When (not) to establish a new category. The case of perfect, 'already', and iamitives

Ana Krajinović, Jozina Vander Klok, Kilu von Prince

Manuscript: 10th March 2023

Contents

Abbreviations

1–1st person, 2–2nd person, 3–3rd person, AND–andative, ASSOC–associative, ASRT–assertive, ATT–attributive, AV–actor voice, COMP–complementizer, DEF–definite, DEM–demonstrative, DET–determiner, DP–direct possession, DU–dual, E–existential, EXP–experiential, FOC–focus, IAM–iamitive, IMM–immediate, INCP–inceptive, LNK-linker, LOC–locative, NEG–negation, NFUT–non-future, OBJ–object, PFV–perfective, PL–plural, POSS–possessive, PRF–perfect, PROG–progressive, PSP–prospective, Q–question particle, REAL–realis, SG–singular, TEST–test, TR–transitive, V–epenthetic vowel with possession in Nafsan, VPRT–post-verbal particle

Abstract

In this paper, we analyze the semantic space of perfect and 'already', and challenge the necessity of assuming the existence of the newly proposed category of iamitives (Olsson, 2013), which is said to have a core meaning of change of state, similarly to 'already', with an additional resultative meaning making it also similar to the perfect aspect. We investigate several perfect/iamitive/'already' markers in Nafsan, Toqabaqita, Unua, Javanese, and Mandarin Chinese. We argue that characteristics that have been taken as evidence to necessarily posit iamitives, including the availability of the change-of-state meaning or the lack of the experiential function, can be explained by the interaction between the perfect/'already' and the following language-internal mechanisms: (a) aspectual coercion in languages with underspecified verbal aspect can explain the presence of the change-of-state meaning with perfect aspect; (b) paradigmatic blocking can explain the lack of some perfect functions of a given marker in a language; and (c) compatibility in meaning can explain certain overlaps between perfect and 'already'. This approach of identifying fine-grained meanings can also facilitate large-scale typological comparisons, as the distribution of these fine-grained meanings can be systematically tested for correlation with other language-internal mechanisms.

Keywords: aspect, perfect, already, iamitive, linguistic category, Austronesian

1 Introduction

In this paper we address current approaches to the semantics of the perfect aspect, 'already', and iamitives, and argue for focusing on fine-grained meanings of these categories. The motivation for this paper comes from recent debates about the validity of the category of iamitives, proposed by Olsson (2013) and Dahl & Wälchli (2016) to be a new linguistic category.

The aspectual category of iamitives has been proposed in the typological literature based on the observation of elements whose functions combine meanings of English Perfect and English 'already' (Olsson, 2013). Olsson (2013) and Dahl & Wälchli (2016) delimit iamitives in terms of how they overlap with and differ from these two categories: Iamitives share the resultative reading with the perfect, but lack all other readings (e.g., experiential, universal, anteriority). Iamitives also differ from perfects in that they express a change of state with stative predicates, similar to English 'already'. Iamitives are argued to differ from English 'already' in being more frequent, which the above authors take to indicate a higher degree of grammaticalization, following grammaticalization correlates in e.g. Bybee et al. (1994:2).

By contrast, other semantic approaches to individual languages have analyzed *bona fide* iamitives as either perfect or 'already' (Matthewson et al., 2015; Vander Klok & Matthewson, 2015; Krajinović, 2020). They propose to derive the differences between the markers under study and English Perfect or 'already' from language-specific properties, rather than positing a new and different grammatical category. However, these studies do not expressly address the general challenges of the proposal of iamitives vis-à-vis analyses of both 'already' and perfect.

In this paper, we reflect on our current understanding of the semantic space between 'already' and perfect, warning against certain challenges for the proposal of iamitives as a separate category, and we provide possible solutions to be considered in future research on this topic. We argue that, on the one hand, the observation that some groups of languages have perfect/'already'-like markers which differ systematically from both these English counterparts is interesting and an important incentive for more in-depth research. On the other hand, categorizing this observation under a label such as 'iamitives' can provide a false sense of certainty that we have understood what we are dealing with, and that further research into the matter can be reduced to identifying the right label to apply to a given language-specific expression, at the expense of the more fine-grained investigations that would be needed to test more highly theorized hypotheses. We argue that the category of 'iamitives' is not, at the moment, a meaningful concept for linguistic analysis because it is neither explanatory nor predictive.

We bring together new empirical insights on studies of aspectual markers across five languages: Nafsan [erk] (Oceanic), Toqabaqita [mlu] (Oceanic), Unua [onu] (Oceanic); which each build on Krajinović (2020); Javanese [jav] (Malayo-Polynesian), which expands on Vander Klok & Matthewson (2015); and Mandarin Chinese [cmn] (Sinitic), which contrasts from Olsson (2013). In fact, the markers under study in Javanese and Mandarin Chinese have previously been argued to be iamitives (Olsson, 2013; Dahl & Wälchli, 2016; Dahl, 2022). In this paper, we show that language-internal mechanisms (aspectual coercion, blocking principles, and meaning compatibility in our case studies) can explain the attested diversity in a semantically more informative way than assuming that they belong to the category of iamitives. By deconstructing perfect, 'already', and iamitives into fine-grained meanings and other linguistic mechanisms, we identify the challenges that the iamitive proposal will need to overcome in order to prove the necessity of assuming the existence of iamitives.

