Slavic future constructions from a crosslinguistic perspective

Joanna Błaszczak
University of Wrocław
joanna.blaszczak@uwr.edu.pl

This work was supported by the Foundation for Polish Science (Grant FOCUS no. F5/09/P/2013 of January 27, 2014) and by the National Science Centre (NCN) (Grant no. 2013/09/B/HS2/02763).
Goals of the talk

- to identify the basic meaning components (atoms) of future meaning
- to identify the dimensions/parameters along which languages can differ
- to use crosslinguistic observations to analyze future constructions in Slavic
- three different Slavic languages: Polish, Bulgarian, Slovenian
An observation

- The future tense is different from other tenses.
- Why?
The special status of the future

- The future tense is marked with respect to the present tense (Greenberg 1966:46-47; Mayerthaler 1981:14; Givón 1995:54).

  - Greenberg (1966:47) notes: "The future is practically always marked overtly by an auxiliary or affix."

  - Exceptions to this rule have a diachronic explanation (see Haspelmath 1998): the anomalous future forms were once normal present forms that acquired a new meaning → future forms as old presents.
The special status of the future

From a **typological point of view**:

- It is relatively rare for a language to totally lack any grammatical means for marking the future.

- Most languages have at least one or more weakly grammaticalized devices for doing so (see Dahl & Velupillai 2011, WALS).

- Even in the so-called “tenseless languages” without obligatory morphological tense marking the future has to be overtly expressed.
Obligatory marking of the future

Examples from St’át’imcets (Salish) (Matthewson 2006:676-678).

(1) sáy’sez’-lhkan
   play-1SG.SUBJ
   “I played / I am playing.”

(2) *sáy’sez’-lhkan natcw / zánucwem
   play-1SG.SUBJ one.day.away / next.year
   Intended: “I will play tomorrow / next year.”

(3) sáy’sez’-lhkán kelh
   play-1SG.SUBJ kelh
   “* I played / * I am playing / I will play.”
The special status of the future

From a **typological point of view**:

- A striking fact about the future tense is that languages usually possess more than one marker which has future as a use.

- Bybee, Perkings, and Pagliuca (1994:243) report that “forty-nine of the seventy have two or more futures, and of these, sixteen have three, three have four, four have five, and three have six such forms.”
Different future markers with specific interpretations/uses

For example:
Different future markers in West Greenlandic (Trondhjem 2014:124)

- *jumaar* vague future
- *ler* about to/near future
- *niar* intended/inevitable future
- *ssa* future/should
- *ssamaar* planned future
Different future markers in English and Indonasian are semantically distinguished via different aspectual operators (progressive-like and generic-like) (see Copley 2010) → Progressive-like futures are not accepted in ‘offering’ contexts (Copley 2002).

(English)
(1) a. (If you want,) I will make a coffee. ✓ offer
   b. (If you want,) I am going to make a coffee. # offer

(Indonasian)
(2) a. Saya akan membuat kopi. ✓ offer
   I akan make coffee
   ‘I (future) make coffee.’
   b. Saya mau membuat kopi. # offer
   I mau make coffee
   ‘I (future) make coffee.’
Different future markers in East Javanese (Vander Klok 2010):

→ *arep/bakal* can be felicitously used in offering contexts → they are not aspectualized futures

(1) Aku **arep/bakal** ngoreng sego. ✓ offer
    I     arep/bakal   fry    rice
    ‘I will fry the rice.’

→ Rather selectional restrictions and modality play a role in distinguishing these two future markers in East Javanese.
Different future markers with specific interpretations/uses

- the future marker *arep* appears to convey **intention** (there is an implication of agency) and can only occur with eventive predicates.
- the future marker *bakal* appears to convey **prediction** (there is no implication of agency) and can occur with eventive and stative predicates.

(2) **EVENT** (East Javanse)

dewe’e ✓bakal / ✓arep delok pandangé wulan wengi iki
3.SG ✓bakal / ✓arep see full moon night this

‘She will see the full moon tonight.’

(3) **STATE**

cah kuwi ✓bakal / #arep ngeléh
child the ✓bakal / #arep hungry

‘The child will be hungry.’
The nature of the future

What is the status of the future?

In the literature there is a lot of controversial discussion as far as the status of the future is concerned (see De Brabanter, Kissine, and Sharifzadeh 2014; Mucha 2015; Błaszczak 2019 for recent overviews).

Many scholars doubt that future is a real tense category.

Why?
Is the future a real tense?

- The future tense is different from other tenses.
  - Past Tense → something has already happened
  - Present Tense → something is happening
    - There is some kind of evidence to prove this → a realis category
  - But how to prove future events?
    - The future is often regarded as an irrealis/modal category.
Future and modality: Supporting evidence

From a **diachronic** point of view:

Future markers in many languages have a modal origin, e.g.:

- **English**: the future auxiliary *will* historically derives from a modal verb, more specifically, from an Old English verb *willan* meaning ‘wish’ (see Lightfoot 2006: 37f.).

- **In Bulgarian**, in future tense constructions a modal clitic *šte* is used, which is a descendant from the Old Slavic modal verb *xotěti* ‘will/want’ (Tomić 2004: 523, 534).

(1) *Petăr šte dojde utre.* (Bulgarian)
Petar will.mod.cl come.3sg.perf.pres tomorrow
‘Petar will come tomorrow.’
Is the future a real tense?

- As Dahl (1985:103) points out, “the distinction between tense and mood becomes blurred when it comes to the future.”

- Why?
“Normally, when we talk about the future, we are either talking about someone's **plans, intentions or obligations**, or we are making a **prediction** or extrapolation from the present state of the world. **As a direct consequence, a sentence that refers to the future will almost always differ modally from a sentence with non-future time reference**” (Dahl 1985:103).

“**Semantically the future always has an element of modality**" (Smith, Perkins, & Fernald 2003:179).
Is the future a real tense?

- Similarly, Chung and Timberlake (1985:243) note that future morphemes tend to have modal overtones because modality involves degrees of uncertainty, and “situations in the future are inherently uncertain as to actuality”.

- For this reason, the future is often regarded as an irrealis category.

- More specifically, ‘irrealis’ mood as referring to ‘unreal time’ (Bickerton 1975:42) comprises futures, conditionals, subjunctives, hypotheticals and the like.
Is there a link between the future and irrealis?

Chung and Timberlake (1985:241): the realis/irrealis distinction is basically one of actual vs. non-actual events:

“Any future event is potential rather than actual ... In practice many languages do not distinguish morphologically between future tense and potential (irrealis) mood” (ibid., p. 243).

E.g., Mohawk (Baker & Travis 1997), Lakhota (Chung & Timberlake 1985:206), and Chamorro (Chung & Timberlake 1985:207).
Supporting evidence

A crosslinguistic observation: In sentences appearing without direct temporal information bounded events are interpreted as Past rather than Future.

