

The semantics of perfect in Nafsan and implications for typology¹

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Abstract. This paper offers an analysis of the semantics of the perfect in Nafsan (South Efate) and argues for several implications for the typology of the perfect aspect. I show that all the functions of the perfect in Nafsan can be derived from placing the Topic Time in the posttime of the event in question, equal to Klein (1994) analysis of the English perfect. The main typological implications discussed within this analysis are: a) perfect in a tenseless language can have present, past, and future perfect readings, b) the interpretation of change of state can arise with perfects through aspectual coercion of states, c) duality with negation can arise as a consequence of the aspectual coercion process and not necessarily from the meaning of ‘already’. These three points are taken to argue against the proposed typological category of “iamitive” that unites the meanings of the resultative function of the perfect and ‘already’ (Olsson, 2013).

1 Introduction

This paper deals with the category of perfect aspect in Nafsan, also known as South Efate [erk] (Southern Oceanic, Vanuatu), and the implications of its semantic analysis for typology.²

Perfect aspect has been extensively studied on English and other Indo-European languages, and many semantic theories have been proposed with the aim of unifying the functions of this category (among others, Comrie, 1976; McCoard, 1978; Klein, 1994; Iatridou et al., 2003; Portner, 2003). In typological studies, perfect has been treated as a valid cross-linguistic category (Dahl & Velupillai, 2013), and recently also complemented with another typological category of iamitives (Olsson, 2013). In this respect, the data from Oceanic languages is crucial for our understanding of the typology of perfect aspect. First of all, the mention of the perfect is ubiquitous in Oceanic grammars, which means that this category is strongly represented in this language family. Secondly, it has been noted by several Oceanic linguists that the perfects in Oceanic languages do not behave as expected from our current theories of the perfect. This is the case in Toqabaqita (Lichtenberk, 2008) and Nêlêmwa (Bril, 2016), where the perfect expresses a change of state, and in the latter it can also co-occur with temporal adverbials (Bril, 2016:83). These unusual features have led to two different ways of analyzing the perfect. In the typological approach, these different functions of the perfect, common in Austronesian languages, were taken as symptomatic of a

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²All the examples in this paper follow the Leipzig Glossing Rules except DP – direct possession, NEG1 – first marker of discontinuous negation, NEG2 – second marker of discontinuous negation, and PSP.REAL – prospective realis, v – epenthetic vowel preceding suffixes of direct possession.

new typological category, called iamitive (Olsson, 2013; Dahl & Wälchli, 2016).³ This category is understood as uniting the function of the resultative perfect and the meanings of ‘already’. On the other hand, in the formal semantics approach, it has been shown that the analysis of the perfect and perfect-like functions can vary depending on the language. For instance, Koontz-Garboden (2007) argues for a well-behaved perfect in Tongan, whose change-of-state meaning is derived through aspectual coercion. A marker diachronically related to the Tongan perfect has been reanalyzed as an inchoative marker in Samoan (Hohaus, 2017) and Niuean, where it additionally places the event in the Perfect Time Span⁴ (Matthewson et al., 2015). In Javanese, Vander Klok & Matthewson (2015) show that the perfect-like marker *wis* should be semantically analyzed as equivalent to the meaning of ‘already’.

Following these different perspectives on the perfect in Oceanic languages, the Nafsan perfect lends itself as a good case study, particularly because it can co-occur with temporal adverbials in certain contexts, and it can encode a change of state with stative verbs. In the semantic analysis of the perfect in Nafsan presented in this paper, I show that all functions of the perfect, including the “unexpected” ones, can be derived from Klein (1994) definition of perfect as placing the Topic Time (TT) in the posttime of the Situation Time (TSit).⁵ I analyze all the attested functions of perfect in Nafsan and show how their meanings are derived. By analyzing the processes through which certain “unexpected” meanings are derived, I argue for three main generalizations regarding the nature of Oceanic perfects:

1. Present perfect is incompatible with temporal adverbials. If perfect can occur with temporal adverbials in a tenseless language, this might be due to the reinterpretation of perfect as past or future perfect. In this case, the temporal adverbial is interpreted as being in TSit instead of TT.
2. In languages without any dedicated morphology for the expression of change of state, this meaning can be achieved through aspectual coercion of states marked by perfect (cf. Koontz-Garboden, 2005, 2007).
3. Duality in negation does not necessarily arise from the meaning of aspectual particles like ‘already’ (Löbner, 1989). It can also arise as a consequence of aspectual coercion of states into changes of state marked by perfect.