2 Background

2.1 Perfect and 'already'

The study of the perfect has a long-standing tradition across different areas of semantics—from formal semantics of perfect in English and other Indo-European languages (e.g., Klein, 1994; Iatridou et al., 2003; de Swart, 2007), to diverse semantic approaches of perfect in non-Indo-European languages (e.g., Li et al., 1982b; Tatevosov, 2001; Koontz-Garboden, 2007; Matthewson et al., 2015), and cross-linguistic typological studies (e.g., Comrie, 1976; Dahl, 1985; Bybee et al., 1994; Dahl & Velupillai, 2013; Bertrand et al., 2022; Dahl, 2022). Despite the disagreements in the literature on how and if different functions of perfect are semantically or pragmatically related to each other and whether they are cross-linguistic, linguists at least tend to agree on identifying the functions in (1) in the case of the English Perfect, which are usually the starting point for further cross-linguistic observations (see Dahl, 1985; Dahl & Velupillai, 2013).[1] Regardless of the theoretical approach, most linguists studying the perfect aspect in any language would start by checking the functions of the English Perfect, and

[1]Dahl & Velupillai (2013) explicitly say 'By perfect we mean a category with approximately the same semantics as the English (Present) Perfect'.

continue by identifying any additional functions (see also Dahl, 2000; Matthewson et al., 2015). The functions of the English Present Perfect, as identified by Comrie (1976) and others, are listed in (1-a)–(1-d), and (1-e) is the function of the Past and Future Perfect. (The examples are our own.)

(1) a. resultative (perfect of result): *Lionel **has arrived**.*
b. experiential (existential): *I **have been** to London.*
c. universal (perfect of persistent situation): *Ann **has lived** in New York since 2010.*
d. 'hot news' (perfect of recent past): *They **have** just **arrived**.*
e. anteriority: *When you arrived, I **had** already **left**./When you arrive, I **will have left**.*

The resultative perfect refers to a present state, which is a result of the past event described by the verb (Comrie, 1976:56),[2] and in English arises only with telic predicates (e.g., Kiparsky, 2002; Koontz-Garboden, 2007). In (1-a), Lionel's arrival is a past event and the result state referred to by the perfect expresses that Lionel is currently present. The experiential perfect in (1-b) indicates that the event of 'being in London' happened at least once at any time up to now (Comrie, 1976:58). The universal perfect in (1-c) indicates that Ann's living in New York started at some point in the past (in this case, 'in 2010') and that the event is currently ongoing (Comrie, 1976:60). Iatridou et al. (2003) note that the universal perfect is compatible only with stative and progressive situations; as such it is also compatible with progressive aspect (e.g., *has been living* in English). The 'hot news' perfect in (1-d) indicates that the event of arrival occurred in the recent past, typically supported by adverbs such as *recently* and *just* (Comrie, 1976:60). While the meanings in (1-a)-(1-d) are the functions of the English Present Perfect, the meaning of anteriority in relation to a given reference time, shown in (1-e), is expressed by the Past and the Future Perfect in English.[3]

Klein (1994) offers an attractive way of visualizing and relating these perfect meanings to each other. He defines the perfect aspect as situating the Topic Time (TT), the interval of time the assertion is about, in the posttime of the Situation Time (TSit), the interval of time at which the event takes place. Additionally, the relationship between the Utterance Time (UT) and TT establishes tense. In Klein's (1994) theory, the nature of the relationship between TT and TSit determines aspect and this means perfect is regarded as an aspectual category.[4] The placement of UT in relation to TT can additionally determine the temporal reference of past, present and future perfect. Figure 1 illustrates the timeline of the Present Perfect, based on Klein's (1994) definition. In this paper we use Klein's (1994) definition of the perfect only in order to illustrate certain connections between different perfect functions, and not to claim

[2]Note that the resultative perfect is different from 'resultative' as used in Bybee et al. (1994), following Nedjalkov (1988).

[3]In this paper, we use the term 'anteriority' descriptively, referring only to the meanings of past and future perfect, and not to anteriority as the definition of perfect (Klein, 1994), which underlies all the meanings of perfect listed in (1).

[4]Bohnemeyer (2014) introduces Perspective Time in the model of tense and aspect. According to this proposal, specific anteriority readings of past perfect and future perfect would correspond to a relative tense rather than aspect, for a different view see reply by Klein (2014). For the present paper, we adopt Klein's (1994) view of perfect as an aspectual category. While going into further details of aspect vs. tense debate is out of the scope of this paper, we point interested readers to the Nafsan example (9) in Section 4.1 and Krajinović (2020) for Oceanic data on past perfect interpretations that can be relevant in the context of this debate.

its cross-linguistic validity.