Why?

The Simplicity Constraint on Interpretation: Choose the interpretation that requires the least information added or inferred. (Smith, Perkins, and Fernald 2003:186)

Examples from Inuktitut (Swift 2003:194)

(1) Anijuq.
   ani-juq
   go.out-PAR.3sS
   ‘She went out.’

(2) Pinasuttoq.
   pinasuk-juq
   work-PAR.3sS
   ‘She is working.’
Supporting evidence

- Past is simpler than the Future.

- Why?
  - It lacks the element of uncertainty,
  - the modal factor that is always present in expressions of futurity.

- Future time reference must be overtly marked.
It would be wrong to generally associate future with uncertainty.

Languages might have different future markers and among such markers there might also be markers for ‘planned future’ or ‘intended/inevitable future’; recall the West Greenlandic future makers -ssamaar (planned future) and -niar (intended/inevitable future).

Some future eventualities can be interpreted as being planned (see Copley 2002, 2014; Błaszczak and Klimek-Jankowska 2013a, 2013b).
“Question contexts”: Imperfective future
(Błaszczak & Klimek-Jankowska 2013a)

- Scenario:
  Your car has broken down. You take it to a car repair station. They agree to repair your car within a week. You are still curious which mechanic exactly will be repairing your car. In this context the future action is preplanned and you only want to know who will perform it.

Kto będzie mi naprawiał auto?
who be.AUX.3SG me.DAT repair.IPFV.PTCP.SG.M car
‘Who will be repairing my car?’
“Question contexts”:

**perfective future**

(Błaszczak & Klimek-Jankowska 2013a)

- **Scenario:**
  Your car has just broken down. You need help so you ask your older brothers who of them would agree to help you repair the car. It is not predetermined whether any of them would agree to do this. So you actually ask whether a future action is going to take place and who will perform it.

Kto *naprawi* mi auto?

who repair.PFV.PRS.3SG me.DAT car

‘Who *will repair* my car?’
Equally, it would be wrong to generally subsume futures under the cover term ‘irrealis’.

For example, in St’át’imcets, as argued by Matthewson (2006), the future marker *kelh* is not possible in any irrealis contexts except future ones, which makes it implausible that it could be regarded as an irrealis marker.

Furthermore, Winford (2000a) provides evidence that in creole languages future tense categories are distinguished from other categories expressing different types of irrealis meaning associated with mood and modality.
So, what is the future then?
Taking stock of the discussion so far

- The main source of difficulty in analyzing the future:

  Unlike markers used for the reference to past and present states of affairs, those used for the reference to future states of affairs seem to convey not just future temporal reference but also modal meanings.
Taking stock of the discussion so far

- But should this be taken to mean that future markers entail the modal meaning they convey or whether they are merely compatible with it?

- This question cannot be answered generally, but controversial discussions in the literature show that in fact it is difficult to answer this question even for one particular future marker in one language, e.g., *will* in English (see, e.g., Enç 1996, Sarkar 1998, Copley 2002; Kissine 2008; see van de Vate 2011, Mucha 2015 for a general discussion).
Different uses of *will* in English (cf. Kissine 2008:130)

(1) future/prediction
   Mary will come.

(2) generic
   Oil will float on water.

(3) epistemic
   Mary will be at the opera now.

(4) habitual/dispositional/volitional
   In winter, Mary will always wear a green coat.

(5) deontic
   You will leave tomorrow by the first train.
A possible solution:

Dahl’s (1985) distinction between the dominant and secondary meanings (uses) of a category
Dominant vs. secondary meanings of future markers

- Winford (2000a, 2000b) in his analysis of Sranan argues that the dominant meaning of future markers is “later time reference” and that the modal senses associated with such markers are in fact secondary meanings arising from implicatures inferred from the context.

- Following this line of reasoning, the future could be assigned to the domain of tense.
BUT

This is in opposition to

- Bybee (1985:157), for whom “the future does not belong in the same grammatical category as the past”,
- and Matthewson (2006), who suggests that the future is never itself a tense, but rather involves another element, which combines with tense.

In other words, perhaps there is universally no future tense (see Iatridou 2000, among others).
But what is this other element in question which combines with tense?
A possible solution (see Mattewson 2006):

A modal/temporal ordering predicate comparable to Abusch’s (1985, 1988, 1997) WOLL
An untensed modal WOLL

Matthewson’s (2006) analysis:

- In English WOLL is a non-overt morpheme which combines with present or past and surfaces as *will* and *would* respectively.

- In contrast, in St’át’ímcets (Lillooet Salish) the future marker *kehl* is taken to be the overt spell-out of the morpheme WOLL which combines with a covert (non-future) tense morpheme.

\[
\text{English: } \text{covert WOLL + overt tense}
\]
\[
\text{St’át’ímcets: overt WOLL + covert tense}
\]
Evidence from St’át’ímcets
(cf. Mattewson 2006:691-2)

(1) matq  *kelh*  kw  s-Mary
walk  WOLL  DET  NOM-Mary
‘Mary *will* walk.’

(2) *Context: Dad and Uncle Jack were talking to Uncle Ben. They all decided that the men and John would go out to the fish rock in the morning and catch some salmon.*

nilh  *kelh*  aylh  s-wa7-s  ts’zús-wit
FOC  WOLL  then  NOM-IMPF-3POSS  busy-3PL
k’úl’-em  ku  cwík’-em-alhcw  i  sqáycqyecw-a
make-MID  DET  butcher.fish-MID-place  DET.PL  man(PL)-DET
‘After that, they *would* get busy building the new drying rack.’
What is the source of future meaning?

- A possible answer: MODALITY
  - future markers as mixed modal/temporal operators

- Future-orientation as directly following from modality?
  - Condoravdi (2002) argues that modals contribute to temporal interpretation directly. More precisely, modals are assumed to uniformly expand the evaluation time into the future.
  - Enç (1996) takes future-shifting to be a common property of all intensional expressions.
Condoravdi’s (2002) analysis

- **Question:**
  - How can different temporal orientations of modals be explained then?

- To understand this, let us look more closely at the proposed semantics of modals.
Condoravdi’s (2002) analysis

- Modals are taken to map properties of eventualities or properties of times to properties of times.

The semantics of possibility modals

\[ \text{MAY/MIGHT}_{MB} : \lambda P \lambda w \lambda t \exists w' \left[ w' \in MB(w, t) \& \text{AT}([t,\_), w', P] \right] \]

The semantics of necessity modals

\[ \text{WOLL}_{MB} : \lambda P \lambda w \lambda t \forall w' \left[ w' \in MB(w, t) \rightarrow \text{AT}([t,\_), w', P] \right] \]
Condoravdi’s (2002) analysis

The MB (modal base) is assumed to be fixed by the context of use and it is analyzed as a function from world-time pairs to sets of worlds.

\[ \text{WOLL}_{MB} : \lambda P \lambda w \lambda t \forall w' [w' \in MB(w, t) \rightarrow AT([t, _), w', P)] \]

The AT(\(t, w, P\)) relation means that property \(P\) is instantiated in world \(w\) at time \(t\).

