The Inferential Future in Bulgarian: An Evidential Modal Proposal

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In Bulgarian, šte, morphologically glossed as FUT, is used with a prospective reading, (1a) and (1-b), and may also signal an inference based on indirect evidence made at Speech Time, (2), like epistemic will in *He will (must) be in Toronto right now*. Such a presumptive reading is mentioned in descriptive grammars (Nitsolova 2008, Pašov 2005, Scatton 1983, a.o.), but has not been discussed in the recent formal literature on Bulgarian evidentials, which mainly concerns the ‘Renarrative Mood’ (Arregui, Rivero & Salanova 2014, Izvorski 1997, Koev 2011, 2014, Rivero & Slavkov 2014, Sauerland & Schenner 2007, 2013, Smirnova 2013a,b, a.o.). The aim of the present study is to examine the inferential šte within the views of formal syntax and semantics.

We argue that šte, as a marker of presumptive meaning, is an evidential modal fit for deductions, not reports. It takes a tensed complement with the time of the depicted event as past or present, but not future.

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Inferential šte often shares form with prospective šte, but we argue in §2 that the two should be formally differentiated. We compare inferential šte to epistemic modals in §3, and propose that it lacks a fixed quantificational force. In sum, inferential šte is an evidential for inferences that participates in a dedicated morpho-syntactic system not shared by prospective šte, so cannot be viewed as a (purely pragmatic) ‘evidential strategy’ (Aikhenvald 2004), parasitic on the operator at the source of prospective šte.

1 Introducing Prospective šte and Inferential šte

Let us introduce Bulgarian affirmative future constructions, which always contain šte and are thus periphrastic.¹

1.1 Prospective šte

Patterns (1a) and (1b) illustrate future readings we call ‘prospective’ which are forward-shifted with Event Time following Speech Time. They also illustrate that šte combines with imperfective verbs and perfective verbs, piša and napiša in (1b) respectively.

Context: The instructor in your class asks about your final paper: (1a).
You reply with (1b), pointing to the title of an article.

¹ In syntax and morphology, Bulgarian futures differ from East/West Slavic futures. When perfective, West/East Slavic futures bear present morphology, e.g. (i.a), and are ungrammatical with the auxiliaries of imperfective futures, e.g. (i.c). By contrast, all Bulgarian (affirmative) futures display šte, and present perfective verbs are ungrammatical in main clauses, e.g. (i.d).

(i) a. Naš poezd ot-pravit-sya v 10 časov. (Russian)
    Our train Pr-leavePRES.PRF.3SG at 10 o’clock
    b. Našijat vlak šte za-mine v 10 časa. (Bulgarian)
    Our train FUT Pr-leavePRES.PRF.3SG at 10 o’clock
    ‘Our train will leave at 10 o’clock.’
    c. *Naš poezd budet ot-pravit-sya v 10 časov. (Russian)
    d. *Našijat vlak za-mine v 10 časa. (Bulgarian)
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(1) a. Gotovi li šte ti e doklada skoro?
   ‘Will your paper be ready soon?’

   b. Šte piša, (šte piša)
   ‘I will write and write, and I will finish it.’

1.2 Inferential/Presumptive šte

Presumptive šte is an evidential modal indicating inferences not reports, as (2) and (3) illustrate.

(2) Context: Your friend asks you which one among three singers in a photo is the winner of a competition. You listen to a tape, and pointing to one singer you state:  
   Tazi šte (da) e pobeditelkata.
   ‘This one must be the winner.’

(3) Context: You cannot see Ivan but hear noise next door. You state:  
   Ivan šte (da) piše pismo v sasednata staja v momenta.
   ‘Ivan must be writing a letter in the room next door right now.’