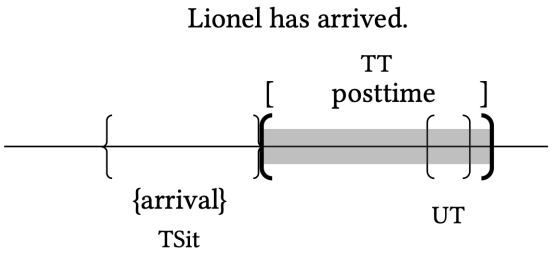

Figure 1: Representation of the Present Perfect, based on Klein's (1994) approach

While in the large-scale typological study by Dahl & Velupillai (2013), the resultative and the experiential functions of perfect are considered to be the core perfect functions cross-linguistically, recent typological research by Bertrand et al. (2022) challenges the notion that there is one kind of cross-linguistic validity of the perfect. Based on a smaller scale study of 15 languages, Bertrand et al. (2022) argue that there are at least three different cross-linguistic groupings, namely markers that express only the resultative function, only the experiential, and a hybrid between the two (as well as one grouping of past perfectives). This study reinforces the idea that researchers should focus on investigating the (shared) fine-grained semantic components of TMA markers.

We now turn to the semantics of the aspectual particle 'already', which has been extensively studied in German and English (e.g., Traugott & Waterhouse, 1969; Löbner, 1989; van der Auwera, 1993; Krifka, 2000), and in the cross-linguistic research on phasal polarity (e.g., van Baar, 1997; Kramer, 2018, 2021). More recently, 'already' has come to attention as a possible diachronic source of iamitives (Dahl & Wälchli, 2016), and as an aspectual category that needs to be distinguished from the perfect (Vander Klok & Matthewson, 2015). Vander Klok & Matthewson (2015) argue that, in contrast to the perfect, 'already' can be identified through the meaning of change of state, the presence of duality with negation, co-occurrence with past temporal adverbs, and the presence of the 'earlier than expected' implicature. In this paper, we refer to this implicature under a more general term of 'expectedness', which is compatible with the meaning of expectedness that Olsson (2013) identifies as a feature of iamitives (see Section 2.2). The meaning of change of state as the core meaning of 'already' was identified by Löbner (1989), who analyzed 'already' as involving an assertion that an event or a state holds, and a presupposition that it did not hold before, resulting in an interpretation of change of state, as in (2). Later works, such as Krifka (2000) and Vander Klok & Matthewson (2015), analyze the meaning of change of state as an implicature deriving from the focus-sensitive meaning of 'already', explained below. Both cases result in a change of state meaning; e.g., for (2), the baby is asleep at the TT, but was not asleep at some point in time before.

(2) The baby is already asleep.

Concerning the expectedness component of the meaning of 'already', Löbner (1989) and Krifka (2000) consider this meaning to be a pragmatic effect, while van der Auwera (1993) considers it to be a part of the lexical meaning of 'already'. Krifka (2000) analyzes 'already'

as a focus-sensitive particle, in the following way. While focus requires that there is at least one alternative to the asserted expression, 'already' in turn expresses a restriction of the considered alternatives of the focus, which are ordered in a specific way, for example numerically or temporally (Krifka, 2000). In (3) and (4), where '3 months old' is the focus (indicated by the subscript 'F' on 3), we can see how the presence and absence of 'already' affects which alternatives are considered. While the sentence in (3) makes no restriction on the considered alternatives, the presence of 'already' in (4) presupposes that the only salient alternatives for Lydia's age are ranked lower than the asserted focus. Thus, the asserted alternative in (4) is the highest among the ranked alternatives along this temporal scale (as based on age in months), and this brings about the pragmatic expectedness effect: the asserted alternative that 'Lydia is 3 months' is 'quicker' or 'earlier' along the temporal ordering in which the alternatives are ranked, leading to the implicature that Lydia is older than expected (Krifka, 2000). This implicature does not arise in (3) because the alternatives considered are not restricted in relation to the asserted focus.

(3) Lydia is 3_F months old. (Krifka, 2000:405)
Alternatives considered: 1 2 3 4 5 months old
Alternatives asserted: 3 months old

(4) Lydia is **already** 3_F months old. (Krifka, 2000:405)
Alternatives considered: 1 2 3 months old
Alternatives asserted: 3 months old