\([t, _)\) designates “an interval with \(t\) as an initial subinterval and extending to the end of time” (future orientation) (Condoravdi 2002: 71).
Question:
- How is property \( P \) instantiated?

Answer:
- This depends on whether it is a property of times, of events, or of states (ibid., p. 70).
1) if P is a property of times

If $P$ is a property of times, then $P$ is instantiated in $w$ at $t$, iff $P$ holds at $t$ in $w$.

$$P(w)(t)$$

2) if P is a property of eventualities

If $P$ is a property of eventualities, then $P$ is instantiated in $w$ at $t$, iff there is an eventuality $e$ such that $P$ holds of $e$ in $w$ and the temporal trace of $e$ in $w$ bears a certain temporal relation with $t$.

$$AT(t; w; P)$$

2a) if P is eventive

$$\exists e \left[ P(e)(w) \& \tau(e, w) \subseteq t \right]$$

a temporal inclusion relation between the eventuality time and the reference time

2b) if P is stative

$$\exists e \left[ P(e)(w) \& \tau(e, w) \circ t \right]$$

a temporal overlap between the eventuality time and the reference time
Condoravdi’s (2002) analysis

- With this background provided, we can now look at how the temporal orientation of modal auxiliaries can be explained.
Condoravdi’s (2002) assumption

“the temporal perspective of a modal is fixed by the operator whose scope it is directly under:

- if the operator is PRES (as it is in existensional contexts), the perspective is that of the time of utterance;

\[
PRES: \lambda P \lambda w [\text{AT}(\text{now}, w, P)]
\]

- if the operator is PERF, itself under scope of PRES, the perspective is some time to the past of the time of utterance” (p. 77).

A back-shifting effect due to the semantics of

\[
\text{PERF} \Rightarrow \text{PERF}: \lambda P \lambda w \lambda t \exists t' [t' < t & \text{AT}(t', w, P)]
\]
Some illustrative examples

(1) He might have won.

\[
\text{PRES(} \text{MAY}_{MB}(\text{PERF(he win)})):\n\lambda w \exists w' \ [w' \in MB(w, now) \ & \ \exists t' [t' < [now,\_]) \ & \ \exists e [[\text{he win}] (w')(e) \ & \ \tau (e, w') \subseteq t']]\]

If a modal has the PERF operator in its immediate scope, there will be a back-shifting effect due to the semantics of PERF. → The truth conditions of past-oriented modal sentences require that the described event must be included in an interval temporally preceding the \([now,\_]\) interval, hence it must precede the utterance time.
If there is no PERF operator in the immediate scope of a modal, a modal can exhibit a forward-shifting or a nonshifting reading. Which reading is obtained depends on the type of eventuality denoted by the sentence radical with which a modal combines (Condoravdi 2002: 77).
Some illustrative examples: Eventive predicates (Condoravdi 2002, p. 73)

(2) He might run.

\[
PRES(\text{MIGHT}_{MB}(\text{he run})): \\
\lambda w \exists w' [ w' \in MB(w, now) \& \exists e[[\text{he run}](w')(e) \& \\
\tau(e, w') \subseteq [\text{now}, \_)]]]
\]

When the modal combines with eventive predicates, which are characterized by a temporal inclusion relation between the eventuality time and the reference time, it is thus required that the time of eventuality be included in the interval between now and the end of time.

→ This means that the event will be in the future of the utterance time, i.e., it can start at the earliest during the time of utterance and will be completed after the utterance time.

a forward-shifting reading
Some illustrative examples:  
Stative predicates (Condoravdi 2002, p. 72)

(2) He might be here.

\[
PRES(MIGHT_{MB}(he be here)):
\lambda w \exists w', [w' \in MB(w, now) \& \exists e [[[he be here](w')(e) \& \tau(e, w') \circ [now, \_)]]]
\]

As stative situations are characterized by a temporal overlap between the eventuality time and the reference time, it is required that the eventuality time overlap with the interval \([now, \_]).

→ This requirement can be satisfied if the state started at some time before the utterance time and extends at least through the time of utterance, which leads to a present interpretation.

\[
\text{a nonshifting reading}
\]
Some illustrative examples:  
Stative predicates  
(Condoravdi 2002, p. 72)

(2) He might be here.

\[
\text{PRES}(\text{MIGHT}_{MB}(\text{he be here})): \\
\lambda w \exists w', \, [w' \in MB(w, \text{now}) \& \exists e [[\text{he be here}](w')(e) \& \tau(e, w') \circ [\text{now}, \_])]]
\]

BUT:
\rightarrow The requirement of temporal overlap however is also satisfied if the state is fully included in the interval between now and the end of time, which results in a future interpretation: the state occurs in the future of the utterance time.

a forward-shifting reading
An important note

This analysis could be extended to predicates which are “stativized” by a *progressive/imperfective aspect* as in *He might be running.*

This observation will play an important role in the following discussion.
Evidence from Gitksan (Tsimshianic) (see Mattewson 2012, 2013):

- Modals are not inherently future-oriented, i.e., they do not have inherent future semantics.
- On the contrary, in Gitksan future orientation on both epistemic and circumstantial modals comes from a separate prospective aspect morpheme.
  - Importantly: This prospective aspect is obligatory on circumstantial modals, but is not on epistemic ones.
Evidence from Gitksan
(cf. Mattewson 2012:435-437)

(1) **da’akxw**[-i]-’y **dim** ayee=hl bax-’y
CIRC.POSS[-TRA]-1SG.II PROSP go.fast=CN run-1SG.II
‘I can run fast.’ [Rejected in context: You were a fast runner, but you’ve become permanently paralyzed.]

(2) **yugw=ima’=hl** wis
IMPF=EPIS=CN rain
‘It might have rained.’ / ‘It might be raining.’ / ≠ ‘It might rain (in the future).’
But:
(3) **yugw=ima’=hl** **dim** wis
IMPF=EPIS=CN PROSP rain
≠ ‘It might have rained.’ / ≠ ‘It might be raining.’ / ‘It might rain (in the future).’
Supporting evidence from Greek and Italian (see Giannakidou and Mari 2016, 2017)

Future markers in Greek and Italian are analyzed as pure modal elements (→ epistemic necessity modals)

(1) I Ariadne tha troi tora. (Greek)
the Ariadne FUT eat.NPST.IPFV.3SG now
‘Ariadne must be eating now.’ epistemic, now

(2) I Ariadne tha milise xthes.
the Ariadne FUT talk.PST.3SG yesterday
‘Ariadne must have spoken yesterday.’ epistemic, past

(3) I Ariadne tha prepı na milise xthes.
the Ariadne FUT must SUBJ talk.PST.3SG yesterday
‘Ariadne must have spoken yesterday.’ modal concord
But how is their future meaning derive then?
Evidence from Greek and Italian (see Giannakidou and Mari 2016, 2017)

- Giannakidou and Mari (2017) propose that the shift between epistemic and predictive reading is determined by tense/aspect:
  
  - If the modal operator is combined with **imperfective/stative** non-past and past predicates, **epistemic** present and past-oriented epistemic interpretations are obtained respectively.
  
