

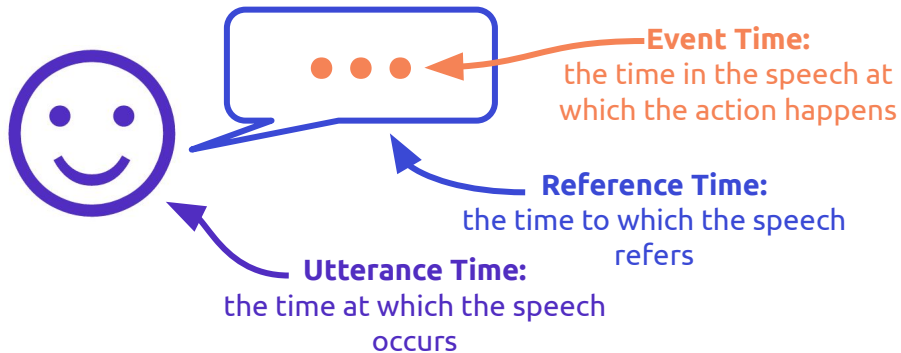
Perfective and prospective aspects: Novel evidence for Akan as a tenseless language

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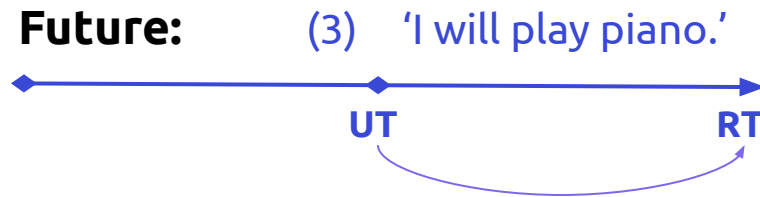
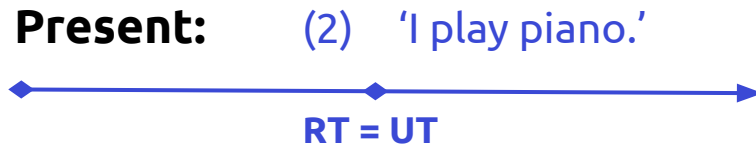
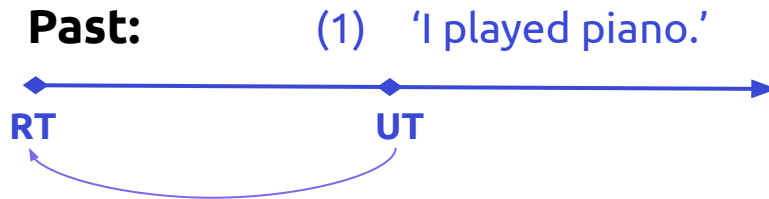


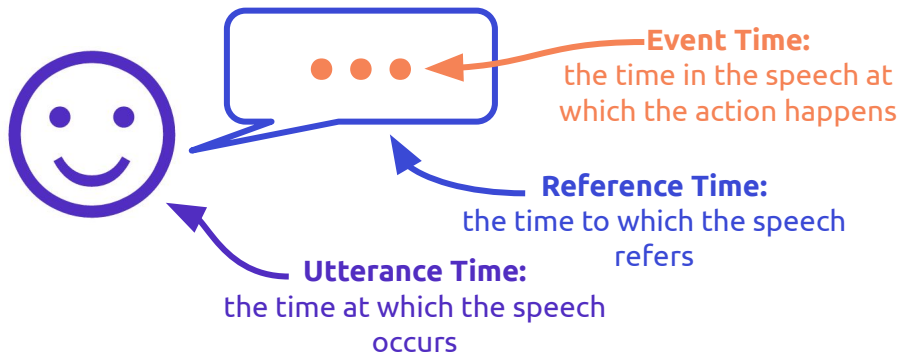
Tense & aspect



Tense:

'It serves to locate the situation in relation to the "now" of the speech act.' (Klein, 2009)
⇒ relation between **RT** & **UT**





Aspect:

'It serves to "present" a situation from a particular viewpoint, for example as on-going or as completed.'

