

THE PROBLEM

Temporal anaphora in a tenseless language (Bittner 2005)

1 TENSELESS INFLECTIONAL SYSTEM IN KALAALLISUT

(N) Noun template: root-(derivational suffix*)-NAGR-CASE(=clitic*)

(V) Verb template: root-(derivational suffix*)-MOOD-VAGR(=clitic*)

(M) Matrix MOOD system

- | | |
|--|--|
| <ul style="list-style-type: none"> • <i>Indicative</i>
sinip-puq
sleep-IND.IV-3s
'he is/was asleep.' • <i>Interrogative</i>
sinip-pa?
sleep-QUE.3s
'is/was he asleep?' | <ul style="list-style-type: none"> • <i>Optative</i>
sinil-li
sleep-OPT.3s
'let him sleep' • <i>Imperative</i>
sini-lluar-na
sleep-well-IMP.2s
'sleep well!' |
|--|--|

Dependent MOOD system

- | | |
|---|---|
| <ul style="list-style-type: none"> • <i>Topic factive</i>
sinik-ka-mi
sleep-FCT_T-3s_T
'being asleep, (he_T...)' • <i>Topic hypothetical</i>
sinik-ku-ni
sleep-HYP_T-3s_T
'if/when he_T is/was asleep' • <i>Topic elaborating</i>
sinil-lu-ni
sleep-ELA_T-3s_T
'asleep' • <i>Topic non-factual</i>
sinin-na-ni
sleep-NON_T-3s_T
'without sleeping' • <i>Topic habitual</i>
sinik-kaannga-mi
sleep-HAB_T-3s_T
'whenever he_T is/was asleep' | <ul style="list-style-type: none"> • <i>Background factive</i>
sini-mm-at
sleep-FCT_⊥-3s_⊥
'because he_⊥ is/was asleep' • <i>Background hypothetical</i>
sini-pp-at
sini-HYP_⊥-3s_⊥
'if/when he_⊥ is/was asleep' • <i>Background elaborating</i>
sinit-tu-q
sleep-ELA_⊥-3s_⊥
'while he_⊥ is/was asleep' • ('-not' + <i>Background elab.</i>)
sini-nngit-tu-q
sleep-not-ELA_⊥-3s_⊥
'while he_⊥ is/was not asleep' • <i>Background habitual</i>
sinik-kaanng-at
sleep-HAB_⊥-3s_⊥
'whenever he_⊥ is/was asleep' |
|---|---|

Kalaallisut system of verbal inflection is *tenseless*: there is no counterpart of English past, present, or future tense.

- Realized events

(1) I *came* (#*come*) home when it *got* dark. Juuna soon *fell* asleep.

(1') *Taarsi-mm-at angirlar-pu-nga.*
get.dark-FCT_⊥-3s_⊥ come.home-IND.IV-1s

Juuna irniinnaq sini-lir-**pu-q.**
 Juuna soon sleep-*begin-IND.IV-3s*

- Current states (now or back then)

(2) a. Juuna *is* sleeping peacefully.

b. (I came home after dark.) Juuna *was* sleeping peacefully.

(2') (Taarsi-riir-m-at angirlar-pu-nga.)
 (get.dark-be.already-FCT_⊥-3s_⊥ come.home-IND.IV-1s)

Juuna iqqissi-sima-llu-ni *sinip-pu-q.*
 Juuna calm.down-*have-ELA_⊥-3s_⊥ sleep-IND.IV-3s*

- Current habits (now or back then)

(3) a. I first *come* home after dark. Juuna soon *falls* asleep.

b. (Last winter) I *would* first come home after dark. Juuna *would* soon fall asleep.

(3') (Ukiur-m-at)
 (be.winter-FCT_⊥-3s_⊥)

taarsi-riir-aanng-at aatsaat angirlar-**tar-pu-nga.**
 get.dark-be.already-HAB_⊥-3s_⊥ first come.home-*habit-IND.IV-1s*

Juuna irniinnaq sini-lir-**tar-pu-q.**
 Juuna soon sleep-*begin-habit-IND.IV-3s*

- TO BE ARGUED FOR:

Current attitude states (now or back then) to future prospects

(4) a. I *will* first come home after dark. Juuna *will* soon fall soundly asleep.

b. (That morning I made a plan.) I *would* first come home after dark. Juuna *would* soon fall soundly asleep.