  - The **predictive** (**future-oriented**) reading only arises if the modal operator is combined with **perfective** non-past (or **eventive**) predicates.
Evidence from Greek
(see Giannakidou and Mari 2016, 2017)

(1) I Ariadne tha troi tora. epistemic
   the Ariadne FUT eat.NPST.IPVF.3SG now
   ‘Ariadne must be eating now.’

(2) I Ariadne tha ine arosti epistemic
   the Ariadne FUT be.NPST.3SG sick
   (ji’afto dhen ine edo).
   for-this not is here
   ‘Ariadne must / # will be sick (that’s why she is not here).’

(3) O Janis tha ftasi stis 4. predictive
   the John FUT arrive.NPST.PFV.3SG at 4.
   ‘John will arrive at 4.’
But there is a problem...
A problem

Future markers in other languages can receive a future-oriented interpretation not only with perfective or eventive predicates but also with imperfective or stative predicates (unlike what is claimed for Greek or Italian):

(1) Ti šte dojdeš utre. (Bulgarian)
    you FUT  come.PRS.PFV.2SG tomorrow
    ‘You will arrive tomorrow.’

(2) Az šte rabotja cjal den.
    I  FUT  work.PRS.IPFV.1SG whole day
    ‘I will be working all day.’
A problem

(1) I Ariadne tha ine arostiti (Greek)
the Ariadne FUT be.NPST.3SG sick
(ji’afto dhen ine edo).
for-this not is here
‘Ariadne must / # will be sick (that’s why she is not here).’

(2) Giovanni sarà malato. (Italian)
Giovanni be.FUT.3SG sick
‘Giovanni must / # will be sick (that’s why he is not here).’
(Giannakidou and Mari 2016:77-8, their ex. (7a) and (7b))

(3) Ona bo bolana. (Slovenian)
she be.FUT.3SG sick
‘She will be sick.’ (# under the intended epistemic reading)
(example due to Frank Marušić (p.c.))
Conclusion

- Observation: Systematic availability of ordinary future readings with all types of predicates (perfective and imperfective eventive as well as stative predicates).

- It seems that some kind of forward-shifting element is needed in all these cases to derive their future time reference.
What next? How to account for all these different facts / crosslinguistic observations?
A possible solution (based on Mucha 2015)

- “Cross-linguistically, future orientation is never encoded in the semantics of modals directly, but always arises from a prospective aspect” (Mucha 2015:175).

- Two meaning components of future markers:
  - a modal component (modality)
  - a forward-shifting component (future time reference)
Modality (Kratzer 1977; 1981; 1991; 2012a)

- Modals are interpreted relative to two conversational backgrounds (parameters):

1. the Modal Base (MB)
2. the Ordering Source
- The Modal Base (MB)
  It provides the set of relevant propositions → it is conceptualized as a set of possible worlds.

- The Ordering Source
  It imposes an ordering of the worlds in the modal base according to some preferences.

→ The ranking corresponds to how closely the worlds come to satisfying the ideal given by the ordering source. Thus, the more propositions from the ordering source are true in a particular world in the modal base, the closer to the ideal represented by the ordering source the modal base is.

As a result, “modals end up quantifying over the best worlds of the modal base, given the ideal set by the ordering source” (Hacquard 2011: 1492).

The BEST-operator:
Its function is to pick out the set of highest ordered worlds (the most ideal worlds) over which the modal will then quantify (see Portner 2009).
The modal component – an example

Medumba marker ā’

$[[\text{Modal}]]_{g,c} = \lambda P_{<s,t>}. \lambda w. \forall w’ [w’ \in \text{BEST}_{O(w)} (MB(w)) \rightarrow P(w')]$

IMPORTANT:
The modal as such has no temporal meaning component → it is a purely modal element.
The future shifter (Mucha 2015) is defined as:

\[
[[\text{FUT/PROSP}]]^{\varphi,c} =
\lambda P_{<i,<s,t>} \cdot \lambda t. \lambda w. \exists t' [t' > t \& P(t')(w)]
\]

The open time slot of the future shifter is assumed to be filled by a deictic speech time pronoun (Mucha 2015: 178; see also von Stechow 2009).

The role of the future shifter is thus to introduce a new time and to locate it after the speech time, i.e., after the present reference time (the utterance time \(t_c\)).

The relation of posteriority, “after”

The open time slot of the time shifter is assumed to be filled by a deictic speech time pronoun (Mucha 2015: 178; see also von Stechow 2009).
Accounting for crosslinguistic variation

Possible dimensions (parameters) of crosslinguistic variation (see Tonhauser 2011; Matthewson 2006, 2012, 2013; Mucha 2015; Mucha and Zimmermann 2016; Błaszczak 2019)

① the type of lexicalization/morphological realization of these two meaning components of future markers

② the kind of modality involved (different kinds of modals (modal bases/ordering sources/quantificational force))

③ obligatoriness/optionality of prospective time shifting
Parameter ⑪: The type of lexicalization/morphological realization

Case ⑪: modality and prospective time shifting are conjointly encoded in one morpheme

\[
\text{matq } \text{kelh } \text{kw s-Mary} \quad \text{(St’át’imcets)}
\]
\[
\text{walk } \text{FUT } \text{[DET NOM-Mary]}
\]
\[
\text{‘Mary will walk.’}
\]
\[
\text{(Matthewson 2006: 691)}
\]
Case ②: modality and prospective time shifting are expressed by two separate, overtly realized morphemes.

- **modality**
  - one morpheme
    - Zaa
    - FUT[MOD]
    - 3PL.PROSP
    - run
    - 'They will run.'

- **future shifter**
  - one morpheme
    - sù
    - gudù. (Hausa)

(Adapted from Mucha & Zimmermann 2016:13)
Parameter ①: The type of lexicalization/morphological realization

Case ③: one meaning (modality) is realized overtly, the other meaning component (prospective time shifting) is covert

Nana á’ mã cəŋ (Medumba)
Nana FUT[MOD] PROSP cook food
‘Nana will cook.’
(adapted from Mucha 2015: 179)
Case 4: one meaning (prospective time shifting) is realized overtly, the other meaning component (modality) is covert.

\[ \text{modality} \downarrow \quad \text{future shifter} \]

- covert: $\emptyset$
- overt morpheme: \[ \text{hajiswa-}'y \quad (\text{Gitksan}) \]
  \[ [\text{MOD}] \quad \text{PROSP} \quad \text{sneeze-1SG.II} \]
  \[ \text{‘I have to sneeze.’ [Lit.: ‘I’m going to sneeze.’]} \]
  \[ (\text{Matthewson 2013, her ex. (95a)}) \]
Crosslinguistically, future markers also differ with respect to the question of which modal meanings they are compatible with (or entail) (see, e.g., Tonahauser 2011).