Inferential šte is felicitous when the evidence is indirect, as in (2) and (3), and infelicitous when direct, as in (4):

(4) Context: You look into the next room, identify the person there as Ivan, and his action as one of writing a letter. You state:

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2 Since Inferential šte lacks a reportative reading, it clearly contrasts with the evidential of the Renarrative Mood also known as preizkazno naklonenie ‘discourse mood’ (Andrejčin 1977), enonciation médiatisée ‘mediated enunciation’ (Guentchëva 1996), Perfect of Evidentiality (Izvorski 1997), vid na izkazvaneto ‘discourse aspect’ (Kučarov 1998: 413), and Indirect (Koev 2011, 2014). In (2) and (3), da is optional, but it may be obligatory in other contexts, which is a topic beyond the scope of this paper.
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We define direct/indirect evidence in terms of propositions (Matthewson 2011, a.o.). It is direct if the event depicted by P in [M [F Ivan write a letter]] is ‘seen’ as it occurs. Indirect evidence concerns incomplete propositions, for example doubts on the agent’s identity (Ivan or Peter?), the activity (Writing or reading?), or results (A letter or a book?). Inferential šte participates in the two-way orientation of modals. (a) It is anchored to Speech Time and it signals a present inference when it is in main clauses. (b) But the inference may concern present or past events. With present complement verbs, (2) and (3), inferences are about present events. With present perfect, (5) and (6), or imperfect complement verbs (7), inferences are about the past. In §2, we argue that inferential šte does not depict events that extend into the future, in contrast with prospective šte.

(5) Context: You wonder why Ivan has never gone to Paris. Since his mom lives there, you suppose that she has often told him to visit. You state:

Tja šte (da) mu e kazvala she FUT (da) heDAT bePRES.3SG tellPP.IMP
mnogo pâti da ja poseti.
many times da sheACC visitPRES.3SG
‘She must have told him to visit her many times.’

(6) Ivan šte (da) e iztârjpjal Ivan FUT (da) bePRES.3SG endurePP.PRF
mnogo prez vojnata.
a.lot during war.the
‘Ivan must have endured a lot during the war.’

(7) Context: You went to a party but have forgotten the name of a guy you met there. You state:

Maj Ivan šte da beše. Maybe Ivan FUT da beIMPERF.3SG
‘It seems like it was Ivan.’
Aspect is encoded in the verbs that complement šte. Present perfects with imperfective participles signal ongoing / repetitive events: kazvala (5). Perfective participles describe episodic/resultsive events: iztārjal (6).

In sum, the evaluation time of a modal claim that contains šte is NOW (in Condoravdi’s (2000) terms, the ‘temporal perspective’ is fixed). The time of the depicted event can either coincide with, or precede, Speech Time (in Condoravdi’s (2000) terms, the ‘temporal orientation’ may vary), but in §2 we see that it cannot be future. Inferential šte always remains invariable, in contrast with future auxiliaries. Prospective šte does not overtly encode tense/person/number in (1), but we argue in §2 that it shares the characteristics of the inflected future auxiliary of past futures and past future perfects.

In (8), we sketch a (simplified) syntactic structure for inferential šte.

\[
(8) \quad [\text{MP} \ [\text{M} \text{šte}] \ [\text{TP} \ [\text{Tense} \ [\text{AspectP} \ [\text{Aspect} \ [\text{VP} \ V]]]]]]
\]

Based on Rivero (1994), a. o., šte heads a Modal Phrase (MP), which dominates both the Tense Phrase (TP) and Person/Number if they are independent of T. TP scopes over Aspect Phrase (AspP) for Viewpoint. Inferential šte above T does not inflect for tense/person/number.

2 Distinguishing between Inferential šte and Prospective šte

There has been a long debate around forms such as English will, which display epistemic and prospective readings. Do they share a common semantics disambiguated in context (Lyons 1977, a.o.), or do they represent two temporal/modal operators (Hornstein 1990, a.o.)? Here we argue that in Bulgarian, inferential šte must be differentiated from prospective šte in syntax and semantics, i.e. that the contrast is grammaticalized.