Finally, these three points are taken to show the importance of language-internal and system-dependent factors that govern how a specific TMA category will be expressed. This speaks against the category of iamitives, which neglects complex language-internal interactions between semantics, pragmatics, and syntax. In contrast to iamitives, I argue that the perfect as a category that places the TT in the posttime of the TSit is a good candidate for a typologically valid category,

³Some of the languages said to have a iamitive category are Indonesian, Mandarin Chinese, Mwotlap (Oceanic), Toqabaqita (Oceanic), Thai, and Vietnamese (Olsson, 2013).

⁴(Matthewson et al., 2015) defines it in the following way: “This is an interval whose left boundary is provided by some temporal adverbial, and whose right boundary is provided by tense, and within which an event is placed by the perfect (Iatridou et al., 2001:158).”

⁵TT is the time the assertion is about and TSit is the time at which the event took place (see Klein, 1994).

whose cross-linguistic differences can be explained by different processes operating in individual language systems, without the need to posit different lexical definitions of the perfect.

This paper is structured as follows: Section 2 discusses the methodology, Section 3 outlines the main predicate structure in Nafsan, Sections 4 and 5 analyze different functions of the perfect, Section 6 compares the functions of the perfect and ‘already’, and Section 7 is a conclusion.

2 Methodology

In this section I describe the methodology for deriving the analysis of the semantics of the perfect and elicitation methods used to elicit specific structures in Nafsan.

In the grammar of Nafsan, Thieberger (2006:168) described the category of perfect aspect by offering a few examples with a resultative function. In order to understand the full distribution of the perfect and all of its available functions, I consulted the corpus of Nafsan (Thieberger, 1995–2018) and collected further data in two field trips to Erakor village (see Figure 1) in 2017 and 2018. During my 2017 field trip I elicited the *perfect* and *future* questionnaires designed by Dahl (2000) with one speaker. I also elicited storyboards developed in the MelaTAMP project and Totem Field Storyboards with several speakers,⁶ ranging from 2 to 9 speakers depending on the storyboard. The elicitation process would start by me telling the story in Bislama and then letting the speaker retell it in Nafsan. Depending on the speaker, there was a different level of independence in retelling the story, as some speakers required to consult the text in Bislama referring to a storyboard picture. However, there was no indication of translation effects with any of the speakers, which might result from the fact that categories related to perfect in Bislama behave differently from the Nafsan perfect. In 2017 I used two storyboards targeting change-of-state meanings (von Prince, 2018b; TFS, 2012) I hypothesized that they could be expressed with the perfect, and others targeting modal contexts. Regardless of the intentionally targeted contexts, all the storyboards as parallel texts proved to be an important source for the data on perfect aspect. After developing an analysis of the perfect based on the data collected in 2017, I designed storyboards targeting crucial functions of perfect aspect (Krajinović, 2018; Krajinović, 2018). In my second field trip in 2018 I elicited these storyboards together with the Totem Field Storyboard “Miss Smith’s bad day” (Matthewson, 2014). Relevant examples from storyboards will be referenced and explained in the sections below. All the examples with a reference starting by AK1 and including a time stamp come from my fieldwork data archived in PARADISEC (Krajinović, 2017). Examples referenced by an identifier number are taken from the corpus of Nafsan (Thieberger, 1995–2018).

3 The structure of Nafsan

Nafsan is an SVO language with a predicate structure often termed *verbal complex* in Oceanic languages. The verbal complex usually consists of a marker with the person and number reference of the subject and other tense, mood, aspect (TMA) or polarity markers, typically preceding the verb. Subject proclitics are portmanteau morphemes that carry TMA values and they are also the

⁶Storyboards are picture-based stories which contain the intended semantic context and targeted meanings (see also Burton & Matthewson, 2015). All the relevant storyboards are cited throughout the article.



Figure 1: A map of the island of Efate showing the locations where Nafsan is spoken

only obligatory marking of the verb (Thieberger, 2006:149). They attach to any following word: a TMA marker, an auxiliary verb, a benefactive phrase, or the verb (Thieberger, 2006). Each marker occupies a specific morphosyntactic position and its position in the verbal complex is fixed relative to the other elements. Table 1 shows the ordering of these elements in the Nafsan predicate. Each category is exemplified with a given functional word in the second row.