(Klein, 2009)

⇒ relation between **ET** & **RT**

Perfect: (4) 'I have played piano.'



Imperfective: (5) 'I am playing piano.'
(6) 'I usually play piano.'



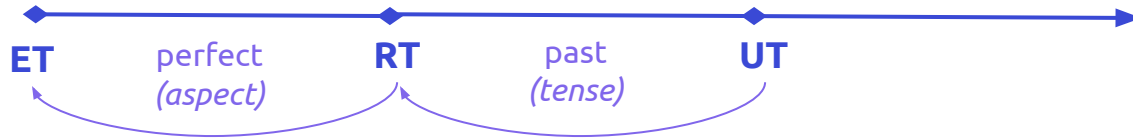
Ingressive: (7) 'I am going to play piano.'



- **It is also possible to combine tense & aspect**

(8) 'I had eaten.'

⇒ combines past & perfect



- We consider that a language has tenses or aspects if **it encodes them on the verb**
- Of course, **time can also be encoded through particles, adverbials, etc.**, which are especially useful for tenseless languages for example!

- Kwa, Niger-Congo language mainly spoken in Ghana
- **Traditional view:**
 - **Akan codes both aspect & tense on the verb**
 - **via prefixes or suffixes**
 - **some affixes can be combined**
 - **6 tenses/aspects:** **habitual** ('he eats')
progressive ('he is eating')
perfect ('he has eaten')
ingressive ('he comes to eat')
future ('he will eat')
past ('he ate')

Akan & its tense/aspect system

6

Habitual	verbal stem (H-tone by default)	<i>Kofi dzìdzí</i> 'Kofi eats.'	$[UT = RT] \in [ET...ET...]$
Progressive	rè- + stem	<i>Kofi rè-dzìdzí</i> 'Kofi is eating.'	$[UT = RT] \in ET$
Perfect	a- + stem	<i>Kofi a-dzìdzí</i> 'Kofi has eaten.'	$ET \triangleleft [RT = UT]$
Ingressive	bè- + stem	<i>Kofi bè-dzìdzí</i> 'Kofi comes to eat.'	$[UT = RT] \triangleleft ET$ movement 
'Future'	bé- + stem	<i>Kofi bé-dzìdzí</i> 'Kofi will eat.'	$UT \triangleleft [RT = ET]$
'Past'	L-tone + lengthening of the final	<i>Kofi dzìdzí-ì</i> 'Kofi ate.'	$[ET = RT] \triangleleft UT$

(Boadi, 2008)

Akan as a tenseless language...

- **L + lengthening: past or perfective?**
- **Prefix bé-: future or prospective?**

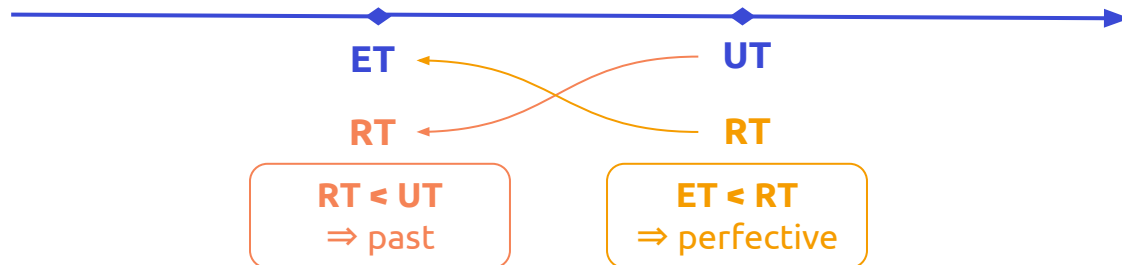
& some additional considerations about prospective

- **An unified account of prospective & ingressive**
- **Prospective & negation: prospective as a major two-way distinction**

L + lengthening in Akan: past or perfective?