In order to test the relationships between the functions of perfect and 'already' studied in this section, we use and expand on the classical semantic map of perfect and 'already' presented in Krajinović (2020). Classical semantic maps are graphical representations of relationships between semantic functions, which capture patterns of cross-language semantic variation and, according to e.g., Croft (2001) and Regier et al. (2013), aim at reflecting universal cognitive relationships of meaning underlying cross-linguistic variation. The semantic functions in a semantic map are called 'nodes' and are connected via connecting lines to other adjacent semantic functions. The adjacency is measured by the possibility of functions being expressed by a single grammatical marker in different languages, and this is seen as reflecting the typological semantic similarity between functions (see Haspelmath, 2003). Since the adjacency indicates this semantic similarity, one lexeme or a grammatical category has to cover a connected area in the semantic map (Croft, 2001; Haspelmath, 2003; Gärdenfors, 2014).[5] Given that semantic maps can be easily tested against new language data, and falsified if any disconnected areas are found, they are a useful tool for testing the clusters of meanings expressed by the same categories cross-linguistically. Figure 2 shows Krajinović's (2020) semantic map of perfect and 'already'. The perfect functions are those we listed in (1) and the 'already' functions are change of state[6] and expectedness, as discussed

[5]Croft (2001) notes that the nodes in a semantic map can also represent pragmatic and discourse knowledge related to the meaning of the studied item.

[6]We use the term 'change of state' to refer specifically to the meaning as in (2), describing the meaning of stative verbs marked with 'already' (Löbner, 1989; Krifka, 2000) and the proposed iamitives (Olsson, 2013).

in this section. The dashed outline indicates the perfect meanings with which 'already' can combine. The placement of perfect and 'already' functions and the links between them are based on the sample of Oceanic languages analyzed in Krajinović (2020) and on the languages presented in this paper. In both samples, we find that resultative is the only function of perfect that can co-occur with experiential, universal, anteriority, hot news, and change-of-state meanings, while other functions co-occur under the same category only if the resultative is also present.[7] Placing the resultative in the center of our semantic map reflects this cross-linguistic observation and turns it into a typological prediction to be tested. This prediction can be falsified if different configurations of meanings are found, e.g. configurations in which the functions of one category would cover disconnected areas of the semantic map. The connection between expectedness and change of state represents the meanings of 'already'. Their connection with resultative aims at testing their connection to this perfect meaning. While the represented meanings in the semantic map are compatible with Klein's (1994) definition of perfect and Krifka's (2000) definition of 'already',[8] the claims of the semantic map are solely based on typological observations, because semantic maps do not need to explain why the categories are connected, only that they are cross-linguistically 'connected', in that they tend to be expressed by a single grammatical element in a typological sample (cf. Haspelmath, 2003). While the exact nature of semantic connections between each one of the perfect and 'already' functions is not the focus of this paper, we do focus on the relationship between the resultative and the change of state, which are of relevance for our discussion on iamitives. We show that the meaning of change of state is related to the resultative because change of state is in many languages a special type of resultative that arises via coercion of stative verbs marked by perfect (see Section 4.1).[9]

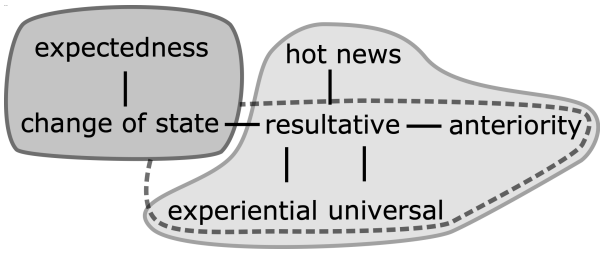

Figure 2: Semantic map of the English Perfect in light gray and the English 'already' in dark gray (**full outline**: core meanings, **dashed outline**: perfect meanings with which it can combine), adapted from Krajinović (2020:112)

2.2 The rise of iamitives

While the English Perfect was useful as the starting point for cross-linguistic studies on aspect (Dahl, 1985; Bybee & Dahl, 1989; Bybee et al., 1994) and it led to an identification of

[7] The meaning of expectedness only occurs together with change of state.

[8] Semantic maps can be compatible with any semantic definition that describes the represented meanings because, as Haspelmath (2003:215) notes 'semantic maps do not tell us what the various functions of a gram have in common'.

[9] See the Appendix for a collection of empirical methods that can test the meanings included in our semantic map.

the resultative and experiential meanings as core meanings of perfect cross-linguistically by Dahl & Velupillai (2013), two problems emerged for identifying perfects in individual languages based on these core meanings. Firstly, categories that look very similar to the perfect in some languages were found to lack either the resultative or the experiential meanings, and secondly, perfects in some languages were described to have additional functions in comparison to English and other better described languages. This prompted the creation of the iamitive category[10] that can be identified by lack of experiential, universal, and anteriority functions, and the presence of an additional change-of-state meaning (Olsson, 2013). The work on iamitives as a linguistic category is quite recent and has been comprehensively studied only by Olsson (2013), followed by Dahl & Wälchli (2016).