Table 1: Exemplified verbal complex in Nafsan adapted from Thieberger (2006:243)

SBJ.AGR	TMA	NEG1	AUX	BEN	Verb	COMPL	NEG2
<i>i=</i> (3SG)	<i>pe</i> (PRF)	<i>ta(p)</i>	<i>to</i> (PROG)	<i>ga</i> (3SG)		<i>su</i>	<i>mau</i>

Table 2: Subject proclitics in Nafsan based on Thieberger (2006:150)

	General	Irrealis	Perfect-agreeing
1SG	<i>a=</i>	<i>ka=</i>	<i>kai=</i>
2SG	<i>ku=</i>	<i>ḡa=</i>	<i>kui=</i>
3SG	<i>i=</i>	<i>ke=</i>	<i>ki=</i>
1DU.INCL	<i>ta=</i>	<i>tak=</i>	<i>takai=, tai=</i>
1DU.EXCL	<i>ra=</i>	<i>rak=</i>	<i>rakai=</i>
2DU	<i>ra=</i>	<i>rak=</i>	<i>rakai=</i>
3DU	<i>ra=</i>	<i>rak=</i>	<i>rakai=, rai=</i>
1PL.INCL	<i>tu=</i>	<i>tuk=</i>	<i>tu=, tui=, tukoi=</i>
1PL.EXCL	<i>u=</i>	<i>ko=</i>	<i>ui=, koi=</i>
2PL	<i>u=</i>	<i>ko=</i>	<i>koi=</i>
3PL	<i>ru=</i>	<i>ruk=</i>	<i>rui=, rukui=</i>

Table 3: TMA markers in Nafsan

TMA marker	Proclitic	Function
<i>pe</i>	perfect-agreeing, general	perfect
<i>fe</i>	irrealis	immediate future
<i>po</i>	general	prospective realis
<i>fo</i>	irrealis	prospective irrealis
<i>f</i>	general, irrealis	conditional
<i>fla</i>	general, irrealis	potential
<i>ta</i>	general, irrealis	‘still’

Thieberger (2006) divides the subject proclitics in three paradigms: realis, irrealis, and perfect. In my work on Nafsan, I reanalyzed realis as a general subject marking unspecified for mood (Krajinović, 2018), and the perfect paradigm as being perfect-agreeing, and not encoding perfect aspect on its own. The perfect-agreeing proclitics can only encode perfect aspect in combination with the perfect marker *pe*. The three subject proclitic paradigms are exemplified in Table 2.

TMA markers attach to the subject proclitics and depending on their meaning, they can combine with only one or two paradigms presented in Table 2. These restrictions are listed in Table 3 for all the TMA markers of that slot.⁷ In this paper, I focus on the perfect marker *pe* which can combine with either the general or perfect-agreeing proclitics without a difference in the meaning, although the combination with perfect-agreeing proclitics is considerably more frequent.

4 Past, present, and future perfect meanings

In this section I analyze the functions of the perfect in Nafsan which are equivalent to the functions of past, present, and future perfect in English. These functions are resultative, experiential, and universal perfect, as well as the presence of adverbial restrictions and anteriority readings.

The resultative function of the perfect was tested with the storyboard “Making laplap” (Krajinović, 2018). This story is about two friends who are preparing laplap, Vanuatu’s national dish. One of the steps of the cooking process shown in the storyboard is the grating of the taro. One of the friends finishes grating the taro and produces the sentence in (1). For this targeted sentence 6 out of 6 consulted speakers produced perfect aspect on the verb.

- (1) *Kineu kai=pe maa ntal su.*
 1SG 1SG.PRF=PRF grate taro COMPL
 I have grated the taro. (AK1-146-02, 00:02:32.335-00:02:41.410)

As we can see, the process leading up to the completion of grating the taro in the story ensures that a resultative reading is unambiguously intended. Interestingly, when there is no indication of a clear preceding cause of the event, the perfect marking is optional. We can confirm this with an example from the storyboard “Miss Smith’s bad day” (Matthewson, 2014). In this storyboard,

⁷This is the TMA slot in Table 1. Auxiliary verbs in the slot AUX do not have restrictions on subject proclitics.

Miss Smith tries to teach her class but gets continuously interrupted by her students. At one point, one student tells her that Bob has fallen asleep, as in (2). In this context, there is no clear cause or a process leading up to Bob falling asleep. This means that the speaker can choose whether they want to express that Bob falling asleep is a resultative state or not. This is confirmed in the Nafsan data, where only 1 out of 5 speakers used the perfect in this context and others resorted to the general marking on the verb.