(4') (Ullaaq taanna pilirsaarus-siur-pu-nga.)
 (morning that plan-make-IND.IV-1s)

taarsi-riir-p-at aatsaat angirlar-**niar-pu-nga.**
 get.dark-be.already-HYP_⊥-3s_⊥ first come.home-*intend-IND.IV-1s*

Juuna irniinnaq iti-**ssa-na-ni**
 Juuna soon wake.up-*be.expected-NON_⊥-3s_⊥*

sini-lir-**umaar-pu-q.**
 sleep-*begin-be.hoped.for-IND.IV-3s*

Kalaallisut verbal inflections form a *mood system*, fused with aspect and centering, which contrasts *facts, nonfacts, prospects, and circumstances*:

- *Factual* moods: indicative (IND), interrogative (QUE), factive (FCT)
- *Nonfactual* moods: irrealis (IRR), non-factual (NON)
- *Prospective* moods: optative (OPT), imperative (IMP), hypothetical (HYP)
- *Circumstantial* moods: elaborating (ELA), habitual (HAB)

2 GRAMMARS VS. TEXTS: PROSPECTIVITY THESIS

- *Descriptive grammars* (e.g. Fortescue 1984:274)

“2.1.3.2.1.4. Future.

There are three common affixes indicating future tense [emphasis added, MB] *ssa*, *niar*, and *jumaar*. The first of these also has the modal value ‘should/shall’, covering in fact most of the senses of Danish ‘skal’; as a future marker [*ssa*] is the nearest to an absolute or pure future [emphasis added, MB]...*niar* is more common as a pure future in north-west Greenland, but is used especially in an intended or inevitable future sense [emphasis added] in the central dialect area...*jumaar* indicates vague indefinite future [emphasis added, MB]...

- *Kalaallisut translations of future will/would in texts*

- [D] O’Dell, S., 1988, *Black Star, Bright Dawn*
 [H] Hemingway, E., 1952, *The Old Man and the Sea*
 [L] Lindgren, A. 1997. *Pippi Longstocking*.
 [P] Rounds, G. 1994. *The Blind Colt*.
 [R] Rowling, J., 1997, *Harry Potter and the Philosopher’s Stone*

E.g. Kalaallisut translation cf. English prospective verbal predicate

(5')	-gunar	be likely to
(6')	-juma	want to
(4')	-jumaar (+ (17'))	hope (for y) to, be hoped for, promise to, be promised
(7')	-navianngi	be unlikely to
(4')	-niar	{intend, be going} to
(8')	-qina	be liable to
(9')	-qqaja	be sure to _ soon
(10')	-riaannaa	be {equipped, ready} to
(11')	-rusuk	wish to, feel like _ing
(12')	-sinnaa	be able to
(4')	-ssa (+ (15'), (19'), (20'))	be {expected, desirable} to
(13')	-ssamaar	{plan, be going} to
(14')	-ssanga	expect to
(15')	-ssaqqaar	be sure to
(16')	-tariaqar	{need, be required} to
(17')	-tsii	wait for y to
	∴	∴
(18')	-(niar)-OPT	(please) let y _
(19')	-(niar)-IMP	(please) _