Parameter ②: The kind of modality involved

Differences as to:
① modal base /ordering source
② quantificational force
Parameter ②:
The kind of modality involved

Differences as to the modal base/ordering source

- Epistemic futures (e.g., in Greek, Italian) analyzed as epistemic necessity modals (Giannakidou and Mari 2016, 2017)
  - epistemic modal base with a normative ordering source

The ordering source in such cases is a stereotypical one, that is, it consists of propositions that characterize the normal course of events.
Examples from Italian
(Giannakidou and Mari 2016:77-78)

Present-oriented epistemic reading

(1) Giovanni  **sarà**  malato.
    Giovanni  be.FUT.3SG  sick
    ‘Giovanni must / # will be sick (that’s why he is not here).’

Past-oriented epistemic reading

(2) Giovanni  **sarà**  stato malato ieri
    Giovanni  be.FUT.3SG  been  sick  yesterday
    (per questo non è venuto).
    for  this  not  has  come
    ‘Giovanni must/# will have been sick yesterday (that’s why he
didn’t come).’
Parameter ②: The kind of modality involved

Differences as to modal base/ordering source

Future markers as necessity modals with bouletic and inertial ordering sources (e.g., in Hausa, Guaraní):
- only compatible with modal meanings of intention and prediction

Bouletic (from Greek boule ‘wish’) ordering sources are based on the commitments of an animate entity, and inertial ordering sources are based on Dowty’s (1979) concept of inertia worlds, which can be roughly defined as a set of worlds in which things proceed normally. In the former case, there must be an animate actor who is able to bring about the truth of a proposition in the future. In the latter case, the truth of the proposition depends on certain contingent facts about the world.
Examples from Guaraní
(Tonhauser 2011, her ex. (12a), (13c))

**Intention**
(1) **Context:** A woman is scheming on how to catch the monkey that is playing tricks on her.
A-japó-*ta* ta’anga araity kakuaa porã-va.
A1sg-make-FUT figure wax big pretty-RC
‘I will make a pretty big wax figure.’

**Prediction**
(2) **Context:** A girl is told by her mother that the neighbors talk badly about her because of some past incident.
Ha nde-ru i-tarová-*ta* voi i-mandu’á-ramo and B2sg-father B3-crazy-FUT surely B3-remember-if upéva-rehe.
this-about
‘And your father will go crazy if he remembers it.’
Parameter ②: The kind of modality involved

1 Differences as to modal base/ordering source

The assumed modal element can be understood to be a very general modal whose core meaning consists in quantification over possible worlds and which is compatible with different modal bases and/or ordering sources to account for the various modal uses/flavors of the respective futures (see Mucha 2015; Mucha & Zimmermann 2016).

Future markers as necessity modals compatible with bouletic, inertial and deontic ordering sources (e.g., in Medumba)
- modal readings of intention, prediction and future-oriented deontic necessity
Examples from Medumba
(Mucha 2015:171; Mucha and Zimmermann 2016:35)

Intention
(1) Context question: What will you do later?
   mə  ámbá yəm mutwá
   I FUT repair my car
   ‘I will repair my car.’

Prediction
(2) Context question: What will the weather be like later?
   mbəŋ á’ lú
   rain FUT fall
   ‘It will rain.’

Deontic necessity
(3) Context: Your sister is coming to your place and says that she would like to play
   with your children. You do not like the idea very much because it is quite late, you say:
   bú ámbá zí
   they FUT sleep
   ‘They have to sleep.’
Parameter 2: The kind of modality involved

Differences as to quantificational force

Future markers as involving universal quantification over possible worlds (e.g., Greek, Italian, Hausa, Medumba, Guaraní) - necessity modals
Parameter ②: The kind of modality involved

Differences as to quantificational force

Future markers as circumstantial modals compatible with both universal and existential quantificational force, e.g., *kelh* in St’át’imcets - both necessity and possibility readings are available
Examples from St’át’ímcets
(Matthewson 2006:687, 691)

(1) matq kelh [kw s-Mary] universal quantification
   walk FUT [DET NOM-Mary]
   ‘Mary will walk.’

(2) ts7as kelh ku zús-cal existential quantification
   come FUT DET catch-ACT
   ‘A policeman might come.’
Parameter ②: The kind of modality involved

② Differences as to quantificational force

- Future markers as modals with variable quantificational force (degree modals)
  - Gradable modality (Rivero and Milojević Sheppard (2016) for Slovenian, Rivero and Simeonova (2014, 2015) for Bulgarian)
Examples from Slovenian
(Rivero and Milojević Sheppard 2016: 258)

(1) **Context**: No noise is coming from Tatjana’s room. Tatjana’s grandmother and Tatjana’s little brother are in the living room, so grandma states:

Ne moti je.
NEG disturb her

Tatjana se bo zdajle igrala.
Tatjana REFL BE.FUT.3SG now play.PTCP.IPFV.SG.F

‘Do not disturb her. Tatjana will/must/may be playing now.’
Another important aspect of crosslinguistic variation concerns the question of whether future time reference is entailed or not by a given future marker (see, e.g., Tonhauser 2011).

While the St’át’ímcets future marker *kehl* and the Guaraní future marker *-ta* obligatorily convey future time reference, this is not so, e.g., in the case of *will* in English.
Parameter ③: 
\([\pm]\) Obligatoriness of prospective time shifting

Case ①: obligatory prospective time shifting

- modality + future shifter
- only future-oriented readings
- no present- or past-oriented epistemic readings
Examples from Stʼátʼímcets (Matthewson 2006:688)

Context question:
A: atsxʼ-en-lhkácw ha kw-s Bill?
   see-DIR-2SG.SUBJ YNQ DET NOM-Bill
   ‘Did you see Bill?’

B: # atsxʼ-en-lhkán kelh n-scwákwekw
   see-DIR-1SG.SUBJ FUT 1SG.POSS-heart
   ‘I might see him.’

Consultant’s comment: "Atsxʼenlhkácw ha kws Bill? is in the past. Your answer Atsxʼenlhkán kelh is in the future. So it’s two different things."
Parameter ③:

$[\pm]$ Obligatoriness of prospective time shifting

- Case ②: not obligatory prospective time shifting
  - **Option A**: no future shifter is present

- **modality**

- **future shifter**

  - no future-oriented readings possible
  - only present- or past-oriented epistemic readings
Examples from Greek (Giannakidou and Mari 2016:77-78)

(1) I Ariadne tha ine arosti the Ariadne FUT be.NPST.3SG sick (ji’afto dhen ine edo). for-this not is here ‘Ariadne must / # will be sick (that’s why she is not here).’