- (2) *Bob ki=pe matur.*
 Bob 3SG.PRF=PRF sleep
 Bob has fallen asleep. (AK1-146-04, 00:03:25.753-00:03:30.766)

The second function discussed here is the experiential function of the perfect. In the storyboard “Miss Smith’s bad day” this meaning is targeted by Miss Smith asking a question in (3) and a student’s answer in (4). Perfect was used in both sentences by 5 out of 5 speakers. The analysis that experiential meanings are a function of perfect is supported by the fact that speakers judge sentences without perfect unacceptable with the experiential reading (cf. recording AK1-123-01).

- (3) *Fei kin ki=pe pag-ki ntaaf?*
 who COMP 3SG.PRF=PRF climb-TR mountain
 Who has ever climbed a mountain? (AK1-147-04, 00:00:48.786-00:00:50.800)
- (4) *Kineu kai=pe pag-ki ntaf i=skei su.*
 1SG 1SG.PRF=PRF climb-TR mountain 3SG=one COMPL
 I have climbed a mountain. (AK1-147-04, 00:00:57.590-00:01:01.796)

Experiential readings are also possible with stative verbs. In (5) the state of being red⁸ receives an experiential reading.

- (5) *Nasuñ neu ki=pe pei miel, me ki=pe tap miel malfanen mau.*
 house 1SG.POSS 3SG.PRF=PRF first red but 3SG.PRF=PRF NEG1 red now NEG2
 My house has been red before, but it’s not red anymore. (Lionel Emil, 04/02/18, based on Koontz-Garboden 2007:142)

Universal (‘since’) readings of perfect in Nafsan were targeted in the storyboard “Haircuts” (Krajinović, 2018). In this storyboard two friends who have not seen each other in a long time meet and comment on their haircuts. After his friend points out how his hair has grown, the character produces the sentence in (6). In this context, all the speakers that produced the targeted ‘since’ structure used the perfect.⁹

- (6) *nal-u-k ga ki=pe pei top malpei mai malen kin a=to lag*
 hair-V-1SG.DP that 3SG.PRF=PRF first big before come when COMP 1SG=PROG sing
eñrom ni band i=skei
 inside of band 3SG=one
 My hair has been long since I started singing in a band. (AK1-152-03, 00:03:00.705-

⁸In Nafsan all property concepts are verbs.

⁹3 out of 5 speakers produced the targeted ‘since’ structure.

00:03:14.338, based on Koontz-Garboden 2007:142)

I turn to the expression of anteriority in Nafsan, which is equivalent to the meaning of past and future perfect in English. In Nafsan, the same form of perfect can express anteriority in relation to the TT in past and future contexts. One such future context is presented in (7).

- (7) Context: [B is setting out on a journey. A intends to sell her own house while B is away. A tells B:] (Dahl, 2000:TMAQ 84)

malraan p̄a=ler mai ntau nen tu me kai=pe sor nasuñ neu
when 2SG.IRR=return come year that next and 1SG.PRF=PRF sell house 1SG.POSS
kia.
that

When you come back next year, I will have sold my house. (AK1-132-01)

The interesting property of anteriority readings is that, unlike other readings mentioned so far, they allow a co-occurrence with temporal adverbials. This can be illustrated by the contrast between (8) and (9).

- (8) Context: A question asked at 9 o'clock a.m.: Why do you look so tired? Answer: I WAKE UP at 4 o'clock this morning (TT). (Dahl, 2000:TMAQ 16)

**kai=pe/ a=pilo 4 oklok p̄ulp̄og.*
*1SG.PRF=PRF 1SG=wake.up 4 o'clock morning

I woke up at 4 o'clock this morning. (AK1-119-01)

- (9) Context: If your alarm is set for 5 a.m. (TT), but by chance you woke up at 4 a.m. (TSit).

Kai=pe pilo 4 oklok p̄ulp̄og.
1SG.PRF=PRF wake.up 4 o'clock morning

I had woken up at 4 o'clock in the morning. (AK1-119-01)

Example (8) evidences that specific temporal adverbial of 4 a.m., which sets the TT, is incompatible with perfect. This is equal to the English present perfect. However, (9) shows that 4 a.m. can be reinterpreted as being in TSit, if there is an indicated TT which is temporally posterior to it (5 a.m. in this case).

This leads us to the semantic analysis of perfect aspect in Nafsan. I adopt the analysis proposed by Klein (1994) for perfect in English, as outlined in (10) and visualized in (11).

- (10) Perfect places TT in posttime of TSit (Klein, 1994).

- (11) —pretime—TSit—[TT=posttime]—

This analysis explains the resultative, experiential, universal, and anteriority readings where TT is in the posttime of the event described by the verb. It can also explain the incompatibility with temporal adverbials, as in (8). Since perfect places TT in the posttime of the event, the temporal reference of when the event took place is incompatible with its own posttime. However, if the

context provides a salient TT posterior to the event, then perfect can co-occur with a temporal adverbial situated in TSit. Perfect expresses being in the posttime of the TSit, and thus, the event achieves a reading of anteriority in relation to TT.