Bulgarian constructions with prospective and inferential readings may overlap in form, as (9) and (10) illustrate (our glosses and translations).

(9) Kato se srešnete s nego sled edna sedmitsa, when refl meet\textsubscript{PRES.2SG} with him after one week, toj šte e razbral istinata. (Pašov 2005)
When you meet with him in one week, he will have learned the truth.'

(10) Nespokoen e nešto - šte e razbral istinata.

‘He is somewhat uneasy (at present) - he must have learned the truth.’

In (9), šte with a present perfect complement receives a forward-shifted reading: learning the truth will occur after Speech Time. By contrast, the most natural reading for the identical sequence in (10) is epistemic: learning precedes Speech Time. Sentence (10), however, is ambiguous, with a less natural forward-shifted reading, as in He will (soon) have learned the truth: from that moment on, he will no longer appear uneasy as he seems to appear now. At first sight, then, (9) and (10) could support the view that inferentials and prospectives share semantics, with disambiguation triggered by the (linguistic) context. However, we next argue that the grammar of Bulgarian distinguishes between inferentials and prospectives, and we develop three arguments to motivate this view.

2.1 Negation
In Bulgarian, inferentials and prospectives may be differentiated by negation. Negative inferentials contain ne before šte, (11). Such sentence signals an unambiguous inference made as we speak about an event located before Speech Time.

(11) Ivan ne šte e izpratil pismo (včera
Ivan NEG FUT bePRES.3SG sendPP.PERF letter (yesterday/
/*utre).
*tomorrow)
‘Ivan probably did not send a letter (yesterday/*tomorrow).’

By contrast, negative prospectives contain auxiliary njama (NEG+FUT). Thus, (12) tells us about an event located after the time of the utterance.

(12) (Utre) njama da e napisala knigata.
(Tomorrow) NEG+FUT da bePRES.3SG Pr.writePP.PRF book.the
‘(tomorrow) she will not have written the book.’
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Given the above contrast, we can compare (9) with (13) as a prospective. Likewise, (14) corresponds to (10), with the form of an inferential and an unambiguous epistemic reading.

(13) Kato se srešnète s nego sled edna sedmitsa,  
When REFL meetPRES.2SG with him after one week,  
toj njama da e razbral istinata.  
he NEG+FUT da bePRES.3SG learnPP.PRF 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).’

(14) Nespoškon e nešto - ne šte e  
Uneasy bePRES.3SG something- NEG FUT bePRES.3SG  
razbral istinata.  
learnPP.PRF 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).’

Negation, then, supports the hypothesis that Bulgarian grammaticalizes the contrast between inferentials and prospectives, thus arguing against their unification. The above patterns also show that inferentials specialize in locating the description of events in the past or present. Patterns like (14) lack readings that extend into the future. Constructions that extend into the future such as (13) should thus be viewed as ‘predictive’, not ‘inferential’.

In sum, the grammar of Bulgarian grammaticalizes prospectives and inferentials. Inferential (ne) šte specializes for epistemic information, with actual/realis-like readings that speak of (possible) present/past events, not future events. Prospective šte and njama display readings that could be dubbed non-actual/irrealis/predictive, as they speak of events that may extend indefinitely into the future.

2.2 Tense, Person, and Number Inflections
In (1), Prospective šte does not overtly inflect. However, we earlier suggested that this form should be paired with the future auxiliary of past
futures and past future perfects, which is inflected in Bulgarian. By contrast, we mentioned that inferential šte is invariable. Let us motivate this proposed second difference between inferentials and prospectives. We illustrate past futures in (15a)-(15c), and past future perfects in (16).