(2) I Ariadne tha troi tora. the Ariadne FUT eat.IPJV.NPST.3SG now ‘Ariadne must be eating now.’

(3) I Ariadne tha itan arosti xthes the Ariadne FUT be.PST.3SG sick yesterday (ji’afto dhen irthe). for-this not came.3SG ‘Ariadne must / # will have been sick yesterday (that’s why she didn’t come).’
Parameter ③: 
[±] Obligatoriness of prospective time shifting

Case ②: not obligatory prospective time shifting

- **Option B**: a future shifter (prospective aspect) is present but can co-occur with imperfective/progressive aspect → aspect stacking is possible

- **modality** + **future shifter** + **ipvf/prog aspect**

  - future-oriented readings are possible
  - present- (or past-) oriented epistemic readings are available
Evidence from Medumba
(Mucha 2015:170)

(1) Nana á’ Ø má cəŋ
    Nana FUT[MOD] PROSP cook food
    ‘Nana will cook.’
    i. only future reading

(2) Nana á’ Ø ká má cəŋ
    Nana FUT[MOD] PROSP IPFV cook food
    ‘Nana will be cooking.’
    i. future progressive reading
    ii. present epistemic reading

aspect stacking is possible
**Evidence from Medumba**
(adapted from Mucha 2015:170)

*Context:* Roger is coming home from work and is surprised that he does not find his children playing in front of the house. Then he realizes that his spouse is already preparing dinner, so he can guess what the kids are doing

(1) Bú á’ Ø kə widə má yúb
they FUT[MOD] PROSP IPFV help mother their
‘They will be helping their mother.’

(2) #Bú á’ Ø widə má yúb
they FUT[MOD] PROSP help mother their
(intended: ‘They will be helping their mother.’)
BUT Hausa
(Mucha and Zimmermann 2016:12-13)

(1) **Zaa sù gudù**
   FUT[MOD] 3PL.PROSP run
   ‘They will run.’
   i. *only future reading*
   ii. *no present epistemic reading possible*

(2) **Su-náa gudù**
   3PL-PROG run
   ‘They are running.’

(3) **Zaa sù su-náa gudù**
   FUT[MOD] 3PL.PROSP 3PL-PROG run
   (indented: ‘They will be running’).’
The role of aspect for the availability of (present and past) epistemic readings

- Imperfective states
- Perfective events

Present- (or past-) oriented epistemic readings are available
Examples from Bulgarian
(Svetlana Petrova, p.c.)

(1) Marija Šte se razhojda.
Mary FUT REFL walk.IPFV.PRS.3SG
‘Mary will be walking.’
i) Yes future (progressive) interpretation
ii) Yes present epistemic interpretation

(2) Marija Šte v kašti.
Mary FUT be.PRS.3SG at home
‘Mary will be at home.’
i) Yes future interpretation
ii) Yes present epistemic interpretation

(3) Marija Šte se razhodi.
Mary FUT REFL walk.PFV.PRS.3SG
‘Mary will walk.’ (‘Mary will go for a walk.’)
i) Yes future interpretation
ii) *Present epistemic interpretation
The future shifting effect can in some sense “neutralized” in stative and imperfective but not in eventive or perfective sentences (see Mucha 2015).

WHY?
A possible solution (see Condoravdi 2002; Mucha 2015):

- the relevance of temporal overlap vs. temporal inclusion relations

- Eventive situations are characterized by a temporal inclusion relation between the eventuality time and the reference time.

- Stative situations, in contrast, are characterized by a temporal overlap between the eventuality time and the reference time (cf. Kamp and Rohrer 1983; Partee 1984; Kamp and Reyle 1993).
A possible solution (see Condoravdi 2002; Mucha 2015):

- **imperfective** situations → the contextually defined reference time must be situated inside the event time \((RT \subseteq ET)\)

- **perfective** situations → the event time must be located inside the reference time \((ET \subseteq RT)\)
Futures with perfective complements
(Błaszczak, Jabłońska, Klimek-Jankowska & Migdalski 2014)

A temporal gap between ST and ET
Supporting evidence
(Błaszczak & Klimek-Jankowska 2013a)

- Perfective future

\[ \begin{align*}
\text{Jan} & \quad \text{czyta} \quad \text{gazetę} \\
\text{John} & \quad \text{read.IPV.PRS.3SG} \quad \text{newspaper} \\
i & \quad \text{nadal} \\
\text{and} & \quad \text{still} \\
\text{ją} & \quad \text{przeczyta.} \\
\text{it} & \quad \text{read.PFV.PRS.3SG} \\
\end{align*} \]

‘*John is reading a newspaper and he will still have read it.’

- in ‘still’-contexts
Futures with imperfective complements
(Błaszczak, Jabłońska, Klimek-Jankowska & Migdalski 2014)

Almost no temporal gap between ST and ET
Supporting evidence
(Błaszczak & Klimek-Jankowska 2013a)

- Imperfective future

  - in ‘still’-contexts

  Jan czyta gazetę
  John read.IPV.PRS.3SG newspaper

  i nadal
  and still

  będzie ją czytał.
  be.PVF.PRS.3SG it read.PTCP.IPV.PRS.3SG.M

  ‘John is reading a newspaper
  and he will still be reading it.’
A formal account (Mucha 2015:179)

(1) Nana á’ mə cəŋ (Medumba)

Nana FUT PFV cook food

‘Nana will cook.’

The truth conditions in the eventive sentence (1) require that the event of Nana cooking be included in the time interval introduced by the future shifter.

\[
[[\text{perfective}]^{g,c}] = \lambda P_{<l,(s,t)>}. \lambda t. \lambda w. \exists e [\tau(e) \subseteq t & P(e)(w) = 1]
\]

the event time (the running time of an eventuality) must be located inside the reference time

\[
[[1]^{g,c} = \lambda w. \forall w’ [w’ \in \text{BEST}_{O(w)} (MB(w)) \rightarrow \exists t’ [t’ > t_c & \exists e [\tau(e) \subseteq t’ & \text{cook(food)}(e)(w’) & \text{agent}(e)(w’) = \text{Nana}]]]
\]

\approx \text{In all the best worlds in the modal base there is a time after } t_c \text{ which includes the running time of an event of Nana cooking.}
A formal account (Mucha 2015:178)

(2) Nana á’ kó má cəŋ (Medumba)

Nana FUT IPFV cook food

‘Nana will be cooking.’

\[
[[\text{imperfective}]]^{g,c} = \\
\lambda P_{<t, <s, t>}. \lambda t. \lambda w. \exists e \left[ t \subseteq \tau(e) \& P(e)(w) = 1 \right]
\]

the imperfective requires that the contextually defined reference time be situated inside the event time (the running time of an eventuality)

\[
[[2]]^{g,c} = \lambda w. \forall w' [w' \in \text{BEST}_w(\text{MB}(w)) \rightarrow \\
\exists t'[t' > t_c \& \exists e [\tau(e) \supset t' \& \text{cook(food)(e)}(w') \& \text{agent}(e)(w') = \text{Nana}]]]
\]

\[\approx\] In all the best worlds in the modal base there is a time after \( t_c \) which is included in the running time of an event of Nana cooking.