Olsson (2013) and Dahl (2014) coined the term 'iamitive', deriving it from the Latin *iam* 'already', which aims at making it clear that this category bears semantic resemblance to 'already'. Iamitive can be defined as expressing the resultative meaning, usually indicative of the perfect aspect, and the meaning of 'already' from which iamitive is hypothesized to have developed diachronically (Dahl, 2014, 2022). Its proposed core meaning by which it can be distinguished from the perfect is the expression of 'the result of a change from the earlier negative state' (Olsson, 2013:17-18), or 'a transition to a new scene' (Dahl & Wälchli, 2016). Example (5) shows the proposed iamitive marker *sudah* in Indonesian, expressing the state of 'being rotten', which implies an earlier state of 'not rotten'. Olsson (2013) found that iamitives were the obligatory choice for this change-of-state meaning in his sample of four languages (Indonesian, Thai, Vietnamese and Mandarin Chinese). Dahl & Wälchli (2016:328) argue that iamitives are especially frequent with 'natural development predicates' like 'rot', 'which become true sooner or later under normal circumstances'. In English, this meaning of change of state can also be expressed by 'already', but not with perfect aspect (compare *the fruit is already ripe* vs. *the fruit has been ripe*).

(5) [Jakarta Indonesian]
Kamu tidak bisa memakan-nya. Itu ***sudah*** *busuk.*
2SG NEG can eat-3 it IAM rotten
'You can't eat this one. It is rotten.' (Olsson, 2013:18)

According to Olsson (2013), iamitives can also express the notion that the described event was expected to happen by the speaker. He illustrates this 'expectedness' meaning by showing that the iamitive marker in Thai is incompatible with an unexpected event of 'losing a wallet', as in (6). However, Olsson (2013) found this feature only in a subset of languages in his sample (Thai and Indonesian).

(6) [Thai]
chûay hăa krà păo ŋən nɔ̀y? raw tham krà păo ŋən hăay ***(*lέɛw)***.
help find wallet little 1SG make wallet disappear IAM
'Can you help me look for my wallet? I (have) lost it!' [free translation added] (Olsson, 2013:24)

[10]The term 'iamitive' was preceded by NEWSIT by Ebert (2001), intended to describe a very similar category denoting a new situation that was expected to occur.

We represent the proposed iamitive meanings in Figure 3.[11] As we can see, the definition of iamitives would combine the perfect resultative meaning and the change-of-state meaning of 'already', with the optional inclusion of expectedness (the optionality indicated by the dashed line).

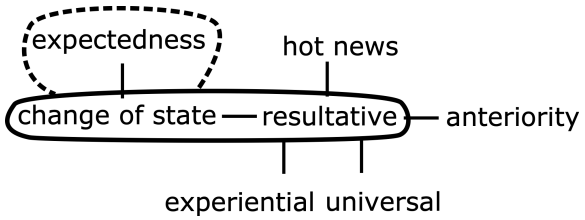

Figure 3: Semantic map of the proposed iamitive functions as based on Olsson (2013), adapted from Krajinović (2020:109)

Iamitives are both a language-specific and a cross-linguistic category according to Olsson (2013). It might seem, based on Dahl & Wälchli (2016)'s approach, that 'iamitive' is simply a label given to a cluster of empirically observed features, separate from perfect and 'already', but this is not the case. That is, Dahl (2019) argues that iamitives should be understood as a 'gram type', which is not meant to postulate the semantics of the category. Instead, in a data-driven distribution-based approach, 'gram types correspond to clusters of grams in a grammatical space' (Dahl, 2019). 'Grams' themselves are defined as 'grammatical morphemes' in any individual language (Bybee & Dahl, 1989). An approach of looking for gram types is adopted by Dahl & Wälchli (2016), who create multidimensional scaling maps of perfect, 'already', and iamitives, based on the similarity of the distribution of specific markers in parallel corpora of Bible translations. In other words, the markers occurring in more of the same contexts in the Bible translations are also more similar in terms of their semantics and this similarity is represented as physical proximity. Dahl & Wälchli (2016) then identify two clusters of markers in their data as pertaining to the iamitive (see also Dahl, 2022).

However, iamitives were proposed by Olsson (2013) to be a new linguistic category with specific properties and abstract meanings. While Olsson (2013) does not provide a theoretical analysis of iamitive's semantics, he lists linguistic features that could be expected from a iamitive marker, while also applying the label to several languages. This concept of iamitives resides on the approach of analyzing the iamitives as both a language-specific and a cross-linguistic category, and thus goes beyond the use of a label for clusters of empirically observed features as the identification of a gram type.

While iamitives are still a relatively recent gram type in linguistics, a number of researchers have already adopted this term as a category, including, for example Gil (2015); Döhler (2018); Arnold (2018); Kuteva et al. (2019); Chen & Jiang (2020); Ziegeler (2020);

[11] Other properties of iamitives mentioned by Olsson (2013), but not discussed in this paper, are the meaning of 'imminent future' in combination with prospective aspect or modal markers, the meaning of 'no longer'/'not anymore' when iamitives co-occur with negation (duality), and the incompatibility with downward-entailing operators such as 'only'. While the latter two are also properties of 'already', the 'imminent future' meaning can be analyzed as the combination of the change-of-state meaning and the prospective/modal markers with which it co-occurs (Krajinović, 2020).

