism in the introduction with (1) in comparison to (2), and (3) in comparison to (4) . The sentences in (23) and (24) now serve to make a similar point.

(23) **Ka**-gwél-s=kan-**a**   ta=ngúy'tten=a.   St' OOC
      CIRC-burn-CAUS=1SG.SUBJ-CIRC DET=bed=EXIS
      'I accidentally set my bed on fire.'

(24) *Zaprószyło   mi   się   ogień   w łóżku*.   Pol ISC

Pref.set.on.fire.Neu I.Dat   Refl   fire.Acc in bed
'I accidentally started a fire in my bed.'

In (24), the expression *zaprószyć ogień* 'start a fire by accident' contains a manner in its denotation, so this ISC does not require a phonologically overt manner adverb because the information is recoverable from the content of the verb. Since the ISC modal has universal force , and the reflexive clitic ensures that the modality must be personal, such Pol constructions bear a close resemblance to St' Out-of-Control constructions with human subjects and universal-like readings.

A last difference between ISCs and OCCs we note in passing, and leave to future research relates to what Bhatt (1999, 2006) calls 'actuality entailments', and we called 'event presuppositions' in our analysis of Polish in §2.4. According to DMR, the OC modal *implicates*, but does *not entail*, the truth of the embedded claim, i.e. it associates with a pragmatic/cancelable implicature. By contrast, if we adopt Bhatt's terminology, the Pol modal associates with an actuality entailment. Let us illustrate the contrast.

The ISC modal presupposes the existence of an event that fits the restriction, so in (7) now partially repeated as (25) , the following claim is understood as true: *John read the book*. Therefore, if we added the Pol equivalent of *but he did not read it* to (25), the sentence would sound contradictory.

(25) *Jankowi   czytało się tę   książkę   z przyjemnością.*
'(Somehow), John read this book with pleasure.'

Entailments, however, depend on the overall composition of the embedded clause. Adding a modal element such as the conditional marker –**by**- shifting the evaluation away from the actual world cancels the entailment , as illustrated in (26):

(26) *Jankowi*   *czytało-*   ***by***   *się*   *tę książkę*
John.Dat   read.Neut-   Cond   Refl   this book.Acc
z przyjemnością.
with pleasure
"(Somehow), John would read this book with pleasure."

In §2.4., we treated the eventuality in an ISC as presupposed, and encoded this information in the denotation of the modal, without committing ourselves to an analysis of event presuppositions or actuality entailments. Thus, the formal source of such presuppositions must await future study.

The interesting difference between St' and Pol also in need of future research is that, as stated, DMR argue that the OC modal associates with a cancelable implicature, as illustrated in (27), where the denial that the medecine was swallowed does not involve a contradiction.

(27) **Ka-**   *q'ém-s=kan*   **-a**
     CIRC-   swallow-CAUS=1SG.SUBJ-   CIRC
     aylh   *n-kál'wat=a,*   *t'u7*   *cw7áoz=t'u7*
     then   1SG.POSS-medicine=EXIS   but   NEG=ADD
     múta7   *kw=en=s=xát'-min',*
     again   DET=1SG.POSS=NOM=want-RED
     nilh   *s=7ús-ts-an.*
     FOC   NOM=throw.out–CAUS-1SG.ERG
     'I was able to swallow my medicine, but I didn't want it any more, so I
     threw it out.'

Let us summarize the differences we identified between Pol and St'.

First, we observed considerable variation in morphosyntax between ISCs and OCCs, since the Pol modal heads a High ApplP with a dative subject, while the St' modal does not.

Second there were lexical differences pertaining to modal force . On the one hand, ISCs display just a universal reading since CM has fixed force, while St' modals are not specified for modal force, so OC has both universal-like readings and existential-like readings.

Third, there was a contrast as to the relativization to the subject and personal modality. Pol displays a sensitivity to the subject that we have argued is built/hardwired into the interpretation of the modal linked to the combination of dative marking in the ApplP and the reflexive clitic in its TP complement, so CM must be personal. By contrast the OC modal is ambiguous in St', with one lexical entry for subject-oriented / personal modality, and another for impersonal modality.

Fourth, we found a contrast in manner orientation. The Pol modal takes a manner argument that makes it reminiscent of teleological modals with goals as arguments, as in *To go to Harlem, you ought to take the A-train*. The OC modal does not seem to take manner as an argument, so is not manner-oriented.

A last difference is an intriguing contrast as to so-called actuality entailments or event presuppositions, which are found in ISCs in episodic contexts in Polish, but not necessarily in OCCs in St'.

4.   Conclusions

In this paper, we have compared Pol ISCs and St' OCCs, observing that they resemble one another, but that they also differ. The similarities are accounted for in terms of an analysis that characterizes both constructions as involving circumstantial modality. The differences are derived from cross-linguistic variation in terms of quantificational strength, and variation in terms of the syntactic environment and the morphology associated with the modal head.

The comparison between the expression of circumstantial modality in Pol and St' has proven fruitful for several reasons.

On the one hand, our proposals expand the typology of Applicatives in UG. Pylkkänen (2008) distinguishes between Individual or Low Applicatives

within the VP , which establish a relation between two entities/individuals, and Event or 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 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, and perhaps more importantly, the comparison between the languages gives us a glimpse of 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 comparing Pol and St', we see different ways in which languages (re)combine the basic building blocks of modal meanings, to arrive to results that are strikingly similar, with differences 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 linguistically specified as circumstantial , thus resembling modals in St'. This contrasts with a variety of modals in other Indoeuropean languages, in which the modal base is provided 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.

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