The truth conditions in the eventive sentence (2) require that the time interval introduced by the future shifter be included in the event of Nana cooking. That is, the event of Nana cooking must be ongoing at some future time interval.
An important observation (Mucha 2015)

- The truth conditions of such imperfective sentences are “weak enough to allow for both present epistemic (progressive) and future progressive interpretations” (Mucha 2015:179).

- “[g]iven that time intervals can be as short as instantaneous moments, in any reasonably conceivable case in which an eventuality includes the utterance time [giving rise to the present epistemic interpretation in question], it will also be true that there is a time in the future, however short, which is included in the time of the cooking event” (ibid.), which results in the usual future interpretation.”
In the case of stative predicates the contrast between perfective and imperfective aspect is neutralized as statives require an overlap relation between the reference time and the eventuality time rather than an inclusion relations.

\[
[[3]]^{g,c} = \lambda w. \forall w' [w' \in \text{BEST}_O(w)(\text{MB}(w)) \rightarrow \exists t' [t' > t_c \land \exists e [\tau(e) \circ t' \land [\text{be} \text{in the room}(e)(w') \land \text{agent}(e)(w') = \text{Elodie}]]]
\]

\approx \text{In all the best worlds in the modal base there is a time after } t_c \text{ that overlaps with the time of Elodie being in the room.}
An important observation (Mucha 2015)

As Mucha (2015) argues, following Altshuler and Schwarzschild (2013), “stative predicates are inherently unbounded in the strictest sense, i.e. every moment at which a state holds is preceded and followed by another moment at which the state holds, it is always true that, if a stative eventuality holds at the utterance time, it will also hold at some time after the utterance time” (p. 180).
Neutralization effect of imperfective aspect

- The truth conditions of sentences with an imperfective future form are "weak enough to allow for both present epistemic (progressive) and future progressive interpretations" (Mucha 2015:179).

The imperfective aspect, unlike the perfective one, requires that the reference time introduced by the future shifter be situated inside the event time.

\[ \exists t'[t' > t_c \& \exists e[\tau(e) \supseteq t' ] \]

Hence the semantics of the imperfective future form can be compatible with the meaning that the eventuality time includes the utterance time.
A prediction (see Błaszczak and Klimek-Jankowska 2012, 2013a, b)

- The imperfective futures should be preferably be used in contexts in which a future eventuality could be understood to be already settled or prearranged at the moment of speaking.

- The perfective futures are predicted to preferably be used in contexts in which a future eventuality is not already settled or prearranged at the utterance time but, on the contrary, in which it should be possible to change or prevent a future event.
Futures with perfective complements

A temporal gap between ST and ET
Futures with imperfective complements

Almost no temporal gap between ST and ET
In the semantics:
**a temporal gap** between the speech time and the beginning of the future eventuality

*perfective*

Non-planable futures → the possibility to change/prevent the future eventuality

*imperfective*

In the semantics:
**(almost) no temporal gap** between the speech time and the beginning of the future eventuality

Planable futures → the continuation of a plan/pre-arrangement that holds true at the moment of speaking
An interesting possibility

A language can have both options (Option A and Option B):

- a modal (future) marker without prospective time shifting → used only for present- and/or past oriented epistemic readings
- a modal (future) marker with prospective time shifting used for ordinary future readings
Evidence from Bulgarian (Rivero and Simeonova 2014, 2015)

- Two types of the modal (future) marker in Bulgarian:
  - **inferential** šte → used for making inferences based on indirect evidence at the speech time (epistemic use)
  - **prospective** šte → used for ordinary futures
Evidence from Bulgarian

- **Inferential šte**
  - modality
  - future shifter

- **Prospective šte**
  - modality + future shifter
Observation/claim (Rivero and Simeonova 2014, 2015): these two types of šte should be formally differentiated in Bulgarian.

Two pieces of evidence:
- inflection and
- negation
Evidence from Bulgarian (Rivero and Simeonova 2014, 2015)

- Inflection evidence:
  - inferential šte → always invariant
  - prospective šte → should be paired with the future auxiliary used for “Future-in-the-past tense”, which is inflected for person and number and appears in the past tense (Imperfect)

Evidence from Bulgarian (Rivero and Simeonova 2014, 2015)
Inflection evidence
(examples due to Roumyana Pancheva (p.c.); see Rivero and Simeonova 2014, 2015)

(1) Ti šte dojdeš utre.
   you FUT come.PFV.PRS.2SG tomorrow
   ‘You will arrive tomorrow.’

(2) Az šte rabotja cjal den.
   I FUT work.IPFV.PRS.1SG whole day
   ‘I will be working all day.’

(1’) Ti štješe da dojdeš.
   you will.PST.2SG SBJV come.PRS.PFV.2SG
   ‘You were going to come.’ (‘You would have come.’)

(2’) Az štjah da rabotja cjal den.
   I will.PST.1SG SBJV work.PRS.PFV.1SG whole day
   ‘I was going to be working all day.’ (‘I would have been working all day.’)
Evidence from Bulgarian
(Rivero and Simeonova 2014, 2015)

- Negation evidence:
  - for *inferential* šte → the negative marker *ne* is used
  - for *prospective* šte → special negative forms of the auxiliary are used
Negation evidence
(adapted from Rivero and Simeonova 2014:5)

**inferential šte**
(1) Nespokoen e nešto – ne šte
uneasy be.PRS.3SG something NEG FUT
e razbral istinata.
be.PRS.3SG learn.PTCP.PFV truth.the
‘He is somewhat uneasy (at present) – it must be that he has not learned the truth (at some past time before the time of utterance).’

**prospective šte**
(2) Kato se sreštnete s nego sled edna sedmitsa,
when REFL meet.PRS.PFV.2PL with him after one week
njama da e razbral istinata.
NEG+FUT da be.PRS.3SG learn.PTCP.PFV truth.the
‘When you meet with him in one week, he will not have learned the truth (at some future time from the time of utterance).’
Final observation

- Future markers / future constructions in different languages might have
  - different origins
  - different syntactic structures
- but still their meanings and the range of possible uses can be similar.