- (9) Kofi dzìdzí-ì
Kofi eat-LEN
'Kofi ate.'

- **L + lengthening (LEN)** mainly expresses that the event is completed before UT, hence the ambiguity
'There is a strong tendency for PFV categories to be restricted to past time reference.' (Dahl, 1985)
- **ET < UT**, but what about RT? **[ET = RT] < UT** or **ET < [RT = UT]** ?



- Osam (2008) claims that **L + lengthening** should be considered as a perfective (or completive) because it is not compatible with imperfective markers:

- (10) a. Kofi **ré-dzìdzí**
Kofi **PROG-eat**
'Kofi is eating.'
- b. *Kofi **ré-dzìdzí-ì**
Kofi **PROG-eat-LEN**
Intended: 'Kofi was eating.'

- Osam (2008) claims that **L + lengthening** should be considered as a perfective (or completive) because it is not compatible with imperfective markers.
- **To code past imperfective, Akan uses other means, such as periphrastic expressions or the particle 'na':**

(11) **na** Kofi ré-dzìdzì
NA Kofi **PROG**-eat
'Kofi was eating.'

- However, the incompatibility between **PROG** and **L + lengthening** could be triggered by another (morphological? phonological?) reason: therefore, it does not seem sufficient to claim that **L + lengthening** is a perfective.
- **How to test for a tense vs aspect distinction?**
⇒ Find a context in which the ET/RT relation is different from the RT/UT relation

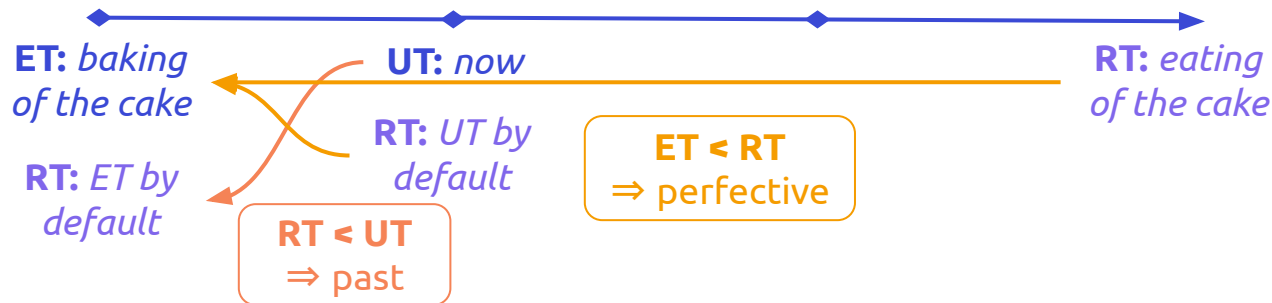
L + lengthening in Akan: past or perfective?

- (12) *Context: Mary baked a cake yesterday, but she kept it and she plans to eat it tomorrow evening.*

ɔkyena	anwumerɛ	Mary	bé-di	cake	no	a
tomorrow	evening	Mary	BÉ-eat	cake	NO	A
ɔ-tõ-õɛ	no.					
3SG-bake-LEN	NO					

'Tomorrow evening, Mary will eat a cake that **she baked.**'

- Baking of the cake: **ET < UT**



L + lengthening in Akan: past or perfective?

- (13) *Context: Mary has planned to bake a cake tomorrow morning, so that she can eat it later that day.*

ɔkyena	anwumerɛ	Mary	bé-di	cake	no	a
tomorrow	evening	Mary	BÉ-eat	cake	NO	A
ɔ-tõ-õɛ	no.					
3SG-bake-LEN	NO					

'Tomorrow evening, Mary will eat a cake that **she baked.**'

- Baking of the cake: **UT** < **ET** < **RT**



L + lengthening in Akan: past or perfective?