(15) a. Štjah da napiša kniga i.utre /ii.čera.
   FUTIMPERF.1SG da Pr.writePRES.1SG book tomorrow/yesterday
   i. ‘I was going to write a book tomorrow.’
   ii. ‘I would have written a book yesterday.’

b. Ivan šteše da plati mnogo pari.
   Ivan FUTIMPERF.3SG da payPRES.3SG much money
   ‘Ivan {was going to pay/would have paid} a lot of money.’

c. Utre Ivan šteše da xodi na gosti
   tomorrow Ivan FUTIMPERF.3SG da goPRES.3SG on visit
   na majka si.
   at mother his
   ‘Tomorrow Ivan was going to go on a visit to his mother.’

(16) Do 17 časa včera štjah
   By 17 hour yesterday FUTIMPERF.1SG
   da sâm napisala knigata.
   da be1SG Pr.writePP.PRF book.the
   ‘By 5 o’clock yesterday I would have written the book.’

In morphology and syntax, past futures (15a)-(15c) and past future perfect (16) contain a future auxiliary inflected for the imperfect tense, person, and number. The differences are encoded in the complement. Past future complements display present verbs: xodi in (15c). Past future perfect complements contain present perfects with an auxiliary and a past participle with aspect: sâm napisala in (16). As to interpretation, past futures and past future perfects display several (complex) meanings, which we do not survey. So-called past futures, for

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3 Prospective šte was still overtly inflected for person/number in the 19th century and could be negated with ne, now obsolete but recognizable as literary, or poetic. By contrast, inferential šte has always been invariable. Interested readers are referred to (Scatton 1983) for a complete inventory and basic descriptions of Bulgarian tenses.
instance, may project into the past or the future in relation to Speech Time, (15a) ⁴ (or be used for present events, not illustrated). Readings in past futures and past future perfects fall within the non-actual/irrealis category (in Condoravdi’s terms (2000), ‘metaphysical’ and not epistemic). That is, (15-16) bring to mind (implicit) if-clauses and intentions: *I intended to have finished the book by 5 o’clock for (16).* Negation is the factor that unifies the above inflected future auxiliary with prospective *šte*, and distinguishes it from inferential *šte*. In parallel to (plain) *šte*-prospectives, past futures and past future perfects negate with *njama*, which is inflected (imperfect/person/number), (17a)-(17c).

(17) a. Ivan njamaše da plati mnogo pari. Ivan NEG+FUT IMPERF.3SG da pay PRES.3SG much money
   ‘Ivan would not pay a lot of money.’

b. Utre Ivan njamaše da xodi
   Tomorrow Ivan NEG+FUT IMPERF.3SG da go PRES.3SG na gosti na majka si.
   on visit at mother his
   ‘Tomorrow Ivan would not/was not going to go on a visit to his mother.’

c. Do 17 časa včera Ivan
   By 17 hour yesterday Ivan
   njamaše da e napisal knigata. NEG+FUT IMPERF.1SG da be PRES.1SG Pr. write PP.PRF book.the
   ‘By 5 o’clock yesterday Ivan would not have written the book.’

In sum, prospective *šte* and the inflected future auxiliary of past futures and past future perfects pattern together. By contrast, inferential *(ne) šte*

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⁴ Sentence (15a) illustrates that the Bulgarian past future auxiliary can project into the past without perfect *have* (i.e. a present perfect complement); thus, it differs from English *would*, which can only project into the past with perfect *have: Yesterday I would have written the book*. We derive this difference from the properties of the Bulgarian present in the da-complement in (15a)-(15c). In such syntactic environments, Bulgarian presents are relative tenses with a temporal reference that depends on the main clause, not Speech Time. The embedded presents in (15a)-(15c), then, are not deictic, and may function as ‘pasts’ when the main clause auxiliary is also understood as a (counterfactual) past, with an interpretive result equivalent to English *would have*. 

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may also depict past events, as in (5)-(7) and (11), but it remains invariable. In conclusion, prospectives inflect while inferentials do not.5

2.3 **Conditionals**

Conditionals also support the idea that inflected šteše patterns with prospective šte, unlike inferential šte. First consider contrary-to-fact conditionals with a past perfect in the antecedent clause, and a future auxiliary in the imperfect in the consequent clause, as in (18a) and (18b).

