The Slovenian future auxiliary *biti* as a tenseless gradable evidential modal:
Inferential and Concessive readings.

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June 2015 First Draft 
For a Festschrift Volume

1. Introduction
   As noted by Toporišič (2000, 398), the Slovenian future auxiliary *biti*, glossed ‘*be.Fut*’, displays two modal readings illustrated in (1) and (2) classified as epistemic (our glosses and translations). Following grammatical tradition, we label those readings **Inferential** and **Concessive** respectively.

   (1) **Inferential:**
   A: Kdo pa je ta moški z brki?
   “Who is this man with a moustache?”
   B: To bo tisti one, kako se že piše, Rozin ali Cvelbar.
   “This will be that guy, what is his name, Rozin or Cvelbar.”
   (Toporišič 2000: 398)

   (2) **Concessive:**
   Naj bo še tak revež, moj otrok je.  
   “He might be so poor a guy, but he is my child.”
   (Toporišič 2000: 398)

   Interested in epistemic *biti*, the aim of this paper is to informally explore its inferential and concessive readings, seeking inspiration in current views on modality in the framework of Kratzer (1977, 1981, 1991, 2012). We argue that epistemic *biti* is a tenseless gradable evidential modal that introduces a comparative scale involving the proposition $p$ embedded under the modal. Inferentials and Concessives may both grade the believability of $p$, and this factor unifies them under one common form.

   The paper is organized as follows. Section 2 introduces Inferentials and Concessives, compares such readings to those found with other epistemic modals in Slovenian, and concludes that epistemic *biti* exhibits unique characteristics. Section 3 develops core ideas in the paper: *biti* as a modal is (a) an evidential that cares about indirect information, (b) tenseless, and (c) a degree expression. Section 4 concludes.

2. Introducing Inferentials and Concessives
   This section notes some key features in the epistemic uses of *biti*, and briefly compares it to the modal auxiliaries *morati* ‘must’ and *utegniti* ‘may’, which also display epistemic uses. We conclude that *biti* has a unique character, which we attribute to its temporal / aspectual properties, and to its gradable nature.
2.1. Inferentials

The constructions in (3) and (4) display the modal reading we label Inferential. Roughly speaking, such constructions encode deductions concerning the likelihood of present states or events. It is well known that similar readings are possible with English will (Palmer 1967, Lyons 1977, Hornstein 1990, a. o.), as our translations suggest.¹

(3) Context: We are expecting our neighbor to visit us. When the doorbell rings, you exclaim:
To bo zdajle sosed, nihe drug.
This be.Fut.3Sg now neighbor, no.one other.
“This will/must now be the neighbor, no one else.”

(4) 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. Tatjana be.Fut.3Sg now sleep.Ppl/ Refl be.Fut.3Sg now play.Ppl
“Do not disturb her. Tatjana will/must/may be sleeping / playing now.”

The Inferential readings in (1), (3), and (4) bear some similarity to readings in constructions with modal morati ‘must’ in (5), also felicitous in the context given for (3). In spite of the apparent meaning and morphological similarities between (3) and (5), as both biti and morati inflect for person and number, we argue that the two display different semantic properties as epistemics.²

(5) To mora biti sosed, nihe drug.
This must.Pres.3Sg be.Inf neighbor, no.one other
“This must be the neighbor, no one else.”

¹ When the VP-complement of epistemic biti contains a lexical verb, as in (4), V is overt, it is inflected as a participle, and displays imperfective aspect (see §3.3):
(i) [MP bo [vp…spala…]].
When the VP-complement contains what in our translations corresponds to the English copula be in (3), we assume that the Slovenian copula is phonologically null (and likely semantically empty):
(ii) [MP bo [vp…0…sosed]].
When combined with other modal auxiliaries, the copula in the infinitive is overt, as in (5): mora biti ‘must be’. On the sketched view, the parallel but ungrammatical sequence with the future auxiliary would be with an overt participial copula as complement:
(iii) *[MP bo [vp bil sosed]].
² When combined with non-stative predicates such as igrati ‘play’, morati does not function as an epistemic modal, but as a forward-shifted or future oriented ‘root’ / circumstantial modal in the sense of Kratzer (1991), with a deontic reading: (i). Thus, the inferential reading of biti with the activity verb in (4) does not have a parallel epistemic reading in constructions with morati:
(i) Tatjana se mora zdajle igrati.
T. refl must.Pres.3Sg now play.Inf
“This Tatjana must play now.” = is obliged to play (at some future time).
# “Tatjana must be playing now. It must be that Tatjana is playing now.”
Inferential *biti* also bears some similarity to modal *utegniti* `may` in (6a), which is restricted to epistemic uses.³ Parallel to *morati* and *biti, utegniti* inflects for person and number, and is also felicitous in the context in (3). However, partially reminiscent of English *may* in its epistemic use, *utegniti* results in a less certain statement, which renders (6b) infelicitous.

(6) a. To *utegne* biti sosed.
   This may.Pres.3Sg be.Inf neighbor.
   “This may be the neighbor.”

   b. # To *utegne* biti sosed, nihče drug.
   This may.Pres.3Sg be.Inf neighbor, no.one other
   “This may be the neighbor, no one else.”

In sum, auxiliary *biti* displays an epistemic reading of the inferential /conjectural type in a variety of contexts also suitable for some modal auxiliaries with epistemic roles in Slovenian: *morati* `must`, which can also function as a root/circumstantial modal, and *utegniti* `may`, which lacks root/circumstantial readings.

2.2. Concessives.

Examples (2), (7), and (8) illustrate the reading we label **Concessive** following grammatical tradition. Roughly speaking, Concessives display an interpretation that involves some form of doubt, denial, disagreement, or rejection concerning a (sometimes reported) event or state, as the contexts in (7) and (8) suggest.

(7) Context: Upon being told that your boyfriend failed his entrance exam to the University, you state:
   Naj bo še taka zguba, (ampak) jaz ga ljubim.
   Particle be.Fut.3Sg such loser, (but) I him love.Pres.1Sg
   “He might be a big loser, but I love him.”

(8) Context: Upon being informed by grandma that Tatjana has been playing contentedly in her room all afternoon without crying, Tatjana’s mother states:
   Tatjana se bo zdajle zadovoljno igrala, ampak navadno je zelo siten otrok.
   Tatjana Refl be.Fut.3Sg now hap.Ppl, but usually be.Pres.3Sg very grumpy child
   “Tatjana might be playing happily now, but usually she is a very grumpy child.”⁴

Concessive statements have caught the attention of both theoretical linguists and philosophers in the context of *might* ⁵, which in many varieties of English is a possibility

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³ Similar to *morati* `must` and unlike *utegniti* `may`, *biti* may display root/circumstantial readings, which we do not discuss. For instance, in imperative sentences, *biti* may be used as a deontic modal with an (expected) future orientation (also (Toporišič 2000)).