Comparison: Bulgarian, Slovenian, Polish
Different origins
Future constructions in Bulgarian, Slovenian, Polish – different origins
(see Whaley 2000, Błaszczak 2019 for details)

- Bulgarian → the Old Slavic modal verb *xotěti* ‘will/want’ plus infinitives structures
- Slovenian → the Common Slavic *futurum exactum* or future perfect
- Polish → the Common Slavic change-of-state verb *
  *bq$d*- reinterpreted as an inceptive verb
Different syntactic structures
Future constructions in Bulgarian, Slovenian, Polish – different structures

**Bulgarian**

\[ \text{finite V: prs.ipfv/pfv present perfect} \]

\[ [\text{ModP} \ [\text{Mod} \ FUT.CL] \ [\text{TP}] \ [\text{AspP}] \ [\text{VP} \ \check{\text{IPFV}} / \ \check{\text{PFV}}] \ ] \ ] \ ] \ ]

**Slovenian**

\[-participle: ipfv/pfv\]

\[ [\text{ModP} \ [\text{Mod}] \ [\text{TP} \ FUT.AUX] \ [\text{AspP}] \ [\text{VP} \ \check{\text{IPFV}} / \ \check{\text{PFV}}] \ ] \ ] \ ] \ ]

**Polish**

\[ \text{infinitive/-participle: ipfv}\]

\[ [\text{ModP} \ [\text{Mod}] \ [\text{TP}] \ [\text{AspP} \ FUT.AUX] \ [\text{VP} \ \check{\text{IPFV}} / * \ \text{PFV}] \ ] \ ] \ ] \ ]

\[ [\text{ModP} \ [\text{Mod}] \ [\text{TP}] \ [\text{AspP}] \ [\text{VP} \ \text{PFV.PRS}] \ ] \ ] \ ] \ ]
Similar meanings – range of uses
Future constructions in Bulgarian, Slovenian, Polish – similar uses

- ordinary future readings
- modal readings of intention, prediction, expectation
- present-oriented epistemic readings (imperfective)
- plannable futures (imperfective)
- nonplannable futures (perfective)
- dispositional habituality (e.g., ‘John will always tell you the truth’) (perfective)
WHY?

How to account for these facts?
A possible solution (Błaszczak 2019):

Futures in Bulgarian, Slovenian and Polish involve similar meaning components.
Future constructions in Bulgarian, Slovenian, Polish – similar meaning components

Future tense auxiliary BE: (diachronically, perfective present forms)

Perfective aspect

będzie BE.PFV.PRS

lexical verb PFV.PRS

Bulg.: overt
Slov.: covert
Pol.: covert

Bulg.: covert
Slov.: overt
Pol. overt
Recall the crosslinguistic observation


“perhaps the future is universally different from present or past: the former must always combine with tense, rather than actually being tense.”
Future constructions in Bulgarian, Slovenian, Polish – similar meaning components

- **Bulgarian:**
  - modal clitic +
  - finite complement

- **Slovenian:**
  - finite future auxiliary BE (prs.pfv) +
  - nonfinite complement

- **Polish:**
  - compound future
    - finite aspectual auxiliary ("light verb" BE) (prs.pfv) +
    - nonfinite complement
  - simple future: finite lexical V (prs.pfv)
Future constructions in Bulgarian, Slovenian, Polish – similar meaning components

- Modality (untensed modal):
  - Bulg.: šte
  - Slov.: Ø
  - Pol.: Ø

- Prospective time shifting (future shifter):
  - Bulg.: Ø
  - Slov.: fut.aux (pfv)
  - Pol. pfv

- TENSE: present
But: Differences due to different origins / syntactic structures

- Possibility of past epistemic readings
  - Bulgarian: YES
  - Polish, Slovenian: NO

- Possibility of modal concord
  - Bulgarian: YES
  - Polish, Slovenian: NO

- Future in the past readings
  - Bulgarian: YES
  - Polish, Slovenian: NO
Past epistemic readings

**Bulgarian**

\[
[\text{ModP} \ [\text{Mod} \ FUTURE \ [\text{TP} \ [\text{AspP} \ [\text{VP} \ ] \ ] \ ] \ ] \ ]
\]

**Context:** Mary refused to eat the food you prepared for her for several days. But yesterday there was no food in the refrigerator. You suppose: 

Marija šte se e hranila včera.

Mary FUT REFL be.PRS.3SG eat.IPFV.PTCP.SG.F yesterday

‘Mary will (must) have eaten yesterday.’

**Slovenian**

\[
[\text{ModP} \ [\text{Mod} \ FUTURE \ [\text{TP} \ [\text{AspP} \ [\text{VP} \ ] \ ] \ ] \ ] \ ]
\]

**Polish**

\[
[\text{ModP} \ [\text{Mod} \ [\text{TP} \ [\text{AspP} \ [\text{VP} \ ] \ ] \ ] \ ] \ ]
\]

**BUT**
Modal concord readings

MOD\textsubscript{epistemic} > Tense > Aspect > MOD\textsubscript{root} > VP

Bulgarian

Marija šte trjabva da se e hranila včera.
Mary FUT must SBJV.COMP REFL be.PRS.3SG eaten.IPFV yesterday ‘Mary will (must) have eaten yesterday.’ (an epistemic reading)

Slovenian

Ona będzie musiała jeść obiad.
She be.PFV.PRS.3SG must.PTCP.SG.F eat.INF lunch ‘She will have to eat lunch.’ (a future deontic reading)
Future-in-the-past: Bulgarian

- In Bulgarian, whose future marker goes back to the modal verb ‘want,’ it is possible to express what Tomić (2004) refers to as “future-in-the-past tense” (p. 523).

- More precisely, this is done by means of a construction in which past tense (imperfect) forms of the ‘will’ auxiliary take a subjunctive complement.

Az štjah da rabotja cjal den.  
I will.PST.1SG SBJV.COMP work.IPFV.PRS.1SG whole day  
‘I was going to be working all day.’ (‘I would have been working all day.’)
BUT: Slovenian and Polish

(Slovenian, Frank Marušič, p.c.)

Delal bi cel dan work.IPV.PTCP.SG.M COND whole day
‘I would have worked the whole day.’

Nameraval sem delati cel dan. intend.PTCP.SG.M AUX.1SG work.IPV.INF whole day
‘I intended to work all day.’
Future-in-the-past: Bulgarian

- BUT: Even if in Bulgarian the original desire/intention meaning might appear to be retained in the future auxiliary of past futures, the constructions as such are grammaticalized.

- These constructions (positive and negative past futures) can be used with impersonal verbs, e.g., weather verbs lacking any desire/intention meaning components.

(>due to Svetlana Petrova, p.c.)

a. Šteše da vali.
   will.PST.3SG  SBJV.COMP  rain.IPFV.PRS.3SG
   ‘It was going to rain.’

b. Njamaše da vali.
   NEG.have.PST.3SG  SBJV.COMP  rain.IPFV.PRS.3SG
   ‘It was not going to rain.’
Thank you for your attention!
References


References


References

References


References