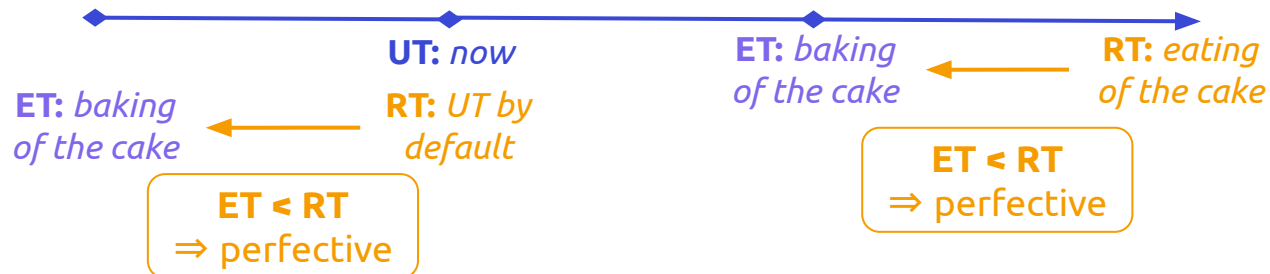
(12-13)	ɔkyena	anwumεε	Mary	bé-di	cake	no	a
	tomorrow	evening	Mary	BÉ-eat	cake	NO	A
	ɔ-tõ-õε	no.					
	3SG-bake-LEN	NO					

'Tomorrow evening, Mary will eat a cake that **she baked.**'

- **Without context ⇒ ambiguity!**

⇒ Is the cake already baked by UT?

The RT is either interpreted as being present by default (= UT) or the time of the cake-eating (> UT), but it **is not defined by the target verb.**



L + lengthening in Akan: past or perfective?

(12-13)	ɔkyena	anwumɛɛ	Mary	bɛ́-di	cake	no	a
	tomorrow	evening	Mary	BÉ-eat	cake	NO	A
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'Tomorrow evening, Mary will eat a cake that **she baked.**'

- **Without context ⇒ ambiguity!**

⇒ Is the cake already baked by UT?

The RT is either interpreted as being present by default (= UT) or the time of the cake-eating (> UT), but it **is not defined by the target verb.**

⇒ L + lengthening only defines ET < RT, not the location of RT/ET *w.r.t.* UT
⇒ Therefore it is a perfective and it cannot be a past.

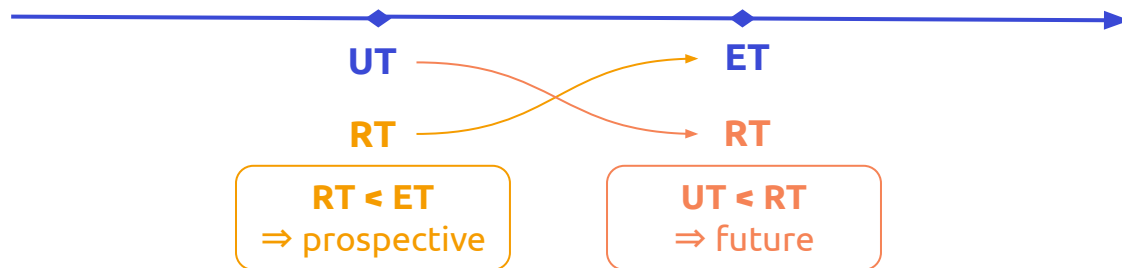
- (15) Ben bɛ́-tõ nwom
Ben BÉ-sing song
'Ben will sing.'

- **For Osam (2008), bɛ́- codes future: $UT < [RT = ET]$**
'It means that the event coded in the clause will happen at a time posterior to the time of speaking.' (Osam, 2008)
- ⇒ **In this system, bɛ́- would be the only tense in Akan.**
⇒ *Of course, future always carries some modal considerations, since it is by nature uncertain.*

Prefix bɛ́-: future or prospective?