Mazzitelli (2020); Dahl (2021); Gorbunova (2021); Koss et al. (2022). We discuss this in more detail in Section 2.4.

2.3 The challenges for iamitives

While it is noteworthy that a set of languages seem to pattern together in having a tense, mood, aspect (TMA) marker that includes a resultative meaning (like a perfect) and a change-of-state meaning plus (optionally) expectedness (like *already)*, we argue that labeling these markers as iamitives as a category is problematic because it is not well-defined, and thereby leads to a broader issue; that is, the premature postulation of a new category.

The term, as defined by Olsson (2013), is neither explanatory nor predictive. First, it is not explanatory in that there is no definition of 'iamitives' that gives a meaningful characterization of its properties and relates it to our existing knowledge about similar items. Olsson (2013) defines iamitives by a set of semantic features and distributional properties, but we do not know which of those are essential for its meaning and which of those may be accidental in individual languages. Most of the meanings not covered by the iamitive outline in Figure 3 are not discussed by Olsson (2013) in relation to iamitives. Thus, we cannot know whether, for instance, an anteriority reading is expected to be a feature of iamitives. We also do not know what components of meaning of iamitives are contributed by semantics or pragmatics. Moreover, we have no understanding of how its meaning relates to similar categories such as 'already' and perfect, especially when it comes to known effects, such as incompatibility with definite temporal adverbs attested with English Present Perfect (e.g. Klein, 1994; Vander Klok & Matthewson, 2015:202). In contrast, we do have a broad understanding of what 'already' and similar items mean: They are focus-sensitive particles that operate on discourse structure (Krifka, 2000). We also have a broad understanding of what aspect does: It specifies the relation between Topic Time (TT) and Situation Time (TSit), which for the perfect specifies that the TT is in the posttime of the TSit (Klein, 1994), or operates on the internal structure of the Situation Time. But it is not at all clear how the meaning of iamitives relates to either of these, regardless of what approach to aspect one might take.

Second, it is not predictive: Since there are no assumptions about why the observed set of features may be encoded by the same expression, there are no expectations about any possible correlates of how iamitives are distributed across languages. This prompts Krajinović (2020:138) to criticise iamitives, because in certain Oceanic languages the clustering of the resultative meaning and the change of state to the exclusion of otherwise perfect functions like experiential, universal and anterior is not found, as it would be expected if Olsson's (2013) definition was cross-linguistically predictive.[12]

[12]Dahl (2022:287) modifies the definition of iamitives into a historical one: 'iamitives are the result of expressions meaning ALREADY expanding their domains to other uses characteristic of perfects'. This touches on another fundamental question in linguistics: Can we describe and understand linguistic items purely in terms of their synchronic behaviour? Or does their history always imbue them with certain properties without which their meaning is never fully understood? This question underlies the division between a purely structuralist view of language and the view articulated in Bybee et al. (1994:2) of 'languages as composed of substance'. Since the category of *iamitives* was first introduced on the basis of synchronic description, and has since been assigned to grams without evidence of their historical origin, we only address this definition here.

Beyond these two main issues of the category of iamitives, this also then brings up the broader point of when to postulate a new linguistic category. We argue that because the iamitives category is ill-defined and does not relate to our current knowledge of other TMA categories, it is presently problematic to postulate a new category.

This does not mean that iamitives may not turn out, in the end, to be a meaningful cross-linguistic category—it may very well be, if there are languages where none of the language-internal mechanisms can explain the presence of new semantic meanings associated with a certain marker. However, we suggest that the convenience of a new label often prevents the detailed work that we would need to differentiate competing hypotheses. We develop this argument further in the next section.

2.4 A case for fine-grained features instead of new categories

A major challenge for both the approaches led by Olsson (2013) and Dahl & Wälchli (2016) is that a new label such as 'iamitives' can foster a false sense of certainty, which in turn can negatively affect the quality of descriptive work on individual languages in practice. As things are, any marker that comes with a change-of-state interpretation and otherwise vaguely resembles a perfect, can be labeled as 'iamitive'. As a result, researchers may miss the more fine-grained details that we would need to test our hypotheses about the meanings of 'already', perfect, and their interaction within the wider grammar of each language.