A. Prospective statives

- (5) They’**ll** all forget this in a few weeks. [R:265]
(Cf. They’re *likely to* forget this in a few weeks.)
- (5') Sapaatit akunnirit marlussuit qaangiu-pp-ata [R':302]
weeks a.few pass-HYP_⊥-3p_⊥
puigur-*unar-pa-at*.
forget-*be.likely-IND.TV-3p.3s*
- (6) Black Star pulled up and *wouldn't* move. [D:2]
(Cf. Black Star stopped suddenly and **didn't** *want to* move on.)
- (6') Milalinnguaq uni-riataar-pu-q ingirla-qqik-*kuma-junnaar-lu-ni=lu*
Black.Star stop-suddenly-IND.IV-3s move-again-*want-stop-ELA_τ-3s_τ=and*
- (7) *At the checkpoint the race judge advised me not to leave.*
'You’**ll** *not* get far.' [D:78]
(Cf. 'You’re *unlikely to* get far.')
- (7') 'Ungasilli-ngaar-*navianngi-la-tit*.' [D':93]
get.far-very-*be.unlikely-IRR-2s*
- (8) *I don't want everybody knowing you've got a broomstick...*
... or they’**ll** all want one. [R:179]
(Cf. ... because, if they find out about it, they’re *liable to* also want one.)
- (8') ... paasi-gu-nik-ku piuma-li-*qina-mm-ata*. [R':203]
... find.out-HYP_τ-3p_τ-3s want-begin-*liable-FCT_⊥-3p_⊥*
- (9) *If I can increase the tension just a little...*
... it **will** hurt him (= *hooked fish*) and he **will** jump. [H:53]
(Cf. ... he’s *sure to* get hurt and surface *right away*.)
- (9') ... annir-lu-ni [H':36]
... get.hurt-ELA_τ-3s_τ
qavva-tsi-*qqaja-qi-su-q*.
surface-suddenly-*be.sure.to.soon-very-ELA_⊥.IV-3s_⊥*
- (10) *Percy — he's a prefect, ...*
... he’**d** put a stop to this. [R: 170]
(Cf. ... he’s *equipped to* put a stop to what you intend to do.)
- (10') ... iliusiqar-*niar-ni-rsi* uni-tsi-*riaannaa-va-a*. [R':193]
... do.sth-intend-*v\~n-2p.sg* stop-cause-*be.equipped-IND.TV-3s.3s*

- (11) *Hagrid to Harry: I still haven't got yeh a birthday present...*
 ... I'll get yer animal. [R:92]
 (Cf. ... I [PRS] *feel like* giving you an animal.)
- (11') ... Uumasu-mik tuni-rusup-**pa**-kkit. [R':102]
 ... animal-sg.MOD give-feel.like-IND.TV-1s.2s
- (12) 'Say you're back in three weeks...Your team needs to run fifty miles a day to get in shape...'
 'Bright Dawn **will** train the dogs for me.' [D:28]
 (Cf. 'Bright Dawn **is able** to train the dogs for me.')
- (12') Sikkirsu-p qimuttu-t sungiusar-tar-sinnaa-**va**-i. [D':39]
 B.D.-ERG sled.dog-pl train-habit-be.able-IND.TV-3s.3p
- (13) *My father and I harnessed up the team while my mother watched.*
 We **would** meet again in Ikuma. Then we **would** pack two sleds and [D:102]
 take the trail back to N.S. and Womengo.
 (Cf. We *planned* to meet again in Ikuma. And then, after packing up,
 we *planned* to return to Womengo.)
- (13') Ikuma-mi taku-qqi-ssamaar-**pu**-gut. [D':117]
 Ikuma-LOC see-again-plan-IND.IV-1p
 Taava=lu purtui-riar-lu-ta Womengo-mut uti-ssamaar-**pu**-gut
 then=and pack.up-stage-ELA_T-1p Womengo-DAT return-plan-IND.IV-1p
- (14) 'This time I run better,' he said 'Maybe I come first.
 Where **will** you be [at the end of the race]? [D:36]
 (Cf. What number **do** you expect to be?)
- (14') Illit nurmu qassi-u-ssanga-vi-t? [D':48]
 you.ERG number how.many-be-expect-QUE-2s
- (15) 'If you can't see, how will you know where you are?'
 'My lead dog **will** know?' [D:78]
 (Cf. My lead dog **is sure** to find the route we're *expected* to take.)
- (15') Ittuquti-ma aquti-ssa-rput nani-ssaqqaar-**pa**-a. [D':93]
 lead.dog-1s.sg.ERG route-expected-1p.sg find-be.sure.to-IND.TV-3s.3s
- (16) *Igloos are very good in the wind...* If we stay here another day and night, [D:46]
 we **will** build a porch for ourselves, a very good place to cook in.
 (Cf. ... If we're not *expected* to leave tomorrow, we [PRS] *need to*
 add to our igloo a porch, a *desirable* place for us to cook in.)
- (16') ... Aqagu-mut aalla-ssa-nngik-ku-tta [D':58]
 ... next.24hrs-DAT leave-expected-not-HYP_T-1p
 illuiga-rput paa-liur-tariaqar-**pa**-rput iga-vvi-ssa-tsin-nik
 igloo-1p.sg porch-add.to-need-IND.TV-1p.3s cook-place-desirable-1p.sg-MOD