- (15) Ben bɛ́-tõ nwom
Ben BÉ-sing song
'Ben will sing.'

- For Osam (2008), bɛ́- codes future. However, here we only know that $UT < ET$.
⇒ What about RT? $UT < [RT = ET]$ or $[UT = RT] < ET$?



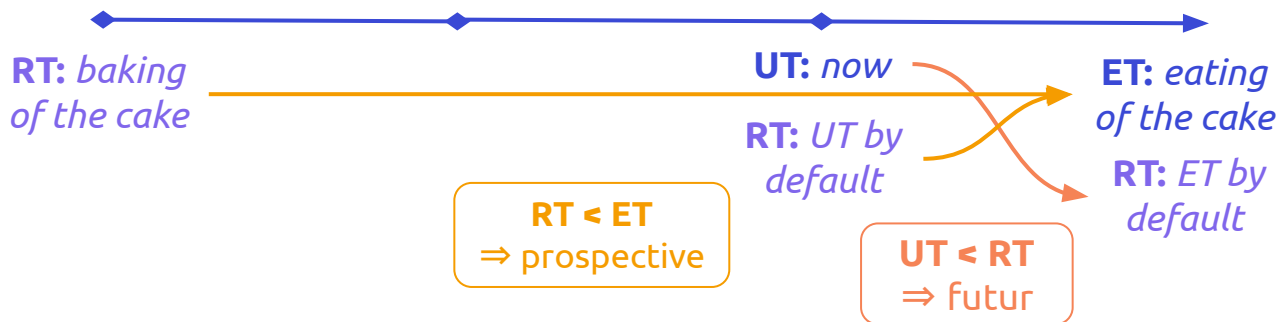
⇒ Once again, a tense vs aspect test is necessary.

- (16) *Context: Yesterday morning, Mary baked a cake for her birthday party, which is tomorrow.*

εnora	Mary	tõ-õε	cake	no	a	ɔ-bÉ-dzi	no	wɔ
yesterday	Mary	bake-LEN	cake	NO	A	3SG-BÉ-eat	NO	at
n'awoda								
her.birthday								

'Yesterday, Mary baked the cake **she would eat** for her birthday.'

- Eating of the cake: **UT < ET**



- (17) *Context: Yesterday morning, Mary baked a cake for her birthday party, **which was on the evening.***

ɛnɔra	Mary	tõ-õε	cake	no	a	ɔ-bÉ-dzi	no	wɔ
yesterday	Mary	bake-LEN	cake	NO	A	3SG-BÉ-eat	NO	at

n'awoda
her.birthday

'Yesterday, Mary baked the cake **she would eat** for her birthday.'

- Eating of the cake: **RT < ET < UT**



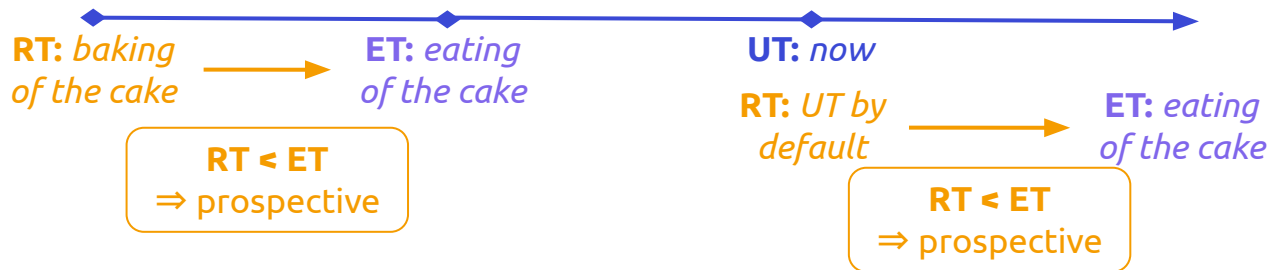
Prefix bĕ-: future or prospective?