As a tenseless language, Nafsan has shown that perfect can have either past, present or future readings, which has important implications on adverbial restrictions with perfect. One of the main tests for the perfect cross-linguistically is to see whether it can co-occur with temporal adverbials, since that is not expected from the present perfect. However, in a tenseless language or a language where the perfect cannot combine with tense, the perfect can easily be reinterpreted as either past or future perfect and temporal adverbials as being in TSit.¹⁰ This property needs to be expected from perfects in tenseless languages and included in the typology of the perfect.

5 Change-of-state meaning

In this section I analyze the meanings of change of state that arise with the perfect and I show how they can be derived from the analysis presented in Section 4.

Olsson (2013) observed that in some languages resultative perfect behaves differently from the English perfect when it comes to states. He illustrates this difference by comparing examples (12) and (13), where (12) has the meaning of English perfect and (13) has the meaning of what he calls “iamitives”.

(12) The fruit has been ripe.

(13) The fruit is/has become ripe.

Unlike the English perfect, iamitives necessarily express a change of state with stative verbs, in which they resemble the meanings of the aspectual particle ‘already’. Essentially, the meaning of change of state is only possible with states which have an initial boundary like ‘ripe’, but not with properties like ‘raw’ (Olsson, 2013). This prediction is borne out in Nafsan, where perfect can be used with the property of ‘ripe’ (14), but not ‘raw’ (15).

(14) (Imagine some fruit that is common in your area) You can eat this one. It BE RIPE. (Olsson, 2013:47)

ku=tae paam tene, ki=pe mam.

2SG=can eat that 3SG.PRF=PRF ripe

You can eat that, it’s ripe. (AK1-156-01)

(15) (Imagine some fruit that is common in your area) You cant eat this one. It BE RAW. (Olsson, 2013:47)

*ku=kano paam tene, (*ki=pe) i=ta met.*

2SG=cannot eat this 3SG.PRF=PRF 3SG=still raw

You can’t eat this, it’s still raw. (AK1-156-01)

¹⁰Cleary-Kemp (2015) has observed this type of behavior with perfect in Koro, a tenseless Oceanic language of Admiralty Islands.

In the storyboard “Haircuts”, the meaning of change of state of the hair color was also derived by the perfect, as shown in (16). This shows that the perfect gives rise to a change of state interpretation with states¹¹ and contrasts with individual-level properties marked only with the general marking, as in (17).

(16) *Malfane nal-u-k ki=pe taar.*
 now hair-V-1SG.DP 3SG.PRF=PRF white
 My hair is blond now. (AK1-146-03, 00:03:31.991-00:03:33.853)

(17) *ku=lek faat ne faat nen i=top*
 2SG=look stone this stone that 3SG=big
 You look at that stone. That stone is big. (015.033)

In contrast to the iamitive analysis (Olsson, 2013), I account for these properties of the perfect by maintaining the analysis of placing the TT in the posttime of TSit and adopting the analysis of aspectual coercion proposed by Koontz-Garboden (2007) for Tongan. In Nafsan, like in Tongan, there is no derivational change-of-state morphology, which leads to the possibility of one same verb having both stative and change-of-state interpretations. Although in an example like (17) only a stative meaning is possible, in specific contexts where a stage-level property is described, a stative verb can be coerced into the meaning of change of state. As we can see in (18), the otherwise stative verb *pi* ‘be’ is interpreted with the change-of-state meaning of ‘become’.¹² Since *pi* is marked by the general subject marking, this effect is triggered by the meaning of *pan go* ‘until’ (literally ‘go and’).

(18) *ra=po lekor wes pan go i=pi teesa p̄ur*
 3DU=PSP.REAL watch 3SG.OBL go and 3SG=be child big
 They looked after him until he became a big boy. (074.009)

Example (18) shows that, depending on the context, stative verbs in Nafsan can be coerced into changes of state. This is exactly what happens with functions of perfect that require a dynamic interpretation – the change-of-state interpretations with perfect arise only with the resultative perfect in Nafsan. Experiential and universal functions of perfect are compatible with states without triggering a change-of-state meaning, see examples (5) and (6).¹³ A definition of resultative perfect is given in (19).