- (17) *What is his plan. he thought. And what is mine? Mine I must improvise because of his great size. If he **will** jump, I **can** kill him.* [H:60]
 (Cf. If I just [PRS] *wait for him to surface*, then as soon as he tries to do that, I [PRS] *hope to thrust my harpoon into him.*)
- (17') Nui-*tsii*-ginnar-**u**-kku [H':40]
 surface-*wait.for*⊥.to-just-HYP_τ-1s.3s
 taama-ili-niar-iar-**p**-at kapi-llar-*umaar*-**pa**-ra.
 thus-do-try-start-HYP_⊥-3s_⊥ pierce-strongly-*hope*-IND.TV-1s.3s

B. Prospective moods

- (18) *Race sponsors ask an injured competitor what to do.*
 ‘My daughter **will** run the race.’ [D:29]
 (Cf. **Please let** my daughter compete instead of me.)
- (18') Pani-ga taarsir-lu-nga [D':40]
 daughter-1s.sg replace-ELA_τ-1s
 sukka-niuti-qata-u-**niar-li**
 go.fast-compete-fellow...er-be-**please**-OPT.3s
- (19) *We were running twenty first and twenty second in the race.* [D:44]
 We **will** feed the dogs now and rest until the night comes.
 (Cf. **Please let** us feed the dogs. Then it **is** *desirable* that we rest a little until the *coming* nightfall.)
- (19') Qimmi-t nirukkar-**niar**-tigik.
 dog-pl feed-**please**.IMP-1p.3p
 Taava qasuirsi-laa-*ssa*-**u**-gut
 then rest-a.little-*desirable*-IND.IV-1p
 taarsi-ni-*ssa*-ata tunga-a-nut
 get.dark-v\|n-*expected*-sg.ERG direction-3s.sg-DAT

PROSPECTIVITY THESIS (slightly simplified)

Kalallisut translations of future auxiliaries comprise two related classes:

- A. *prospective statives* evoking (current) attitude states to future prospects
 B. *prospective moods* marking the speech act as a request or wish

3 EVIDENCE FOR PROSPECTIVITY THESIS

3.1 *Prospective statives are like verbs, not tenses* (pace Shaer 2003)

• Recursion

(20) *When she heard the dogs bark, the cow [moose] took to the stream and disappeared.
But the bull stood sideways on the bridge ≥
...and did not move.* [D:53]
(Cf. ... and was not *likely to intend to budge*.)

(20') ... niki-niar-unar-a-ni=lu [D':65]
... budge-intend-likely-NON_T-3s_T=and

• Verb doubling

(21) *I...told the marshall that I wanted to send my dog back to Anchorage.
He said a plane was due.* [D:57]
(Cf. And he *answered* me, specifically, he *said* it was
to be expected that there would be an arrival of a plane.)

(21') Aki-va-anga=lu [D':69]
answer-IND.TV-3s.1s=and
timmisartu-mik tikit-tu-qar-tu-ssa-u-nirar-lu-gu
plane-sg.MOD come-v\N-be-v\N-expected-be-say-ELA_T-3s_⊥

(22) *He said a plane was due. 'When?' I asked.
'In an hour'* [D:57]
(Cf. 'It is *expected* and *intended* to come in an hour.)

(22') Akunniq ataasiq qaangiu-pp-at [D':69]
hour one pass-HYP_⊥-3s_⊥
tikit-tu-ssa-u-niar-pu-q.
come-v\N-expected-be-intended-IND.IV-3s

(23) *As the giant fish nibbles at the bait, the old man thinks: Eat it...
so that the point of the hook goes into your heart and kills you.* [H:44]
(Cf. It is *intended* and *expected* that you die from
having the hook go all the way into your heart.)