⁴ Concessives in copular constructions require the particle *naj* (7). With lexical verbs in (8), the particle is not possible. This shows that the doubt/denial flavor does not reside in the particle, but we have no explanation for the distributional contrast.

⁵ See Portner (2009: §4.2) and von Fintel and Gillies (2005/2011, 2010) for discussion and references.
modal restricted to epistemic uses. Slovenian *biti* shares characteristics of *might* that prove particularly important in the context of the linguistic encoding of knowledge, so we briefly mention some of them.

A common view regarding main clause epistemics such as *morati* ‘must’ in (5) is that, oversimplifying, they reflect a knowledge state located exclusively in the speaker. However, main clause modals with concessive readings have the interesting feature of escaping this characteristic. In concessive (7), for instance, a speaker that asserts *Biti p* (where *p* corresponds to -be a big loser-) may consider that *p* is false in the actual ‘real’ world. The sentence may thus be indicative of somebody else’s state of knowledge, belief, or claim. Concessive constructions, then, point towards the need to encode in modal expressions some knowledge or information that does not reside just in the speaker.

*Biti* need not be just anchored in the speaker. Thus, it can be embedded under a negated first person propositional verb such as *ne vem* ‘I do not know’ in (9a) and (9b), a much-debated type of sentence in the linguistic and philosophical literatures. In this case too *biti* resembles English *might*.

(9)  

a. Ne vem, ali bo Tatjana zdajle spala/ se bo Tatjana zdajle igrala.
   Neg know.Pres.1Sg, if be.Fut.3Sg T. now sleep.Ppl/ Refl be.Fut.3Sg T. now play.Ppl
   Samo babica, ki pazi nanjo, zagotovo ve.
   Only grandma, who look.Pres.3Sg after.her, for sure know.Pres.3Sg
   “I do not know if Tatjana is/ might be sleeping/playing now. Only
grandma, who is babysitting, knows for sure.”

b. Ne vem, ali bo tole užitna goba.
   Neg know.Pres.1Sg, if be.Fut.3Sg this edible mushroom.
   Samo Janez ve zagotovo ker je izkušen gobar.
   Only J. know.Pres.3Sg for.sure because be.Pres.3Sg experienced
   mushroom.gatherer.
   “I do not know if this {is/might be} an edible mushroom. Only Janez
   knows for sure since he is an experienced mushroom-gatherer.”

Should we call (9a) and (9b) Inferentials or Concessives? The distinction between the two seems blurred in these examples, which involve a state of knowledge that is not the speaker’s, and seem to lack a flavor of either agreement or denial. If epistemic *biti* introduces a comparative scale based on ‘believability’, as we stated earlier, (9a) and (9b) represent a case where the scale is not active.

Epistemic *biti* can also be used felicitously when seeking information from a presumably more informed participant, as in (10). Here *biti* may correspond to English

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6 P is also known as *prejacent*, a term from medieval logic (re)introduced by von Fintel (2006), which we adopt. In syntax, prejacent *p* roughly corresponds to the proposition encoded in the VP-complement of *biti*. This complement contains (a) a lexical verb with the morphology of a participle marked for aspect, or (b) a phonologically null copula with a stative adjective or a NP, as in footnote 1.
might, but also to will or to could. Again it is difficult to dub interrogatives of type (10) as ‘inferentials’ or ‘concessives’ - another case where the scale in biti is not active. 7

(10) Ali bo Tatjana zdajle spala/ se bo Tatjana zdajle igrala?
Q.particle be.Fut.3SgT Tatjana now sleep. Ppl / Refl be.Fut.3SgT. now play. Ppl
‘Will/could/might Tatiana be sleeping / playing now?’

In the concessive reading with doubt/denial, Slovenian biti finds a close equivalent in English might, but not in English will, as our translations suggest. In our terms, English will may function as an epistemic in inferences / conjectures at Speech Time, but unlike Slovenian future biti, it does not function as a concessive that expresses some form of doubt. In our view, this is not a lexical peculiarity of English will compared to Slovenian biti, but identifies a widespread type of cross-linguistic variation as to the presence / absence in future forms of inferential and concessive readings. For instance, Spanish futures display the two readings (see (Rivero 2014)), while Bulgarian futures are limited to the inferential type (see (Rivero and Simeonova in press)).

In Slovenian, then, Inferentials and Concessives may not be totally identical in interpretation, but they are based on the same form: auxiliary biti. Besides this common morphology, Inferentials and Concessives are difficult to tease apart in some instances, as we just saw, and share two interpretive properties that make it desirable to unify them. On the one hand, the two encode some state of knowledge, which we propose is a form of acceptance by the speaker in prototypical Inferentials, and a case of doubt / denial by the speaker in prototypical Concessives. In this sense, they both belong to the realm of epistemics. On the other hand, Inferentials and Concessives alike may allude to events situated at Speech / Utterance time, or as we show in §3.3 to events before Speech Time. Thus, both Inferentials and Concessives lack an orientation situating events after Speech Time traditionally viewed as the core characteristic of future forms.

2.3. Comparing biti with modal auxiliaries in Slovenian

The comparison of epistemic biti with the modal verbs morati ‘must’ in (5) and utegniti ‘may’ in (6a) serves to highlight the pervasive chameleon-like modal force in this future auxiliary. Our claim is that such a chameleon-force is one of the factors that differentiates biti from both morati and utegniti.

First, (2) illustrates that biti is felicitous in contexts suitable for morati, which fits the description of necessity / strong modals related to universal quantificational force in the semantic literature. Second, biti is felicitous in contexts suitable for possibility / weak modals such as utegniti ‘may’, a type often connected to existential quantificational force in the literature. In our view, a third characteristic that makes biti particularly interesting is to be felicitous in cases where universal morati ‘must’ is excluded: namely, Concessives often coupled to doubt, as in (11a-c). In addition, we argue in §3.3 and §3.4

As stated, we borrow the term ‘concessive’ and its flavor of doubt / denial from the grammatical tradition. Our term has a narrower sense than ‘concessive knowledge’ in philosophical and semantic discussions, where it usually alludes to information/knowledge states not attributed to the speaker. This broader definition based on anchoring relations, not on a scale of believability/ acceptance/denial applies to (9), (10), (7) and (8), while we suggest that in these non-speaker-centric examples biti’s scale is not active.
that *biti* also differs from the possibility modal *utegniti* with respect to temporal /aspectual relations, and gradability.