(16-17)	enora	Mary	tō-ōε	cake	no	a	ɔ-bĕ-dzi	no
	yesterday	Mary	bake-LEN	cake	NO	A	3SG-Bĕ-eat	NO
	wɔ	n'awoda						
	at	her.birthday						
	'Yesterday, Mary baked the cake she would eat for her birthday.'							

- **Without context ⇒ ambiguity!**

⇒ Is the cake already eaten by UT?

The RT is either interpreted as being present by default (= UT) or the time of the cake-baking (< UT), but it **is not defined by the target verb**.



(16-17)	enora	Mary	tõ-õε	cake	no	a	ɔ-bɛ́-dzi	no
	yesterday	Mary	bake-LEN	cake	NO	A	3SG-Bɛ́-eat	NO
	wɔ n'awoda							
	at	her.birthday						
	'Yesterday, Mary baked the cake she would eat for her birthday.'							

- **Without context ⇒ ambiguity!**

⇒ Is the cake already eaten by UT?

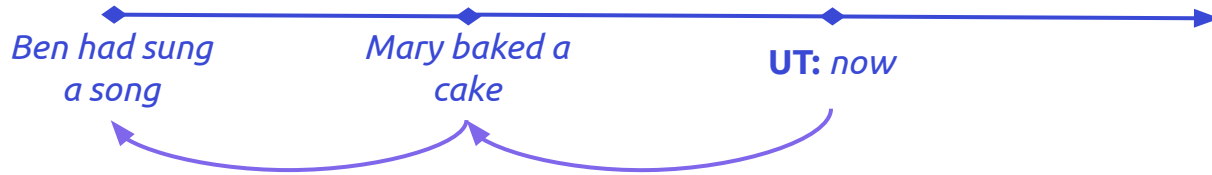
The RT is either interpreted as being present by default (= UT) or the time of the cake-baking (< UT), but it **is not defined by the target verb**.

⇒ bɛ́- only defines RT < ET, not the location of RT/ET *w.r.t.* UT

⇒ Therefore it is a prospective and it cannot be a future.

Prefix b'ε-: future or prospective?

- (18) **Ansa** na Mary **b'ε-tō** cake no,
before NA Mary **B'É-bake** cake DET
na Ben a-to nwom.
NA Ben PERF-sing song
'Before Mary baked (would bake) a cake, Ben had sung a song.'



⇒ 'ansa' triggers the use of b'ε- even though the event has already taken place before UT!

(19) French:

- a. **Avant que** Mary **n'ait cuisiné** un gâteau,
Before COMP Mary **NEG.bake.SUBJV.PERF.3SG** a cake,
Ben a chanté une chanson.
Ben sing.PERF.3SG a song
'**Before** Mary **baked** a cake, Ben sang a song.'
- b. **Après que** Mary **a cuisiné** un gâteau,
After COMP Mary **bake.IND.PERF.3SG** a cake,
Ben a chanté une chanson.
Ben sing.PERF.3SG a song
'**After** Mary **baked** a cake, Ben sang a song.'

(19) French:

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Before COMP Mary **NEG.bake.SUBJV.PERF.3SG** a cake,
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Ben sing.PERF.3SG a song
'**Before** Mary **baked** a cake, Ben sang a song.'

- **Cross-linguistically, 'before' triggers some unexpected moods or aspects.**

(20) Before $[e^a]$, $[e^b]$: $\exists t [e^b < t \wedge e^a$ is supposed to happen at $t]$



- (19) a. **Avant que** Mary **n'ait cuisiné** un gâteau,
Before COMP Mary **NEG.bake.SUBJV.PERF.3SG** a cake,
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'**Before** Mary **baked** a cake, Ben sang a song.'