(18) a. Ako Ivan beše kupil tazi kăšta minalata godina
      toj šteše da {e platil/plati} mnogo pari.
      he FUTIMPERF.3SG da {bePRES.3SG paid/payPRES.3SG} much money
   ‘If Ivan had bought this house last year (but he did not), he
      would have paid a lot of money (at that past time).’

b. Ako Ivan beše kupil tazi kăšta utre
      toj šteše da {e platil/plati} mnogo pari.
      he FUTIMPERF.3SG da {bePRES.3SG paid/payPRES.3SG} much m.
   ‘If Ivan had bought this house tomorrow (but he already bought
      it), he would have paid a lot of money (at that future time).’

Counterfactuals may project into the past or future. Past (18a) is felicitous if the speaker knows both that Ivan did not buy a house last year when prices were high, and that house prices came down. Future (18b) is felicitous as a comment on what could have happened at some future time if instead of buying the house Ivan purchased, he had waited to buy. Both (18a) and (18b) speak of events that did/will not take place.

A second conditional with a future marker in (19) parallels Greek constructions Iatridou (2000) labels as ‘future less vivid conditionals’ which contemplate future possibilities. The antecedent has an imperfect verb, and the consequent the imperfect auxiliary of counterfactuals.

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5 The syntactic structure (8) for inferentials may not be suitable for Bulgarian prospectives. Due to their inflectional properties, prospectives could be in T or lower, but are unlikely to be in M; in view of §3, they resemble root modals, not epistemics.
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(19) Ako Ivan kupešē tazi kăšta utre,
    If Ivan buyIMPERF.3SG this house tomorrow,
    toj štešē da platī mnogo pari.
    he FUTIMPERF.3SG da payPRES.3SG much money
    ‘If Ivan bought/were to buy this house tomorrow (an open
    possibility), he would pay a lot of money.’

A conditional with šte in antecedent and consequent clauses is (20).

(20) Ako šte idvaš utre, az sašto šte doida.
    If FUT goPRES.2SG tomorrow, I also FUT goPRES.1SG
    ‘If you (will) go tomorrow, I will also go.’

We do not discuss the readings of the above conditionals, which depend
on the form of both the antecedent and the complement of the auxiliary.
We concentrate on negation, which formally unifies the three types: they
are negated with njama. In counterfactuals (21a) and (21b) and the
‘future less vivid conditional’ (21c), the negative auxiliary is inflected.
‘Bare’ njama in (21d) is not overtly inflected.

(21) a. Ako Ivan bešē kupil tazi kăšta minalata godina,
    If Ivan beIMPERF.3SG bought this house last year
    toj njamašē da e platil mnogo pari
    he NEG+FUTIMPERF.3SG da ePRES.3SG paid much money
    ‘If Ivan had bought this house last year, he would NOT have
    paid a lot of money.’

b. Ako Ivan bešē kupil tazi kăšta utre,
    If Ivan beIMPERF.3SG bought this house tomorrow
    toj njamašē da e platil/plati
    he NEG+FUTIMPERF.3SG da ePRES.3SG paid/payPRES.3SG
    mnogo pari.
    much money
    ‘If Ivan had bought this house tomorrow, he would NOT have
    paid a lot of money.’

c. Ako Ivan kupešē tazi kăšta utre,
    If Ivan buyIMPERF.3SG this house tomorrow,
    toj njamašē da platī mnogo pari.
    he FUTIMPERF.3SG da payPRES.3SG much money
‘If Ivan bought this house tomorrow, he would not pay a lot of money.’

d. Ako njama da idvaš utre,
   If NEG+FUT da goPRES.2SG tomorrow,
   az njama da doida.
   I NEG+FUT da goPRES.1SG
   ‘If you do not go tomorrow, I will not go.’