In simple terms, *biti* is comfortable when playing the role of an Inferential as shown above. In such a case, it may share contexts both with universal *morati* ‘must’ and with existential *utegniti* ‘may’. In addition, however, *biti* is equally comfortable in contexts that involve some form of doubt /denial as in the coordination patterns in (11a-c), where *morati* is in principle excluded. Such coordinations may sound more natural with some form of ellipsis, as in (11b) and (11c), which does not affect our argument.

(11) a. Naj bo zguba ali naj ne bo zguba, jaz ga ljubim.
Pronoun be.Fut.3Sg loser or Pronoun Neg be.Fut.3Sg loser, but him love.Pres.1Sg

b. Naj bo zguba ali naj ne bo, jaz ga ljubim.

c. Naj bo zguba ali ne, jaz ga ljubim.

“He might be a loser or (he might) not (be a loser), but I love him.”

To repeat, necessity *morati* specializes for Inferential readings and cannot signal the flavor of doubt / denial we assign to concessive *biti*. The comparison between concessive (11a-c) with felicitous *biti* and (the odd sounding) (12a-c) with infelicitous *morati* serves to illustrate the proposed difference.

(12) a. ?# Mora biti zguba ali ne more biti zguba,
Must.Pres.3Sg be loser or Neg can.Pres.3Sg be.Inf. loser,
jaz ga ljubim.

b. ?# Mora biti zguba ali ne more, jaz ga ljubim.

c. ??# Mora biti zguba ali ne, jaz ga ljubim.

“He must be a loser or (he can)not (be a loser), but I love him.”

We argue in §3 that the contrast between (11a-c) and (12a-c) is not to be understood as an argument in favor of *biti* being similar to *utegniti*. In our view, the future auxiliary also differs from the existential modal. In sum, epistemic *biti* has unique properties that distinguish it both from universal *morati* and from existential *utegniti*, even though *biti* may be felicitous in contexts suitable for either one of those modals.

3. Characterizing epistemic *biti*: a gradable tenseless evidential modal

In §2, we noted that auxiliary *biti* is interesting as an epistemic from both theoretical and descriptive points of view. In this section, we characterize this modal expression in more detail.

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8 In Slovenian, the negative version of epistemic *morati* ‘must’ is the negated modal *moči* glossed ‘can’, which inflects for person, number, and tense. This alternative is shown in the second conjunct of (12a) and (12b) as *ne more* (Pres.3Sg). Coordinations of type (12) are at most marginally acceptable, with (12c) close to incomprehensible, so are also infelicitous. Infelicity under a concessive reading is expected under the view that epistemic *morati* has universal force as a lexical property. However, we cannot adopt the view that a universal-like flavor is inherently incompatible with doubt / denial because we later see examples in §3.4 where epistemic *biti* takes on a universal-like flavor, but still conveys doubt / denial (i.e. a Concessive). In our view, the difference is that *biti* introduces a scale, while *morati* does not.
Our ideas are inspired by Kratzer’s theory of modality (1977, 1981, 1991, 2012), so in §3.1 we briefly sketch basic components in this theory. In §3.2 we argue that epistemic *biti* invokes indirect evidence, so it can be classified as an evidential modal. In §3.3 we examine some temporal and aspectual relations involving epistemic *biti*, and conclude that the future auxiliary is a ‘tenseless’ modal, in partial contrast with epistemic *morati* and *utegniti*. Section 3.4 adds epistemic *biti* to the inventory of gradable modals in natural language, showing that it differs from *morati*, and *utegniti*. It tentatively speculates on the type of scale that may unify Inferentials and Concessives under a common morphology.

3.1. Sketching Kratzer’s theory of modality

We outline in brief and oversimplified terms the well-known approach to modality developed by Kratzer (1977, 1981, 1991) recapitulated and updated in (Kratzer 2012). This theory often considered the standard in the current linguistic literature assigns to modal expressions two parameters. The first is called a Modal Base, and the second called an Ordering Source imposes restrictions on the Modal Base (see Portner 2009: §3.1 for a formal introduction, and technical details).

On this approach, modals are treated as quantifiers over possible worlds with different quantificational strengths, and allow for different interpretations depending on which subset of possible worlds /propositions they quantify over. The Modal Base provides a set of relevant propositions. The Ordering Source may be empty, but when present it orders or ranks the propositions in the Modal Base according to some preference. The basic division is between epistemic modality, which as mentioned in §2 usually concerns an individual’s or a group of individuals’ knowledge or evidence, and circumstantial (also known as ‘root’) modality, which concerns facts about the world.

Let us apply these ideas to Slovenian *morati* ‘must’ by way of exemplification. This modal may behave as an epistemic, as in (5) partially repeated in (13a), or as a circumstantial / ‘root’ modal, as in (i) in footnote 2 partially repeated in (13b).

(13) a. To *mora* biti sosed, nihče drug.
   “This must be the neighbor, no one else.”

b. Tatjana se *mora* zdajle igrati.
   “Tatjana must play now.” = is obliged to play (at some future time).

Within a Kratzerian view, *morati* in (13a) and (13b) is not ambiguous, but requires contextual supplementation as a trigger for its various readings. In the readings in (13a) and (13b), it counts as a necessity modal /quantifier whose modal force is fixed as ∀, an inherent lexical property. However, this modal may access /quantify over two different sets of propositions, corresponding to two different Modal Bases: an epistemic one in inferential (13a), and a circumstantial one in deontic reading (15b).

Adopting a speaker-centric view (see §2), *morati* in (13a) says that in every world/proposition compatible with what the speaker knows, the person at the door is the neighbor: an Epistemic Modal Base. In deontic (13b), *morati* says that in every world compatible with some facts in the actual world, Tatjana plays. This Circumstantial Modal Base embodies notions also grouped under ‘root modality’.