- **Cross-linguistically, 'before' triggers some specific moods or aspects.**

(20) Before [e^a], [e^b]: $\exists t [e^b < t \wedge e^a \text{ is supposed to happen at } t]$

⇒ 'before' embeds the verb in an (uncertain) frame of time, in which the target event has not happen yet by the RT.

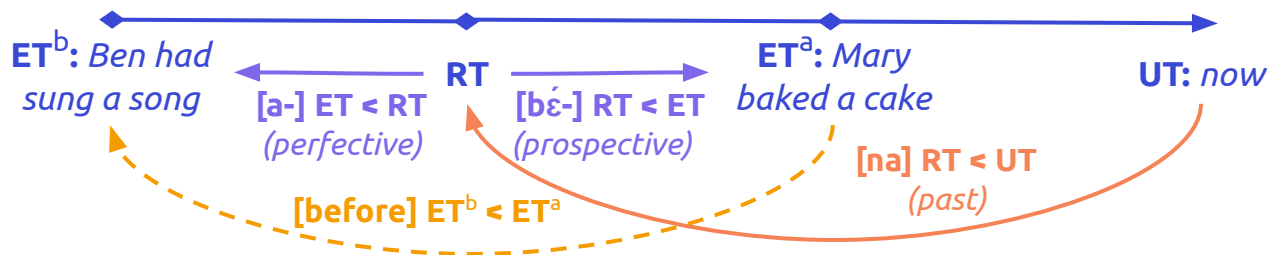
⇒ Hence the subjunctive... or prospective

Prefix bĕ-: future or prospective?

- (18) **Ansa** na Mary **bĕ-tō** cake no,
before NA Mary **Bĕ-bake** cake DET
na Ben a-to nwom.
NA Ben PERF-sing song
'Before Mary baked (*would bake*) a cake, Ben had sung a song.'

⇒ **Prospective bĕ-** expresses again that **the RT is located before the ET of Mary's baking a cake** (and after Ben's singing).

⇒ Past is indicated through the double occurrence of 'na' in the embedding & embedded clause.



(21) a. Ben **bé**-tō nwom
Ben **BÉ**-sing song
'Ben will sing.'

b. Ben **bè**-tó nwom
Ben **INGR**-sing song
'Ben comes to sing.' ('Ben is about to sing.')

Traditional view (all literature so far)

- **bé-** & **bè-** are two completely different markers:
 - one expressing a **tense ('future')**
 - & the other an **aspect (ingressive)**

The ingressive marker can be combined with other aspectual markers:

- (22) a. Ben **bɛ̀-tó-ò** nwom.
Ben **INGR-sing-LEN** song
'Ben came to sing.'
- b. Ben **a-bɛ̀-tó** nwom.
Ben **PERF-INGR-sing** song
'Ben has come to sing.'
- c. Ben **re-bɛ̀-tó** nwom.
Ben **PROG-INGR-sing** song
'Ben is coming to sing.'

... But we found that it could not with the prospective marker:

(23) *Ben **bé-bè-tó** nwom.
Ben **BÉ-INGR-sing** song
'Ben will come to sing.'

Why? Our hypothesis :

⇒ **bé-** & **bè-** are actually **one same marker (bɛ-)**, which conveys a wide range of prospective meanings

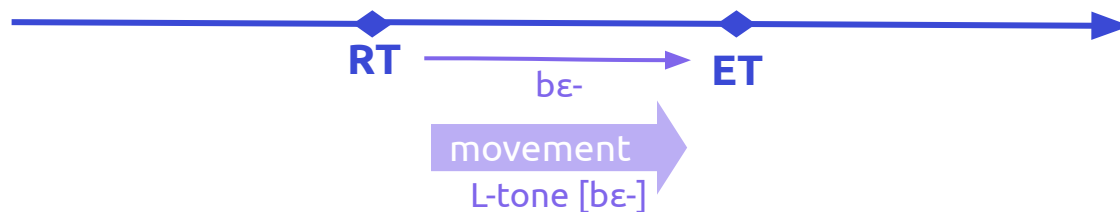
⇒ The **grammatical tone adds a modal distinction** to the marker, close to Copleyfuture

⇒ **b_ε'-** & **b_ε-** are actually **one same marker (b_ε-)**, which conveys a wide range of prospective meanings

(24) **[[b_ε-]]**: $\exists t [RT < t \wedge E \text{ is supposed to happen at } t]$
⇒ realistic modal base / inertia worlds
+ stereotypical ordering source, bouletic, epistemic, etc.