(23') qarsursaq uummati-n-nut apissigu-llu-gu [H':29]
hook heart-2s.sg-DAT have.y_⊥.go.all.way.in-ELA_T-3s_⊥
tuqutigi-nia-ssa-va-t.
die.from-intended-expected-IND.TV-2s.3s

3.2 *Prospective statives refer to current states*

- Current (*now or then*) states, e.g., (2'), (4'), most of (5') - (23').
- Current reporting habit (now or then) of current (*at report time*) state

(24)a. Ani first *comes* home after dark. She often *says* she {*is tired, hopes* to go to bed soon}.

b. (Last winter) Ani *would* first come home after dark. She *would* often say she {*was tired, hoped* to go to bed soon}.

(24') (Ukiur-m-at) Aani
(be.winter-FCT₁-3s₁) Ani

taarsi-riir-aanng-at aatsaat angirlar-tar-pu-q.
get.dark-be.already-GNR₁-3s₁ first come.home-habit-IND.IV-3s

Aku-likit-su-mik
interval(s)-have.small-v\ñ-sg.MOD

{*qasu-*, irniinnaq innar-umaar-}-*nirar*-tar-pu-q
{*be.tired-*, soon lie.down-hope-}-*say*-habit-IND.IV-3s

- Current (*now or then*) attitude state to current (*at attitude time*) state or habit. Cf. (27'): current attitude state to past (*at attitude time*) event.

- (25) *Pippi's mother had died when Pippi was just a tiny baby...* [L:11]
Pipi **was** *sure* that her mother *was* now up in Heaven,
watching her little girl through a peephole in the sky
(Cf. P. *believed* her mother to *be* in Heaven, and she *believed*
her to *be in the habit* of looking down through a little hole)
- (25') Pippi-p anaana-ni qilam-mi-is-suri-va-a [L':11]
Pippi-ERG mother-3s_T heaven-in-be-believe-IND.TV-3s.3s
- putu-nngua-kkut=lu am-mut isigi-sar-sur-a-a.
hole-little-sg.VIA=and down-DAT look-habit-believe-IND.IV-3s.3s
- (26) I *think* I'll *have to go* and take a nap. [L:35]
(Cf. I *think* I [PRS] *need to* sleep a little.)
- (26') Sini-laar-tariaqar-sura-a-nga. [L':33]
sleep-a.little-need-believe-IND.TV-1s
- (27) [*Pippi is a Thing-Finder*] Oh dear!
I **was** *sure* I saw a lump of gold. [L:28]
(Cf. I *already* really *believed* myself to *have seen* ...but...)
- (27') Kuulti-minir-mik taku-suri-i-vik-kaluar-a-ma [L':26]
gold-lump-sg.MOD see-believe-be.already-really-...but-FCT_T-1s

3.3 *Prospective statives refer to current attitude states*

- Anaphora to modal object of attitude state

- (28) *Pippi, Tommy and Annika are looking for P's monkey lost in the woods.*
 Tommy suggested ¹⁺²[they all three go in different directions] and hunt]. [L:82]
 At first Annika didn't want to_{do1+2} because she was a little afraid_{of 1}.
 (Cf. T. made a suggestion: it was desirable ¹⁺²[for them to ¹[separate and] search].
 Annika was afraid_{of that1} and so didn't wish to do **that**₁/**that**₁₊₂, but was *later persuaded*.)
- (28') Tommy siunnirsui-vu-q [L':73]
 Tommy make.suggestion-IND.IV-3s
 avissaar-lu-tik ujar-li-ssa-llu-tik.
 [separate-ELA_T-3p_T] seek-tv\iv-be.desirable-ELA_T-3p_T
 Annika annilaanga-ga-mi **taama**-iliu-rusu-nngik-kaluar-pu-q.
 Annika afraid-FCT_T-3s_T **thus**-do-wish-not-...but-IND.IV-3s
- (29) *You can't imagine how wonderful it is here [in this hollow tree].*
 You must [come in] too. ... If you only *do it* once, [L:73]
 you'll never want to *do anything else*.
 (Cf. Please [come here]... Once you try to do **it**, you
 are expected to acquire a constant wish to do **this**.)
- (29') [Maa-nnga-r]-niar-it...
 [here-to-come]-please.IMP-2s...
 ataasiar-lu-tit misilik-ku-kku
 do.once-ELA_T-2s x_T.try.to.do. \mathcal{E}_1 -HYP_T-2s.3s₁
taama-liu-rusut-tuaanna-li-ssa-a-tit.
thus-do-wish-constant.habit-begin-expected-IND.IV-2s
- (30) ...but I don't want ¹[everybody knowing ²[you've got a broomstick] [R:179]
 or they'll all want one.
 (Cf. It is not desirable for ¹[your schoolmates to find out
²[you got a new broomstick]], for if ₁*they find out about it*₂,
 they're liable to want one.)
- (30') ila-vil=li paasi-ssa-nngi-la-at [R':203]
 mate-2s.pl.ERG_T=but [x_T.find.out.p₁]-be.desirable-not-IND-3p.3s
 saniguti-taar-tu-tit
 [broomstick-get.new-ELA₁-2s]₁
 paasi-gu-nik-ku pi-uma-le-qina-mm-ata.
 find.out-HYP-3p_T-3s₁ that.kind-want-begin-be.liable-FCT₁-3p₁