The Ordering Source orders / ranks the propositions in the Modal Base. With the
Epistemic Modal Base in (13a), an Ordering Source could, for instance, be representative of the added expectations/beliefs of the speaker, as suggested by Portner (2009: §3.1) for English must. This constitutes a Doxastic Ordering Source, which ranks what the speaker knows or his/her information state against his/her beliefs/expectations. An Ordering Source as a filtering device can weaken the strength in a modal claim, so a statement with Slovenian morati counts as weaker than the equivalent non-modalized assertion corresponding to the prejacent p (i.e. To je sosed “This is the neighbor” for (13a)). With the Circumstantial Modal Base for (13b), the Ordering Source is Deontic. For instance, the context could provide some relevant facts in the actual world, such as the norms in a primary school that impose the obligation to play during recreation periods on the children.

To sum up, morati in (13a) and (13b) is unambiguous, with an inherent modal force of necessity. The difference between the two readings first rests on different Modal Bases for this lexical item based on / derived from extra-linguistic context, or determined by the precise linguistic form of the construction. For instance, adding the adjunct In view of the school rules to (13b) eliminates the epistemic option for this modal. For (13a), we have suggested an Epistemic Modal Base centered on the speaker. An Ordering Source may rank the propositions in the modal base along different dimensions (strength, expectations, rules, the law, etc.). Inspired by Portner on English must, in (13a) we have opted for an Ordering Source relying on the speaker’s expectations/beliefs. For (15b), the Modal Base is Circumstantial, and the Ordering Source is Deontic.

Slovenian modals including utegniti *may* have different characteristics. This modal has an inherent existential force, and only an Epistemic Modal Base, lacking a circumstantial option. Utegniti, then, contrasts with English may, which serves to illustrate that modals that look apparently similar in two languages may nevertheless differ in Modal Bases or Ordering Sources.

Gradability is a much-debated topic addressed by Kratzer when she introduces the notion of comparative possibility (1981, 1991, 2012: 46-49). She proposes that modals with variable strength (labeled ‘upper-end degree modals’) should be analyzed in terms of the interaction between a Modal Base and an Ordering Source, just like other modals. For Kratzer, variable-strength modals should not be compared to must or to may, but to expressions of the type of It is more probable that, with a comparative scale based on the best option/world, or the ‘upper-end’ in a scale of alternatives in terms of possibility. Such upper-end degree modals display variable strengths when their domain of quantification / Modal Base is restricted by an Ordering Source, which results in the weakening of the claim.

Gradable modality has received considerable attention in the literature9, and several alternative proposals, now exist, including probabilistic ones. A criticism of Kratzer’s approach is that it does not offer sufficient flexibility when comparing different groups of alternatives that need not all rank as the best within their own domain. Oversimplifying, the best option in a scale of, for instance, likelihood / possibility may need to be compared to an option that does not rank as the best in a scale of desirability, or vice versa. This is difficult to accomplish under Kratzer’s ideas. One proposal to endow gradability with more flexibility consists in the assumption that gradable modals

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carry an extra degree argument / evaluation component that introduces an independent scale. On this view, gradable modals derive their scalar properties not from an Ordering Source that restricts their Modal Base, but from the characteristics of the scale they introduce.\textsuperscript{10}

In §3.4, we add biti to the inventory of modals with gradable characteristics. However, we do not offer evidence that would allow us to choose between the two analytical options just sketched, a complex topic under much current debate.

3.2. \textit{Biti} as an evidential

With the above background, our first step is to show that epistemic \textit{biti} has evidential properties. That is, this modal invokes indirect propositional information, and is not felicitous if the information is direct in the sense that the event encoded in the prejacent proposition or \( p \) is directly observed. \textit{Biti} has evidential semantics, so its Modal Base can be dubbed evidential in the sense used by Kratzer (2012: Chapter 2). Informally, \textit{biti} invokes some external information, in addition to some state of knowledge in the speaker. It is often assumed that Modal Bases with similar characteristics are restricted by an indirect evidence presupposition, along lines first proposed by Izvorski (1997). Adopting this idea, we assign to epistemic \textit{biti} an Evidential Modal Base coupled to an indirect evidence presupposition.

To show that epistemic \textit{biti} requires that the evidence be indirect, let us consider (4) partially repeated as (14a). This sentence is infelicitous if uttered by grandma when she opens the door to Tatjana’s room, and sees that Tatjana is sleeping. This context involves propositional information that counts as direct evidence\textsuperscript{11}, and calls for the present tense verb \texttt{spi} ‘is sleeping’ in (14b), not the future periphrasis \texttt{bo ... spala} in (14a).

(14) a. #Tatjana \texttt{bo zdajle spala.}
    Tatjana \texttt{be.Fut.3sg now sleep.Ppl}
    “#Tatjana will/must/may be sleeping now.”

b. Tatjana \texttt{zdajle spi.}
    Tatjana now sleep.Pres.3Sg
    “Tatjana is sleeping now.”

We can further support the idea that epistemic \textit{biti} invokes indirect information with (15). This paradigm adapts to Slovenian a context given by Von Fintel and Gillies (2010) in relation to the evidential component in English \textit{must}. In this deductive context based on indirect information, the Slovenian future auxiliary is also felicitous so parallel to English \textit{must}. Cross-linguistic variation affects many dimensions in the noted behavior of \textit{biti}, and it also affects this particular pattern. Slovenian is comparable to English and to Spanish (see (Rivero 2014)) but contrasts with Italian, where futures are reported to be infelicitous in contexts such as (15) (Pietrandrea 2005, Giannakidou and Mari 2013).

\textsuperscript{10} Villalta (2009) argues in favor of an extra degree argument in predicates that select the Subjunctive mood in Spanish. She offers a detailed comparison between an approach that involves a degree argument, and one that involves an Ordering Source. See also (Portner 2009).

\textsuperscript{11} In the typological literature (Willett 1988, and others later), visual perception is a sign of direct evidence. In our propositional approach, visual and auditory perception can also signal indirect evidence, as when I see/hear that Mary is laughing and infer that she is happy.
Context: An individual has lost a ball, and knows that it is in either box A, box B, or box C. Without opening box C, the individual then states:
Žoga je v A ali B ali C. Ni v A. Ni v B. Torej bo v C.
“The ball is in A or B or C. It is not in A. It is not in B. So it must be in C.”

If the relevant context was one of direct evidence, i.e. if the individual in (15) opened box C by accident and saw the ball there, then future biti would be infelicitous, and the present copula je in (16) would be a felicitous choice.

Context: the individual opens box C by chance, sees the ball, and states:
Žoga je v C.
“The ball is in C.”