⇒ **The grammatical tone adds a meaning/modal distinction to the marker**

(25) **[[L-tone applied on b_ε-]]**: $\exists t [t > RT \wedge E \text{ is supposed to happen at } t \wedge \text{the agent makes a movement towards the beginning of } E]$



Both **bé-** et **bè-** are the only markers that combine with NEG:

- (26) a. Ben **an-bé-to** nwom
Ben **NEG-BÉ-sing** song
'Ben will not sing.'
- b. Ben **an-bè-to** nwom
Ben **NEG-INGR-sing** song
'Ben does not come to sing.'
- c. *Ben **an-rè-to** nwom
Ben **NEG-PROG-sing** song
Intended: 'Ben is not singing.'
- d. *Ben **an-a-to** nwom
Ben **NEG-PERF-sing** song
Intended: 'Ben has not sung.'

All other aspect markers are erased by NEG, which blurs the interpretation of the verb:

(27) John n-siesie ne lore
John **NEG**-clean 3SG.POSS car

Possible interpretations:

'John did not clean his car.'

'John has not cleaned his car.'

'John does not clean his car.'

'John is not cleaning his car.'

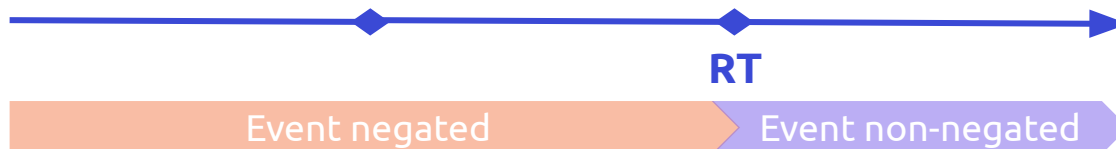
'John has not been cleaning his car.'

etc.

But not:

'John will not clean his car.'

'John does not come to clean his car.'



- It seems that the absence of marker (or \emptyset marker) expresses non-prospective.
 - This is in line with Osam (2008)'s claim that there is a **two-way tense distinction** between future and non-future (*although Osam does not give argument for that*)

⇒ Major two-way distinction between prospective and non-prospective

- (28) a. $[[b\varepsilon-]]: \exists t [t \succ RT \wedge E \text{ is supposed to happen at } t]$
b. $[[\emptyset]]: \exists t [t \leq RT \wedge E \text{ is supposed to happen at } t]$

⇒ All other aspects happen within this *prospective vs non-prospective* frame.

- Complex sentences allow to differentiate tense & aspect expressions
- Akan is a **completely tenseless language** with:
 - **aspectual marking on the verb** (*perfective, prospective, etc.*)
 - particles such as 'na' for tense distinctions
 - **tone sometimes inducing modal distinction**
 - **prospective as a major two-way distinction**

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- **1:** first person
- **3:** third person
- **COMP:** complementizer
- **DET:** determiner
- **E:** event
- **H:** high-tone
- **L:** low-tone
- **LEN:** lengthening
- **NEG:** negation
- **OBJ:** object
- **PERF:** perfect
- **POSS:** possessive
- **PRON:** pronoun
- **PROG:** progressive
- **PQPF:** Plus-quam-perfect
- **PFV:** perfective
- **R:** reference
- **SG:** singular
- **SUBJ:** subject
- **SUBJV:** subjunctive
- **T:** time
- **U:** utterance

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