While iamitives are still a relatively recent gram type in linguistics, a number of researchers have already adopted this term as a category, such as in descriptive grammars (e.g. Döhler, 2018; Arnold, 2018), case studies on TMA markers in individual languages (Chen & Jiang, 2020; Ziegeler, 2020; Gorbunova, 2021), or in typological studies on phasal polarity expressions which include 'already' (cf. Kramer, 2018, 2021) or areal typological studies (Gil, 2015; Dahl, 2021). Furthermore, iamitives are included as a gram-type in Kuteva et al.'s (2019) world lexicon of grammaticalization. Regarding grammatical descriptions, Arnold (2018), for instance, analyzes the clause-final marker *to* as iamitive in Ambel, an Austronesian language of Papua New Guinea, due to its change-of-state meaning with stative verbs and resultative readings with telic verbs. Döhler (2018:253-255) also analyzes the particle *z* in Komnzo, a Papuan language of Papua New Guinea, as an iamitive. The functions described are current relevance and event completion, as well as event sequentiality in narratives; stative verbs are not discussed. This shows that different criteria in synchronic studies are taken by different linguists as evidence of the category of iamitives. Usually only some of the features that coincide with Olsson's (2013) list of features are observed, while a closer inspection of other possible similarities with perfect or 'already' is not offered. Another example of an idiosyncratic application of this label is by Chen & Jiang (2020), who use the term 'iamitive' for the *=in* marker in Bunun (Austronesian) and propose that 'iamitive' is a valid category, which should be analyzed as 'a class of discourse markers that involves the hearer's expectation'. This definition is not what is intended by Olsson (2013) and Dahl & Wälchli (2016), but their approach is vague enough to allow for this reinterpretation of iamitives by Chen & Jiang (2020). This, in turn, creates a real problem for this new linguistic category, which can easily be interpreted as a catch-all category, as long as at least one of the features is present, which is expectedness in the case of Chen & Jiang (2020).

And while a new label can foster new interest in iamitive-like phenomena, from a the-

oretical perspective, we should aim to find the most economic explanations. Occam's razor postulates that the fewer assumptions a theory has, the better it is. Since the iamitive hypothesis assumes a new linguistic category and does not follow from the preexisting theories of aspect nor does it make new predictions, the addition of this category makes the linguistic theory of aspect less parsimonious.

In sum, as long as we do not have a theory about the semantics of iamitives that is both explanatory and predictive, we urge linguists to pay attention to fine-grained features. In contrast to assuming the existence of iamitives, as we will argue below, the assumption that all expressions labeled as 'iamitives' are in fact either instances of perfect or 'already' implies that certain features—such as the change-of-state interpretation in combination with stative predicates, or the lack of an experiential interpretation—can be derived from the meaning of the perfect or 'already' in combination with language-specific properties. Our approach is therefore more sparse than the iamitive proposal, in that it makes fewer new assumptions, and more predictive, in that it provides us with tools to determine fine-grained differences between languages, discussed in Section 4.

3 Languages and data in our study

In order to exemplify the language-internal mechanisms that may be responsible for the cross-linguistic variation in the semantic space of the perfect and 'already', we focus on case studies of four Austronesian languages and Mandarin Chinese [cmn], wherein the relevant markers in Mandarin Chinese and Javanese were previously analyzed as iamitives. Out of the four Austronesian languages, three are a part of the Oceanic branch: Nafsan [erk] (South Efate, Vanuatu, Southern Melanesian linkage), Unua [onu] (South East Malakula, Central Vanuatu), and Toqabaqita [mlu] (North Malaita, Southeast Solomonic). Javanese [jav], spoken on Java Island, Indonesia, is part of the Malayo-Polynesian branch (Western Indonesian) (Smith, 2017). The genetic relationships of these languages are illustrated in Figure 4.

The languages investigated in our paper are largely Austronesian because this is in fact a locus for markers that have previously been cited as iamitives. Gil (2015) argues that iamitives, characterized by a 'present-perfect' reading with activities, but a change of state reading with properties, are a characteristic feature of a 'Mekong-Mamberamo' linguistic area encompassing parts of Mainland Southeast Asia, the Nusantara archipelago, and western parts of New Guinea, which overlaps primarily with the Austronesian language family, but also with Sino-Tibetan, Austroasiatic, Tai-Kadai and Hmong-Mien language families.

Table 1 outlines each marker in the language under study in this paper, together with the sources we used for our work on Nafsan, Unua, Toqabaqita, and Mandarin Chinese. We also carried out our own fieldwork on Nafsan and Javanese. In our fieldwork, we used elicitation, questionnaires (Dahl, 2000; Olsson, 2013; Veselinova, 2018), and storyboards (cf. Burton & Matthewson, 2015). In the Appendix we have gathered the storyboards that can be used to collect data on the relevant TMA perfect/'already' readings.