Sentences (14a-b), (15), and (16) support the conclusion that a prejacent proposition \( p \) (Tatjana sleep; Ball in C, etc.) is felicitous with epistemic biti when the speaker’s evidence for that proposition counts as indirect, not when it counts as direct. In sum, epistemic biti is a modal that contains indirect evidential semantics.\(^{12}\)

3.3. \textit{Biti} as a tenseless modal: temporal and aspectual relations

Traditionally, biti is associated typically with futurity or a forward-shifted reading that follows Speech Time. The inferential reading about present events is mentioned as a special use. Inferentials and Concessives, however, do not participate in forward-shifted readings, which raises questions of theoretical interest about temporal and aspectual relations addressed in this section.

We mention a double temporal-like relation often associated with modal expressions in the current literature, before we turn to epistemic biti. Consider (17a-b) where the duality seems clear: both constructions constitute present inferences made at Speech Time, and concern an event held to have happened at some earlier past time before Speech Time.

Context: Grandmother goes to Tatjana’s room, sees an empty bed, and states (a) or (b), which are both felicitous:

a. Tatjana je \textit{moralna} danes zjutraj oditi v šolo zelo zgodaj.
   Tatjana be.Pres.3Sg must.Ppl today morning go.Inf in school very early.
   “This morning Tatjana must have left for school very early.”

b. Tatjana je \textit{utegnila danes} zjutraj oditi v šolo zelo zgodaj.
   Tatjana be.Pres.3Sg may.Ppl today morning go.Inf in school very early

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\(^{12}\) For epistemic futures with evidential properties in other languages see (Giannakidou and Mari 2013 on Greek and Italian), (Mihoc 2013, 2014 on Romanian), (Rivero 2014 on Spanish) and (Rivero and Simeonova in press on Bulgarian). As we suggest in passing, however, there is cross-linguistic variation when detailed characteristics in such evidential futures are taken into consideration.
“This morning Tatjana may have left for school very early.”

In syntax and morphology, the modals in (17) encode past events in a present tense auxiliary combined with the modal participle functioning as its complement. The modal agrees in gender / number with the nominative subject: $[\text{Tense je [Modal morala]}]$. Morati and utegniti, then, differ from English must and may, and inflect for tense (plus person, gender, and number) in a way reminiscent of Spanish modals, which do not agree in gender/number with nominative subjects: $[\text{Tense ha [Modal debido]}]$ ‘must have’ in (18).

(18) Tatjana ha debido salir para el colegio pronto. Spanish Tatjana have.Pres.3Sg must.Ppl go.out.Inf towards the school early. “Tatjana must have left for school early.”

As to interpretation, Slovenian, Spanish, and English are parallel as to the relevant duality we will describe with two labels coined by Condoravdi (2002): “Temporal Perspective” and “Temporal Orientation”. On the one hand, (17a-b), (18), and English translations share the same Temporal Perspective, which is present: they are inferences or modal claims made at Speech Time. On the other hand, all three share a similar Temporal Orientation, which is past: the described events are located at a moment that precedes Speech Time.

Now let us consider epistemic/evidential biti regarding Temporal Perspective and Temporal Orientation, which as far as we know have not been addressed in the tradition. Regarding Temporal Perspective, Inferentials such as (4) partially repeated in (19) and Concessives such as (8) partially repeated in (20) illustrate that main clause epistemic biti systematically adopts a present Temporal Perspective.

(19) Tatjana bo zdajle spala. Tatjana will be sleeping now. “Tatjana will be sleeping now.”

(20) Tatjana se bo zdajle zadovoljno igrala, ampak navadno je zelo siten otrok. Tatjana might be playing happily now, but usually she is a very grumpy child.”

Cross linguistically, a present Temporal Perspective is a common option with epistemic modals (but admits exceptions). Morati and utegniti also identify inferences made a Speech Time in (17a-b), with the past morphology encoding a past reading concerning prejacent $p$, not the modal (i.e. the modal scopes over Tense in the semantics).

As to Temporal Orientation, epistemic biti in (19) and (20) describes events that occur / are ongoing at the time of the inference, thus at Speech Time. Thus, biti may associate with a present Temporal Orientation coupled to its consistent present Temporal Perspective.

Inferences about past events have not been mentioned in the literature on epistemic biti. However, when suitable contexts are constructed, often not an easy task. they are possible, their interpretation is clear, and they sound natural to several native informants. To this effect, consider (21) and (22). 13

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13 In (22), bosta displays dual number, which does not affect our argument on temporality.
(21) **Context:** Yesterday, there was some food in the freezer with an old expiry date, so your mother threw it out. So you make a guess about the specific food that was thrown out and state:

To **bo** tisti zamržnjeni jogurt, ki smo ga kupili že zdavnaj.

This **biti.Fut.3Sg** that frozen yogurt, which be.Pres.1Pl it bought already ages ago

“That must have been that frozen yogurt, which we bought ages ago.”

(22) **Context:** Yesterday, there was an accident and two people died. So you make a guess about the identity of the two dead people, and state:

To **bosta** Peter in Tone, saj sta bila divja voznika.

This **biti.Fut.3Dual** Peter and Tone, for be.Pres.3Dual been wild drivers

“That must have been Peter and Tone, for they were wild drivers.”

In our view, (21) and (22) illustrate present inferences about past events, where epistemic **biti** associates with a present Temporal Perspective like in (19) and (21), which is instead coupled to a past Temporal orientation.

In other words, (21) and (22) are modal claims made at Speech Time that share Temporal Orientation with **morati** in (17a) and **utegniti** in (17b), or describe past eventualities. An important morpho-syntactic difference, however, distinguishes epistemic **biti** from epistemic **morati** and **utegniti**. In (17a) and (17b) past Temporal Orientation is overtly encoded in a past morphology. By contrast, the future auxiliaries in (21) and (22) display the same morphology as those in (19-20), which instead depict present events/ or associate with a present Temporal Orientation.

What theoretical conclusions can we draw from the above patterns? In our view, the behavior of epistemic **biti** support at least two perhaps surprising assumptions. The first is that in semantics such a modal should be considered a ‘tenseless’ or Zero-tense item with respect to both its Temporal Perspective and its Temporal Orientation. The second assumption connected to the first is that auxiliary **biti** considered a traditional ‘future’ seems to lack the future orientation often viewed as an inherent lexical property of modals in the current literature. Let us discuss each ‘surprising’ assumption in turn.

First, why is epistemic **biti** a ‘tenseless’ / Zero-tense modal in semantics? On the one hand, its Temporal Perspective is always present, as we saw. This makes it possible to treat **biti** as a modal that derives its Temporal Perspective from being anchored to Speech Time. On this view, the modal does not combine with an independent tense category that could provide it with a past / present Temporal Perspective, and it also fails to display an inherent Perspective as a lexical property.