Inferential šte may also appear in consequent clauses in conditionals and speak of past events, (22a). Hence, it partially resembles classical counterfactuals such as (18a). However, inferential šte is negated with ne, so (22b) displays the form and meaning of an epistemic.

(22) a. Ako Ivan e kupil tazi kăšta minalata godina,
   If Ivan bePRES.3SG bought this house last year,
   toj šte da e platil mnogo pari.
   he FUT da bePRES.3SG paid much money
   ‘If Ivan bought this house last year, he must have paid a lot of money.’

   b. Ako Ivan e kupil tazi kăšta minalata godina,
   If Ivan bePRES.3SG bought this house last year,
   toj ne šte da e platil mnogo pari.
   he NEG FUT da bePRES.3SG paid much money
   ‘If Ivan bought this house last year, he must/will NOT have paid a lot of money.’

In sum, negation formally divides conditionals. Conditionals with inferentials contrast with conditionals with (a) counterfactuals, (b) less vivid futures, and (c) ordinary futures, which all pattern together. Bulgarian distinguishes between epistemic (ne) šte and prospective šte /njama. Pace Pašov (2005), we conclude that inferentials and prospectives may often overlap in form, but represent two different paradigms. In Bulgarian, then, prospectives and inferentials are grammaticalized, and prospectives specialize for future events.
3 Comparing inferential šte and epistemic modals

Bulgarian has two modals with epistemic and root readings: *trjabva* ‘must’ and *može* ‘may, can’. When they overtly inflect for tense (imperfect), person, and number, they are restricted to root readings, (23a)-(23b), but they remain invariable under epistemic readings, (25), etc.

(23) a. Ivan *trjabvaše* da otide do pazara.
    Ivan *must* da *go* to market
    ‘Ivan had the obligation to go to the market.’
    b. Predi *možeh* da b'jaham burzo no veče ne.
    Before *can* da *run* fast but already no
    ‘Before I was able to run fast but not anymore.’

We next show that inferential šte and epistemic *trjabva* and *može* share four similarities. However, we preliminarily suggest that they also differ: *trjabva* is universal, *može* is existential, and inferential šte is a degree expression.

3.1. Similarities

Inferential šte, epistemic *trjabva* ‘must’, and epistemic *može* ‘may’ are invariable (no tense, person, number inflection). They take parallel complements, (24-26). All three embed under parallel propositional attitude verbs. In such contexts, they are anchored to main clauses in ways familiar in the literature on epistemics, (27).

(24) Ivan *trjabva/ može* da *piše* pismo.
    Ivan *must/may* da *write* letter
    ‘Ivan *must/may be writing* a letter.’
    (compare with (3): Ivan šte (da) *piše* pismo.)

(25) Az *trjabva/ može* da *sâm* mu *kazvala* mnogo pati.
    I *must/may* da *be* him many times
    ‘I *must/may have told* him many times.’
    (see (5): Tja šte (da) mu *e kazvala* mnogo pati.)

(26) Ivan *trjabva/ može* da *e* *iztârpjal* mnogo prez vojnata.
    Ivan *must/may* da *be* endured a lot during war.
    ‘Ivan *must/may have endured* a lot during the war.’
(see (6): Ivan šte (da) e iztārpjal mnogo prez vojnata.)

(27) **Context:** Yesterday, we were watching a crime movie: a woman’s body was discovered. We now discuss the identity of the killer, and you state Mary’s opinion at the time:

(Včera) Maria misleše če Ivan šte / trjabva / može
Yesterday Mary thinkIMPF.3SG that Ivan FUT/ must / may
da ja e ubil.
da sheACC bePRES.3SG killPP.PRF.MASC

‘(Yesterday) Mary thought that Ivan must/may have killed her.’

Thus, inferential šte is an evidential with formal modal properties, not the properties often assigned in the literature to illocutionary markers (see Faller 2002, a.o.).