3.4 *Prospective statives refer to current attitudes to future prospects*

- Purposive elaboration (see also (23'))

- (31) Attitude to a prospect: She left *expecting* him to be fair.
 Cf. Simple state: She left *very angry*.
 Cf. Attitude to the present: She left *believing* him to be fair.
- (32) I ate some of it [*food she had cooked for my welcome*] just to please her. [D:76]
 (Cf. ...*wishing* to make her happy)
- (32') nuannaar-tik-kusu-llu-gu niri-ngaatsia-annar-pu-nga.
 be.happy-cause-wish-ELA_T-3s_L eat-fair.amount-just-IND.IV-1s
- (33) *On the 25th of Feb. I boarded the bush plane Mr. Weiss had hired...*
 ... to take me and the team to Anchorage. [D:31]
 (Cf. ... got on the plane, *expecting/expected* to go to A.)
- (33') ...timmisartu-mut iki-vu-gut [D':42]
 ...plane-sg.DAT get.into-IND.IV-1p
 Anchorage-lia-ssa-llu-ta
 Anchorage-go.to-expect(ed)-ELA_T-1p
- Scale-based prediction
- (34) Attitude to a prospect: He's too smart to be *expected* to die.
 Cf. Attitude to the present: #He's too smart to be *known* to die.
- (35) *Uncle Torwal says the winter is hard on the horses out on the range*
He believes the blind colt—Whitey's favorite—is already dead. Whitey responds:
'I haven't seen him for a spell, but I don't think he's dead; ...he's too smart]. [P:V]
 (Cf. ...for he's too smart to be *expected* to die.)
- (35') ...tuqu-ssa-llu-ni=mi silatu-allaaqa-a-q. [P':36]
 ...die-be.expected-ELA_T-3s_T=for be.smart-too-IND.IV-3s

4 CONCLUSIONS

- Kalaallisut is genuinely *tenseless*: it has no counterpart of English past or present tense nor of the future auxiliary *will/would*.
- Futurity is typically expressed either (a) by prospective derivational suffixes (mostly v\ʋ) referring to *current attitude states to future prospects*, or (b) by prospective mood inflections
- By default, *current* means *now*. This default can be defeated in favor of *back then* by explicitly updating the topic time (for a formal implementation see Bittner *in press*).

REFERENCES

- Bittner, M. 2005. 'Future discourse in a tenseless language'. *Journal of Semantics* **22**:339–388.
[pdf1 at <http://www.rci.rutgers.edu/~mbittner>]
- Bittner, M. *in press*. 'Online update: Temporal, modal, and *de se* anaphora in polysynthetic discourse'. In C. Barker and P. Jacobson, eds., *Direct Compositionality*, Oxford University Press. [pdf4 at <http://www.rci.rutgers.edu/~mbittner>]
- Fortescue, M. 1984. *West Greenlandic*. Croom Helm, London.
- Kleinschmidt, S. 1851. *Grammatik der grönländischen sprache*. v. Reimer, Berlin.
- Shaer, B. 2003. 'Toward the Tenseless Analysis of a Tenseless Language'. *Proceedings of SULA 2*, 139–156. GLSA, University of Massachusetts at Amherst.
[pdf2 at <http://www.rci.rutgers.edu/~mbittner>]