On the other hand, as to Temporal Orientation, epistemic **biti** is suitable to describe both present and past events, as illustrated. Thus, it can also be assumed that this Zero-tense modal directly anchored to Speech Time fails to impose a particular Temporal Orientation on its VP-complement / prejacent p. That is, **biti** takes a tenseless complement, which may describe either present or past events because Temporal Orientation is defined by context, not by linguistic form. If Temporal Orientation is contextually derived with epistemic **biti**, the context in (21) and (22) imposes a past Temporal Orientation, and the one in (19) and (20) a present Temporal Orientation. Thus epistemic **biti** differs from both **morati** and **utegniti** regarding Temporal Orientation.
Our second surprising assumption is related to the first. It is that epistemic biti does not seem to display an inherent semantics that is future oriented. To make this idea clear, we first note a common view on modals we illustrate with English: modals display an inherent lexical semantics that is future, or shift towards the future as an inherent property in their lexical entry (Enç 1996, and many others later). On this view, *It might rain (tomorrow)* displays a forward-shifting property natural in modals (i.e. an intrinsic future Temporal Orientation unless additional mechanisms intervene). A first mechanism to block this orientation in English is progressive morphology: it keeps modals in the present, as in *It might be raining (now).* A second mechanism is perfect(ive) have: it may shift modals towards the past, as with *It might have rained* - an inference about a past event: Yes, we just checked, and it did rain.

The behavior of epistemic biti supports a perhaps unlikely conclusion: to repeat, this modal does not appear to be future-oriented, as it may describe past events without the help of any overt past morphology, even though it inflects for person and number. On this view, then, epistemic biti contrasts with morati, with utegniti as we saw, but also with the English modals. This absence of inherent future orientation supports our proposal that epistemic biti is altogether ‘tenseless’, both as to its Temporal Perspective and, more strikingly, also as to its Temporal Orientation.

With the above remarks in mind, let us consider biti’s interactions with aspect, which again supports our general views. The Slovenian future auxiliary may receive inferential and concessive readings only when its complement verb is imperfective, not perfective. With a perfective verb, the reading is necessarily prospective. This is not an isolated fact, as Modern Greek establishes a parallel distinction (see Giannakidou and Mari 2013). However, as far as we know, the consequences of this situation have remained unexplored. In this paper, we provide an answer regarding the theoretical significance of the aspectual contrast in Slovenian.

Let us illustrate. The minimal pairs in (23a-b) and (24a-b) indicate the aspectual contrast. With appropriate contexts, (23a) and (24b) with imperfective spala and igrala may be interpreted as present inferences involving an ongoing sleeping or piano-playing event. By contrast, (23b) and (24b) with perfective za-spala and za-igrala can only

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14 Our oversimplified remarks on English might omit mention of counterfactual readings (Condoravdi’s ‘metaphysical’). We refer interested readers to Condoravdi (2002) for discussion and references. It is important that epistemic biti does not have counterfactual readings, unlike English might. In Slovenian, such readings reside in the invariable conditional form bi, which we illustrate in (i-ii). Conditional bi differs from the epistemic future in at least three morpho-syntactic dimensions, which in our view prevent the unification of the two forms. (a) Bi does not inflect for person / number, while the epistemic future inflects. (b) Bi takes perfective verbs as complements: the traditional ‘present conditional’ in (i); the epistemic combines with just imperfective verbs, as in (23) and (24). (c) Bi may combine with an overt form of past morphology: the traditional ‘past conditional’ with an additional participle biti in (ii). This combination is not possible with epistemic biti.

(i) Janez bi pre.bral tisto knjigo, a je ni nikjer našel.
   Janez Cond Prefix.read.Perf.Ppl that book but be.Pres3Sg it not nowhere find.Ppl
   “John would have read that book, but he could not find it anywhere.”

(ii) Janez bi bil pre.bral knjigo.
   “John would have read a book (but he did not).”
depict an event that follows Speech Time, or display a forward-shifted reading with a future Temporal Orientation.

(23)  
A. Tatjana bo zdajle spala.
   Tatjana be.Fut.3Sg now sleep.Impf.Ppl
   “Tatjana will/may/might/could be sleeping now (as I speak).”

b. Tatjana bo zdajle za.spala.
   Tatjana be.Fut.3Sg now Prefix.sleep.Perf.Ppl
   “Tatjana will now fall asleep.”

(24)  
a. Tatjana bo zdajle igrala Chopina.
   Tatjana be.Fut.3sg now play.Impf.Ppl Chopin
   “Tatjana must/may/might be playing Chopin now (as I speak).”

b. Tatjana bo zdajle za.igrala Chopina.
   Tatjana be.Fut.3Sg now Prefix.play.Perf.Ppl
   “Tatjana will play (i.e. begin to play) Chopin now.”

In appropriate contexts too, stative predicates that the Slavic tradition associates with the ‘imperfective vid’ label may also display inferential or concessive readings, as (25) and (26) illustrate. Such readings seem habitual, a type usually available to imperfective forms.

(25)  
Context: You are told that Tatjana studied English for ten years, so you conclude:
   Tatjana bo odlično znala angleščino.
   Tatjana be.Fut.3Sg excellently know.Impf.Ppl English
   “Tatjana will/ must/ may/ might know English perfectly.”

(26)  
Context: We are wondering who to ask to help us with English at a meeting with foreign partners.
   Speaker A: Tatjana studied English for ten years.
   Speaker B: Tatjana bo odlično znala angleščino,
   Tatjana be.Fut.3Sg excellently know.Impf.Ppl English,
   ampak jo redko govori v javnosti.
   but it rarely speak.Pres.3Sg in public.
   “Tatjana might know English perfectly, but she rarely speaks it in public.”

Above we noted a common view, which is that modals display an inherent future orientation, with perfective have in the particular case of English locating them in the past. In view of the aspectual contrast we just introduced Slovenian represents a rather different situation. In this language the effect of the perfective morphology encoded in verbal prefixes such as za is to forward-shift modal biti towards the future, not to turn it towards the past.

In our view the contrasting effects of perfective and imperfective verbs reinforces the idea that modal biti is tenseless from a semantic perspective (also from a morphological perspective). Those effects indicate that biti is not inherently future-oriented / does not impose a specific Temporal Orientation on its complement. The
opposition between morphologically perfective and morphologically imperfective verbs determines the Temporal Orientation in this auxiliary, suggesting in addition that Temporal Orientation relies on aspecual relations.