3.2. **A suggested difference: quantificational ‘flavor’**

Often, inferential šte is reminiscent of universal modals including must, but there are both declarative and interrogative contexts where it seems closer to može ‘may’, as the comparison of (28) and (29) suggests. In our view, inferential šte is a variable force modal, one without fixed quantificational force, as we argue next when we identify some its characteristics (on variable force modals see Deal 2011, Kratzer 2012, Lassiter 2010, Rullmann, Matthewson & Davis 2008, Yalcin 2007, a.o.).

(28) No zašto šte (da) gi e ubil (včera)?
But why FUT (da) theyACC bePRES.3SG killPP (yesterday)
‘But why would/should/may he have killed them (yesterday)?’

(29) No zašto može/ #trjabva da gi e ubil?
But why may/ #must da theyACC bePRES.3SG killPP
‘But why may/ #must he have killed them?’

To motivate the force variability of šte, and its distinction from trjabva ‘must’ and može ‘may’, we are inspired by Kratzer’s general theory of modality, in particular notions such as ‘at least as good a possibility of’ and ‘better possibility’, which holds when p is at least as good a possibility as q but not vice versa (Kratzer 2012:41). In our view, inferential šte identifies an option that is better than some other option, but not necessarily the best option. Thus, the gradability of šte shines
through in comparing possibilities, where this modal participates in patterns that are in principle excluded for a modal we consider universal, namely *trjabva* ‘must’, as we show next. To develop our argument, we recall the scenario in (27), adding more than one suspect to the discussion of possible killers, and first note contrasts between *može* ‘may’ (30), and *trjabva* ‘must’ (31).

(30) **Može** da e bil Ivan, ili *može*

May da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Ivan or may
da e bil Boris.
da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Boris

‘It may have been Ivan, or it may have been Boris.’

(31) *Trjabva* da e bil Ivan, ili /no

Must da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Ivan or /but
**trjabva** da e bil Boris.
must da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Boris

‘*It must have been Ivan, or but it must have been Boris.’

Sentence (30) is fine, but (31) is not felicitous because a true necessity modal like *trjabva* ‘must’ needs to report on an option that is better than all other options in all accessible worlds. In other words, in comparing two options $p$ and $q$, (31) states that each one of them is the best, i.e. better than **every other option**. Now consider inferential *šte* in comparisons with either *može* ‘may’, (32), or *trjabva* ‘must’, (33). These sentences are both felicitous, and their different readings serve to highlight the flexibility/gradability we attribute to inferential *šte*.

(32) **Može** da e bil Ivan, ili/no *šte*

May da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Ivan or/but FUT
da e bil Boris.
da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$Boris

‘It could have been Ivan, but it is more likely that it was Boris’.

(33) **Trjabva** da e bil Ivan, ili / *no*

Must da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Ivan, or/*but
*šte* da e bil Boris.
FUT da be$_{\text{PRES.3SG}}$ be$_{\text{Pp}}$ Boris

‘It must have been Ivan, but it could also have been Boris.’
On the one hand, both Ivan and Boris are possible options in (32), but Boris is the better or more likely option - the suspect with the more dubious alibi, for instance. On the other hand, (33) opposes a best to a ‘better’ or less likely option (a better alibi) without a clash. Crucially, Bulgarian (33), then, differs from (31), which constitutes an attempt to contrast two ‘best’ options. Finally, (34) involves a comparison with two šte, and is not felicitous. We suggest that its infelicity derives from setting up two options that are equal or ‘undefined’ as to which one is to be chosen as better or more likely.

(34) # šte da e bil Ivan, ili / no
     FUT da bePRES.3SG bePP Ivan or / but
     šte da e bil Boris.
     FUT da bePRES.3SG bePP Boris
     ‘#It must have been Ivan, or it must have been Boris.’

The comparison with existential može in (32), then, increases the ‘strength’ of inferential šte, which goes on to identify the better/more likely option (the suspect with a bad alibi). A comparison with the universal modal in (33) weakens šte, which then goes on to identify the less preferred/less likely option (the suspect with the better alibi). Both trjaba and može offer the compositional means to provide appropriate but nevertheless different standards of comparison.