(19) Definition of the resultative perfect by Koontz-Garboden (2007:124): “A perfect in the resultative reading denotes a state ϕ which is true at an interval R iff there is an interval E, the final moment in E is the initial moment in R, and ϕ is false at the initial bound of E and true at the interval R.”

When resultative perfect semantics combines with states, it gives rise to an inference that the state

¹¹The meaning of change of state can also be derived with dynamic verbs marked with the progressive marker and perfect.

¹²This is not the only strategy to express the meaning of ‘become’. A more frequent strategy in Nafsan would be to say *mai pi*, literally ‘come be’.

¹³This also shows that an inchoative analysis as suggested by Matthewson et al. (2015) for Niuean would not explain Nafsan data.

denoted by it was preceded by a change into it, which is in conflict with the stative semantics, and this leads to coercion of states into changes of state (Koontz-Garboden, 2007). Thus, the change of state is interpreted as TSit and TT is placed in the posttime of this change of state. This is illustrated in (20). Regarding the definition in (19), TSit corresponds to E, TT to R, and the posttime to ϕ .

(20) $\neg P$ ——[TSit=change-of-state][TT=P]——

Although the iamitive analysis attempts to capture the connection between resultative perfects and the meaning of change of state by analyzing them as a new typological gram, it fails to show the semantic connection between the change-of-state meaning and other functions of the perfect. The case of Nafsan shows that the meaning of change of state is not unrelated to experiential and universal perfects, and anteriority readings. Instead of positing a new typological category, we should focus on the language-internal processes that lead to the perfect developing the change-of-state meaning. The question here is why aspectual coercion of states happens with the perfect in Nafsan. Following Koontz-Garboden's (2007) observations, there are two typological features of Oceanic languages that might make them susceptible to developing this meaning. Firstly, Oceanic languages do not encode the meanings of change of state derivationally and thus need to employ other processes triggered in specific contexts, such as aspectual coercion, to disambiguate the change of state readings from states. Secondly, they do not distinguish verbs from adjectives in the predicate position. This means that property concepts behave like verbs and in a resultative perfect reading require a dynamic interpretation of change of state.

6 'Already': earliness implication and duality

It has been shown that the meaning of change of state, as described in Section 5, is related to the meaning of 'already' (Vander Klok & Matthewson, 2015). Olsson (2013) considers the meaning of 'already' to be an integral part of the iamitive semantics. Coming back to the example of 'fruit being ripe' (Section 5), we can see that the change-of-state meaning in Nafsan is semantically closer to a sentence like (21) in English than it is to the version with English perfect in (12).

(21) The fruit is already ripe.

This section addresses the relationship of the Nafsan perfect meanings with the meaning of 'already'. There are two defining semantic properties of 'already' I explore here. These are the earliness implication and effects of duality with negation. 'Already' has an implication that the event took place earlier than expected (Krifka, 2000). Olsson (2013) also takes "expectedness" that an event was going to take place as a defining characteristic of iamitives. However, in Nafsan the perfect does not have the earliness implication or expectedness as a part of its semantics. Example (22) comes from the storyboard "Fat pig" (von Prince, 2018a), where the main character gets a pig he needs for his big traditional ceremony. He fenced the pig off, but the next day, to his surprise, the pig was not there. As we can see, perfect is used here to indicate the anteriority of the event of 'pig escaping' and the interpretation that the event was expected would not be possible.

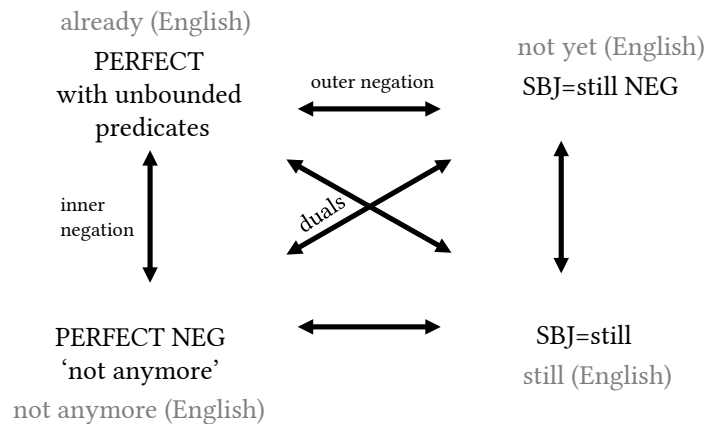


Figure 2: Duality schema with Nafsan perfect (in black font), based on Löbner (1989) and Krifka (2000)