Let us now briefly mention a view on aspect that can capture the contrasting effects of perfective and imperfective morphology on biti and in particular the apparently surprising effect of perfective aspect. Looking at constructions where biti combines with imperfective verbs, note that they display the ongoing and habitual readings traditionally associated with the semantics of imperfectivity (Arregui, Rivero, and Salanova 2014 for recent discussion). It can then be proposed that such constructions encode an IMPF operator as a Viewpoint category (Smith 1991, 1997), and this operator contrasts with a PERF operator signaled by the perfective morphology on the verb, within the rough structure [MODAL [Aspect IMPF/PF [VP]]].

On this view, the morphological prefix standing for PERF provides tenseless biti with a Temporal Orientation that can only be prospective for the reasons we suggest immediately below. By contrast, we propose that the extra-linguistic context combines with the notoriously ambiguous Viewpoint operator IMPF signaled by the imperfective morphology of the verb to allow tenseless biti to associate with a present, a past, a future Temporal Orientation, or a habitual reading. In sum, IMPF is the tool behind the modal’s association with a variety of Temporal Orientations, while the PERF operator is the tool that necessarily pushes modal biti into the future.

The question now is as to why perfective aspect forward-shifts the modal auxiliary, allowing for just a prospective interpretation as in (24b), and blocking the readings we have dubbed inferential and concessive in this paper that speak of events in the ‘actual’ world?

To answer this question, we first reiterate our proposal that biti is a Zero-tense modal systematically anchored to Speech Time, and that this is the factor that derives its systemically present Temporal Perspective. Our second step consists in coupling this assumption with the traditional definition of (Viewpoint) Perfective Aspect: Event Time is included in Reference/Topic Time (Klein 1994 and others later).

If biti is directly anchored to Speech Time, as we propose, and if we further assume that Speech Time is an instantaneous moment, the composition of this modal with Perfective Aspect immediate poses a conflict in search of some solution. The conflict is that Perfective Aspect imposes the requirement that the event described by the complement of biti, or prejacent p, must fit inside Speech Time, which anchors biti without the intervention of Reference/Topic time. In other words, in examples of the type in (24b), the effect of Perfective aspect is to impose what looks like an impossible requirement, which is that the event of Tatjana playing some Chopin be included in / fit into the instantaneous moment representing Speech Time. However, (24b) is not ungrammatical, or out on semantic grounds, so the conflict is solved in Slovenian. The solution adopted in this case consists in forward-shifting the auxiliary. That is, PERF provides it with a Temporal Orientation that projects into a future, which, unlike Speech Time, need not be instantaneous.

To sum up, our answer on why Perfective aspect induces a future orientation on modal biti consists in the proposal (a) that the modal is tenseless and directly anchored to Speech Time, which provides it with a Temporal Perspective, (b) that Speech Time is an instantaneous moment, (c) that PERF requires that the described event / p be
included in Reference/Topic Time, which equals Speech Time for a Zero-tense modal. (d) The last requirement identifies a conflict. The conflict consists in an attempt to include an extended event in an instantaneous moment. (e) The conflict is solved by assigning to the modal a future Temporal Orientation.\textsuperscript{15}

Combinations of \textit{biti} with imperfective verbs display several types of temporal readings consistent with IMPF. By contrast, when \textit{biti} combines with a perfective verb the ambiguity disappears, and the Temporal Orientation must be future. Thus, future Temporal Orientation with this modal depends on Perfective Aspect, that is on an aspectual and not a temporal relation.

The proposal we just made regarding the effects of Viewpoint Aspect have as one important consequence that they ‘blend’ epistemic \textit{biti} with prospective \textit{biti}, which we have not discussed in this paper. To repeat, the claim is that tenseless \textit{biti} becomes / transforms itself into prospective \textit{biti} when combined with Perfective Aspect. This conclusion raises many questions regarding the connection between epistemic, concessive, and purely prospective readings in this auxiliary, suggesting that they should be unified. We leave this topic to future research.

3.4. \textit{Biti} as a gradable modal

We conclude the paper by identifying a topic in need of much future study. We add epistemic \textit{biti} to the inventory of gradable modals in natural language, arguing that this form need not reduce to necessity like \textit{morati} ‘must’, or possibility like \textit{utegniti} ‘may’. The gradable nature of \textit{biti} is at the source of the chameleon properties in §2, which allow it to sometimes mimic universal / strong modals, and other times existential / weak modals, while not strictly belonging to either class.

In our view, \textit{biti} invokes a comparative scale, as many have already suggested in the context of gradable modals, but what kind of scale?

Inspired by Herburger and Rubinstein (2014) on German comparative \textit{eher}, we first suggest that \textit{biti} introduces a scale of believability anchored in the speaker: \textit{biti} as epistemic predicate relates a prejacent proposition \(p\) to the degree to which the speaker is ready to believe that \(p\) is true. On this view, Inferentials usually identify a case where \(p\) is more believable to the speaker and Concessives a case where \(p\) is less believable, thus suggesting doubt and denial.

However, we shall also see Concessives where the factual nature of the event is not under question / is settled, with the speaker accepting that \(p\) is true. In such a case, the scale triggered by \textit{biti} cannot be one of ‘believability’, so inspired by Villalta (2009) on the Spanish subjunctive, we propose that in this case \textit{biti} triggers a scale of desirability on the part of the speaker, which also endows constructions with a flavor of doubt/undesirability.

\textsuperscript{15} Our proposal on aspect draws inspiration from the now classical (Bennet and Partee 1978). Bennet and Partee view the English present as an instantaneous moment in conflict with perfective requirements. Note that this kind of conflict is also solved in East and West Slavic languages and in Slovenian (but not Bulgarian) by endowing perfective presents with future semantics. However, East and West Slavic future auxiliaries do not combine with perfective verbs, so equivalents of Slovenian (23b) are ungrammatical in those languages. Again, cross-linguistic variation is widespread under detailed examination.
Finally, if the scale cannot be anchored in the speaker, it remains inactive, as in the complements embedded under a negated verb of propositional attitude in (9a-b), or the questions of type (10) partially repeated in (27).

(27) Ali bo Tatjana zdajle spala?
   ‘Will/could/might Tatiana be sleeping now?’

To develop our core idea, we first show that epistemic morati ‘must’ and epistemic utegniti ‘may’ form what is known in the literature as a ‘dual’ pair, or are dual modals of each other. By contrast epistemic biti cannot be considered to form a dual pair with either morati or utegniti.