The above situation suggests that a variable force modal is one that can associate with flexible rankings in comparisons - something that fixed universal modals cannot do. A variable force modal, then, need not be equated with the fixed force modals. Therefore, contra the first impression, šte is not a universal modal in cases where only one suspect seems to be involved, (35). This sentence is equally felicitous if Ivan is the most likely suspect out of 10 potential suspects, or if there is no other possible suspect.

(35) Ivan šte da e bil.
     Ivan FUT da bePRES.3SG bePP
     ‘It must (degree modal) have been Ivan.’
Inferential ște brings to mind expressions with a hidden degree structure such as tall (a.o. Kennedy & MacNally 2005). We understand sentences such as Mary is a tall lady by providing some scale of tallness where Mary is above average without the need of being the tallest (universal). Similarly, we suggest that inferential ște in (35) brings to mind a scale of suspects where the chances of Ivan being the killer are better than, say, those of the average possible suspect in a pool of contextually relevant possible suspects. On this view, the universal-like reading of inferential ște is a consequence of its comparative properties. To conclude, inferential ște is a degree modal without fixed quantificational force, which should not be identified with trjabva or with može.

5 Conclusions

Our views on inferential ște in Bulgarian impinge on long debated issues concerning futures, modals, and evidentials in both general linguistics and Balkan linguistics. We conclude by relating our proposals on ște to some of those issues within the framework of recent theoretical views.

We argued in favor of a grammaticalized distinction between inferential ște and prospective ște in current Bulgarian. Thus, we joined the long debate on the unity/diversity of futures, opting for a position where inferential and ‘ordinary’ futures are not unified in Bulgarian. This is in contrast with, for instance, some recent views on other languages in the Balkans including Greek (see Giannakidou & Mari 2013) and Rumanian (see Mihoc 2012).

We touched indirectly on the traditional debate about whether ordinary futures are modal or temporal. We concluded that in Bulgarian both inferential and ordinary futures are modal, but must be nevertheless distinguished from one another, which suggests that their modality may not be of the same type. Bulgarian ‘ordinary’ futures formally pattern with counterfactuals and ‘less vivid futures’, and so they are undoubtedly modal, but their agreement characteristics pair them with the types of modals Kratzer dubs circumstantial, i.e. they are not epistemic. We may then ask if the morphological connection with circumstantial modals as opposed to epistemics could also hide a semantic connection.

We have argued that inferential ște behaves like a ‘tenseless’ modal anchored to Speech Time, and takes tensed complements. By contrast,
prospective šte should be paired to past future auxiliaries, which may project into the past ‘on their own’ (i.e. without a present perfect complement). Such an opposition between inferential and prospective markers may shed light on the proper characterization of modals for the present and those for the past, which display crosslinguistic variation (Condoravdi 2002 on English and the effect of have, Giannakidou & Mari 2013 on Greek and Italian, Rivero 2014 on Spanish a.o.). The distinctions in Bulgarian may also shed light on the much-debated topic of the relation between counterfactuals and inferentials.

We have shown that inferential šte has both evidential and modal properties, and that it cannot be regarded as an illocutionary operator. Thus inferential šte may shed additional light on ongoing debates on contrasts between evidentials with modal properties and those with illocutionary properties (a.o. Davis, Potts, & Speas 2007, Faller 2002, 2011, von Fintel & Gillies 2010, Matthewson 2011, Matthewson, Davis & Rullmann 2007).

We have sketched out a proposal that evidential šte is a degree expression with comparative properties that distinguish it both from traditional universal and existential modals. Thus, we have added it to the inventory of forms that participate on ongoing debates on the proper definition of gradable modals (a.o. Deal 2011, Kratzer 2012, Lassiter 2010, Rullmann, Matthewson & Davis 2008, Yalcin 2007, Yanovich 2013).

References

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