- (22) *Me malnran kin i=pan “check”, i=pan lak t̄per ni waak me i=laka na*
 but when COMP 3SG=go check 3SG=go see fence of pig but 3SG=see COMP
waak ki=pe p̄rai t̄per, ki=pe sef.
 pig 3SG.PRF=PRF break fence 3SG.PRF=PRF escape
 But when he went to check, he went to see the fence with the pig and he saw that the pig had broken the fence, it had escaped. (AK1-022-01, 00:03:24.726 - 00:03:37.121)

The earliness implication does not arise in Nafsan even in the case of resultative readings. Example (23) shows a context from the iimitive questionnaire (Olsson, 2013:48) where an unexpected event is targeted. In Nafsan, perfect can be felicitously used in this case, which shows it does not behave like ‘already’ in this respect.

- (23) How strange, my uncle COME. (He wasn't invited/I thought he wouldn't come.) (Olsson, 2013:48)
- Kau, ga ki=pe mai!*
 Oh 3SG 3SG.PRF=PRF come
 Oh, he came! (AK1-156-04)

The second property of ‘already’ considered here is duality, which has to do with the interaction of ‘already’, ‘still’, ‘not yet’, and ‘not anymore’ in negation. Löbner (1989) noticed that the outer negation of ‘already’ is ‘not yet’, which is truth-conditionally equivalent to the internal negation of ‘still’. Also, the outer negation of ‘still’ is ‘not anymore’, which is truth-conditionally equivalent to the inner negation of ‘already’ (Löbner, 1989). The set of these relationships is illustrated in Figure 2, including both Nafsan and English strategies for expressing these meanings.

As we can see in Figure 2, perfect enters the duality schema entirely only with unbounded predicates, with which the negated perfect obligatorily gives rise to the meaning of ‘not anymore’, as in (24).

- (24) *totur ntau i=nru nal-u-k ga i=miel me malfane nal-u-k*
 during year 3SG=two hair-V-1SG.DP 3SG 3SG=red but now hair-V-1SG.DP
ki=pe ta miel mau.
 3SG.PRF=PRF NEG1 red NEG2
 During these two years my hair was red, but it's not red anymore. (AK1-154-03, 00:03:36.645-00:03:52.483)

In the case of perfect-marked bounded predicates, the meaning of ‘not anymore’ does not arise with negation and we can see this in (25), where the intended meaning is a simple negation of the described event.

- (25) *Malen p̄a=ler kai=pe ta mtir natus mau.*
 when 2SG.IRR=back 1SG.PRF=PRF NEG1 write letter NEG2
 When you come back I will not have written the letter. (by Lionel Emil, 19/06/2018)

However, even with bounded predicates the meaning of ‘not yet’ cannot be expressed with negated perfect. As we can see in (26), the perfect can only be chosen for positive resultative readings, but not for the negative ones expressing ‘not yet’. Instead, the negation of *ta* ‘still’ and general subject marking is the only possible structure. The reason for this comes from the fact that the only way to express ‘not yet’ is to negate *ta* ‘still’. Since *ta* ‘still’ is a TMA marker which occupies the same slot as the perfect *pe* (see Table 1), they are morphosyntactically incompatible. In fact, none of the TMA markers of that slot can combine with each other. Thus, the reason perfect is incompatible with ‘still’ and ‘still not’ (=‘not yet’) is only morphosyntactic, rather than semantic.

- (26) *Ale ki=pe ptu-ki nuan me tomat i=ta tap ptu-ki nuan mau.*
 then 3SG.PRF=PRF give-TR fruit but tomato 3SG=still NEG1 give-TR fruit NEG2
 It [pumpkin] gave fruit, but tomato hasn't given fruit yet. (AK1-038-01, 00:01:28.459-00:01:39.486)

In contrast, the ‘not anymore’ meaning with unbounded predicates deserves a semantic explanation. As shown in Section 5, these predicates are aspectually coerced into changes of state. Thus, if P is the posttime of the change of state, we need to assume that prior to the change of state $\neg P$ was the case, see (27). If we negate P, then, given that it resulted from a change of state, we must assume that prior to that P was the case (28), and this is the meaning of ‘not anymore’.

- (27) Positive perfect: $\neg P$ —[change-of-state][TT=P]—

- (28) Negation of perfect: P—[change-of-state][TT= $\neg P$]—

In conclusion, the meaning of ‘not anymore’ is simply a result of the aspectual coercion process that affects all unbounded predicates marked with perfect. Equally, the marker *ta* ‘still’ is morphosyntactically incompatible with the perfect *pe* because they occupy the same morphosyntactic slot. Thus, the effects of duality we see in Nafsan result from different language-internal processes and, in contrast to ‘already’ in English, these effects are not related to the semantic definition of the perfect.