Morati and utegniti constitute a dual pair, with necessity morati associated to a universal quantificational force, which makes it inherently stronger than possibility utegniti, whose force is inherently existential. To this effect consider felicitous (28) and infelicitous (29) within the context given in (28).

(28) **Context:** Upon observing that Janez, the most responsible and dedicated student in senior kindergarten, is absent today, the teacher states:

Janez utegne biti danes bolan. Dejansko mora biti.
Janez may.Pres.3Sg be.Inf today sick. In.fact must.Pres.3Sg be.Inf.
Sicer bi bil pri pouku.
Otherwise would.Cond be.Ppl with class.
“Janez may be sick today. In fact, he must be. Otherwise he would be in class.”

(29) #Janez mora biti bolan. Dejansko utegne biti bolan.
J. must.Pres.3Sg be.Inf today sick. In.fact may.Pres.3Sg be.Inf.
Sicer bi bil pri pouku.
Otherwise would.Cond be.Ppl with class.
“#Janez must be sick today. In fact, he may be. Otherwise he would be in class.”

The sequence in (28) illustrates that morati in the second clause strengthens the assertion with utegniti in the first, and (29) illustrates that the opposite order sounds contradictory. This supports the view that the two form a dual pair based on quantificational force / strength.

Now consider epistemic biti in (30) and (31).

(30) Janez bo danes bolan. Dejansko mora biti bolan.
Janez be.Fut.3Sg today sick. In.fact morati.Pres.3Sg be.Inf.
Sicer bi bil pri pouku.
Otherwise would.Cond be.Ppl with class.
“Janez will be sick today. In fact he must be sick. Otherwise he would be in class.”

(31) Janez bo danes bolan. Dejansko utegne biti bolan.
Janez be.Fut.3Sg today. In.fact utegniti.Pres.3Sg be sick.
Sicer bi bil pri pouku.
Otherwise would Cond be Pple with class.  
“Janez could be sick today. In fact he may be sick. Otherwise he would be in school.”

First, in the context in (28), both (30) and (31) are felicitous, and (31) lacks the infelicitous flavor in (29). This demonstrates that biti does not form a dual pair with either morati or utegniti. It also suggests that biti as a modal with gradable characteristics may correspond to will in (30) and could/ might in (31).16

Second, both (30) and (31) may be interpreted as a sort of repetition, which is confirmed by several informants. It is possible to read the second clause in those examples as if it reiterated the first clause with a firmer tone. The situation is suggestive of so-called harmonic modality: two modals that are similar in strength, and ‘agree’ with each other. While strengthening is clear in (28), no particular strengthening effect is apparent in (30), suggesting that biti is not an ordinary possibility modal.

Another indication that epistemic/ evidential biti displays gradable properties comes from the adverbs that may modify it in (32). Biti is compatible with adverbs that are suitable either for morati or for utegniti.

(32) Tatjana bo zdajle gotovo/ verjetno/mogoče spala.
Tatjana be.Fut now definitely/ probably/ perhaps sleep.Ppl
“Tatjana will now definitely/probably/perhaps be sleeping”.

In view of the different properties of biti identified in this paper, we take inspiration in (Herburger and Rubinstein 2014) to propose that this modal mainly introduces a comparative scale of believability on the part of the speaker, with Inferentials most often identifying the higher range in such a scale, and Concessives most often identifying the lower end.

In both Inferentials and Concessives, the speaker usually signals that she/he does not fully believe the prejacent p. If she/he did, a simple assertion of p would be called for. So, in parallel with constructions with German eher neither type is felicitous when followed by the denial of p, as illustrated in (33).

(33) #Tatjana bo odlično znala angleščino, ampak je ne zna.
T. be.Fut.3Sg excellently know.Impf.Ppl English, but it Neg know.Pres.3Sg
“#Tatjana might know English perfectly, but she does not know it.”

However, Concessives offer a more complex picture, which lead us to suggest that biti may also invoke a scale of desirability. Given our view that biti introduces a comparative scale, a particularly interesting subcase that falls under the concessive label is when the context provides only one alternative, which the speaker goes on to accept as true, incorporating it to the common ground.

16 For Deal (2011), the apparently variable-force circumstantial o’qam in Nez Perce is a possibility modal interpreted as a necessity modal because Nez Perce lacks a necessity modal that could serve as its dual. Biti coexists with morati, so this proposal is not suitable for Slovenian.
(34) Speaker A: Janez je najboljši pevec.
Janez be.Pres.3Sg best singer
“Janez is the best singer.”

Speaker B: Naj bo najboljši pevec, dejansko se strinjam
Particle be.Fut.3Sg best singer in.fact Refl agree.Pres.1Sg
s tabo, da je, ampak ni zmagal na tekmovanju.
with you, that be.Pres.3Sg but Neg.is win.Ppl at competition
‘He might be the best singer, in fact I agree with you that he is, but he did not win the competition.’

In (34) speaker A asserts $p$ (i.e. J. the best singer), thus advancing it as true in the actual world. Speaker B accepts this as the only alternative. In such a situation, it is as if biti in (34B) quantifies over a singleton set. However, this contextually available singleton set is sufficient to trigger a concessive interpretation. In such cases, the scale biti introduces cannot be one of believability. Thus, inspired by Villalta we propose that if believability cannot be invoked, the scale may be based on desirability. Our very tentative idea, then, is that biti as a gradable modal can access two types of scales depending on contextual factors. This allows this modal to associate with familiar inferential readings and with a full range of concessive readings most often based on believability, and sometimes based on desirability.

In sum biti as gradable modal differs from both morati and utegniti in apparent strength. It introduces a scale based on the speaker, which depending on context measures believability or, if believability is settled, desirability.

4. Summary and Conclusions

In this paper we argued that the future auxiliary biti is an epistemic modal with evidential characteristics. As a Zero-tense / tenseless modal anchored to Speech Time, it displays a present Temporal Perspective. Biti does not impose a Temporal Orientation on its complement, which is defined by Viewpoint Aspect. Biti allows for a present, a past, a future Temporal Orientation, or a habitual reading when it combines with Imperfective (IMPF) Viewpoint Aspect. When combined with Perfective (PERF) Aspect, biti necessarily acquires a future Temporal Orientation. Biti is a gradable modal, with inferentials and concessive readings due to a scale of believability anchored in the speaker. In concessive constructions where the truth of the described event is settled, biti cannot associate with a scale of believability, so a scale of desirability comes into play.

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