7 Conclusion

In this paper I analyzed different readings of the perfect in Nafsan, which can all be derived from its definition of placing the TT in the posttime of TSit. These perfect readings were analyzed in comparison to the functions of English perfect, ‘already’ and the proposed iamitive gram. The semantic space of these three categories, together with the outlined functions of perfect in Nafsan, is illustrated in Figure 3.

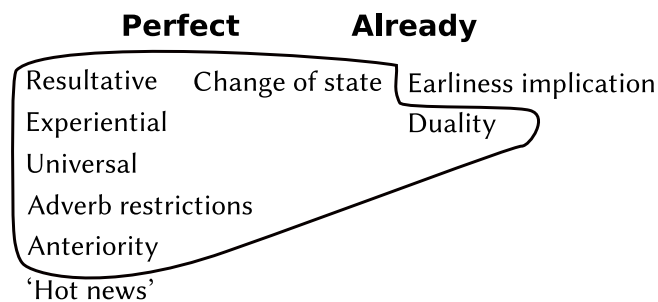


Figure 3: Outlined functions of perfect in Nafsan

The analysis of past, present, and future perfect functions in Section 4 showed that Nafsan does not have adverbial restrictions with perfect in the same sense as the English perfect. Since Nafsan is a tenseless language, the perfect can easily be interpreted with any temporal reference. Thus, although temporal adverbials are incompatible with present perfect readings, in the presence of a temporal adverbial with perfect in Nafsan, it is possible to reinterpret it as past or future perfect. In this case, the temporal adverb is interpreted as being in TSit and another contextually available reference point, posterior to TSit, is the TT where the posttime of the event is situated. This observation has important consequences on the expected behavior of the perfect in tenseless languages. Crucially, co-occurrence with temporal adverbials is not necessarily a sign that we are not dealing with the category of perfect. These co-occurrences might be specific to the meanings of past and future perfect.

The analysis of the meaning of change of state in Section 5 showed that states marked by perfect in Nafsan are aspectually coerced into changes of states. When the resultative perfect combines with states in Oceanic languages, its semantics requires there to be a dynamic event leading to the result state, which causes the aspectual coercion of states into changes of state. Cross-linguistically, there might be several factors that make Nafsan and other Oceanic languages likely to have a change of state interpretation with perfect-marked states. Koontz-Garboden (2005) found that only in languages where states are lexicalized as verbs and not adjectives, as is the case in Oceanic languages, these verbs can be used with both stative and change-of-state meanings. Thus, since the meanings of change of state are not marked derivationally and stative verbs can be coerced into changes of state in certain contexts, perfect aspect is just another context where the aspectual coercion is possible.

Section 6 argued that duality effects with the Nafsan perfect are caused differently from ‘already’ in English. Firstly, perfect *pe* cannot combine with *ta* ‘still’ because they occupy the same syntactic position, which explains the lack of ‘still not/not yet’ and ‘still’ meanings with perfect.

The second duality effect has to do with the meanings of ‘not anymore’ which arises only when the posttime of a change of state is negated. This duality effect is a consequence of the aspectual coercion into a change-of-state meaning which implies that the negated posttime did hold prior to the change of state.

The three main arguments made in Sections 4, 5, and 6 evidence that specific “unexpected” meanings of the perfect can be derived successfully without positing the iamitive category. Iamitives are semantically broadly defined by the change of state meaning that differentiates it from “ordinary” perfects (Olsson, 2013). The change of state meanings are taken to derive from the meaning of ‘already’ and other iamitive functions stem either from the resultative perfect or ‘already’. This means that other perfect functions such as experiential or anteriority readings are excluded from its definition as a typological gram. In the case of Nafsan we have seen that neither the change of state meaning nor duality with perfect are semantically related to ‘already’. Separate language-internal processes, such as aspectual coercion, and possibly lack of change-of-state morphology lead to such interpretations of perfect-marked verbs. This speaks against the iamitive idea that these change-of-state interpretations are a piece of evidence for a combination of perfect and ‘already’ meanings. Although some of the meanings analyzed in this paper might superficially resemble ‘already’, they are in fact instantiations of perfect aspect with the same lexical definition as in English (Klein, 1994). This puts us in a position to conclude that the perfect as a category that places the TT in the posttime of TSit is a good candidate for a typologically valid category. This case study showed us that the differences attested between perfects across languages can often be explained by specific processes operating in their systems and are not necessarily related to different lexical definitions of perfect.

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