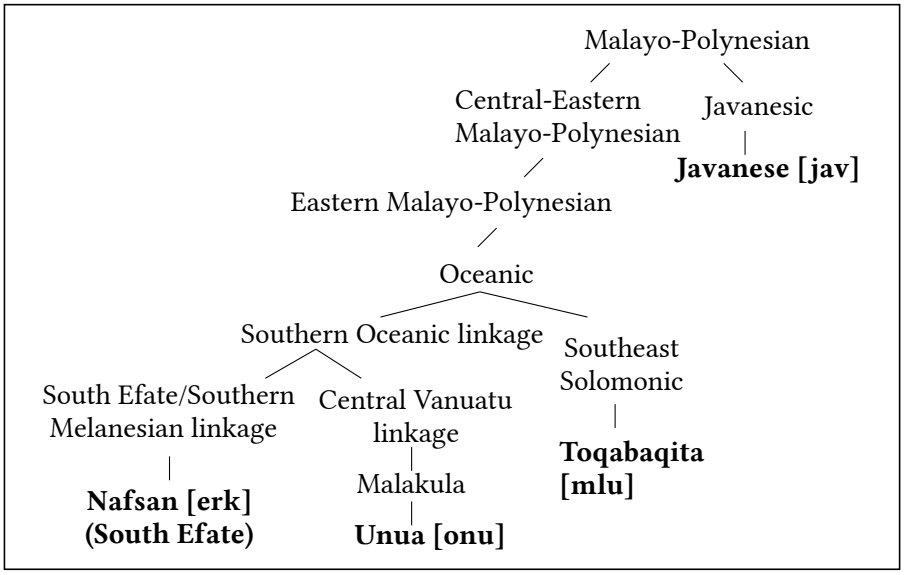

Figure 4: Genetic classification of Austronesian languages analyzed in this paper, classification from Ross et al. (2016) and Lynch et al. (2002), and language data from Glottolog (2020)

Table 1: The languages and the aspectual markers studied in this paper

Language	Aspect marker	Label	Source
Nafsan	*pe*	perfect	corpus (Thieberger, 1995–2019), grammar (Thieberger, 2006), own fieldwork
Javanese	*wis*	'already' in Vander Klok & Matthewson (2015), iamitive in Dahl & Wälchli (2016)	own fieldwork
Mandarin Chinese	*le*	perfect in Li et al. (1982b), iamitive in Olsson (2013)	corpus (McEnery & Xiao, 2004)
Toqabaqita	*naqa*	perfect	grammar (Lichtenberk, 2008)
Unua	*ju*/ *goj nu*	'already'/ 'FOC.already now'	grammar (Pearce, 2015), corpus (Pearce, 2009)

4 Language-internal mechanisms

4.1 Change of state as aspectual coercion in Nafsan and Mandarin Chinese

We first focus on a particular language-internal mechanism which can explain the expression of change of state by perfects in certain languages. We argue that in languages that do not provide morphological or lexical options to express the difference between stative and dynamic verb meanings (e. g., *be white* vs. *whiten*), the perfect can coerce stative verbs to have a dynamic reading (cf. Koontz-Garboden, 2007), which produces the change-of-state interpretation of the perfect. Our argument is that the aspectual coercion can explain the presence of the meaning of change of state in these types of languages in a more general and informative way than postulating that this meaning is an indication of the iamitive category. We use a case study on the Nafsan Perfect (cf. Krajinović, 2020) to illustrate this, and then turn to similar typological features observed in the literature for Mandarin Chinese.

The perfect in Nafsan is expressed by *pe*, which can attach to either the general or the perfect-agreeing portmanteau subject proclitics (Thieberger, 2006; Krajinović, 2020). The general proclitics express the subject person and number and no TMA values, and the perfect-agreeing subject proclitics only agree with the Perfect marker *pe* in the sense that they almost always co-occur with it, but they do not have the perfect semantics on their own (see Krajinović, 2020).

The meanings expressed by the Perfect *pe* in Nafsan are the resultative, experiential, universal, anteriority (past/future perfect), as well as a change-of-state meaning (Krajinović, 2020). Thus, the Nafsan Perfect can express all the meanings of the English Perfect, except for 'hot news', and with the additional meaning of change of state. An example of the experiential function is given in (7), and (8) shows an example of the resultative function.[13]

(7) *Fei kin* ***ki=pe*** *pag-ki ntaaf?* *[Experiential]*
who COMP 3SG.PRF=PRF climb-TR mountain
'Who has ever climbed a mountain?' (from 'Miss Smith's bad day' [Matthewson 2014], AK1-147-04, 00:00:48.786-00:00:50.800)

(8) *Kineu* ***kai=pe*** *maa ntal su.* *[Resultative]*
1SG 1SG.PRF=PRF grate taro PFV
'I have grated the taro.' (from 'Making laplap', AK1-146-02, 00:02:32.335-00:02:41.410)

Example (9) shows the meaning of anteriority with *pe*, which is the only meaning of the Nafsan Perfect compatible with definite temporal adverbs, equivalent to the English Past Perfect. As we can see in (9), just like in English, these temporal adverbs can only be situated in the Situation Time ('4 a.m.'), and contrasted to a later Topic Time ('5 a.m.') established in the context (cf. Klein, 1994).

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

[13] Fieldwork examples have an archival reference and the time stamp of when the sentence was produced in the recording, and, if applicable, a reference to the questionnaire or the storyboard used for eliciting the example (see Appendix).

Kai=pe *pilo* *4 oklok* *p̃ulp̃og.* *[Anteriority]*
1SG.PRF=PRF wake.up 4 o'clock morning
'I had woken up at 4 o'clock in the morning.' (AK1-119-01)

The meaning of change of state was elicited with the storyboard 'Haircuts' (see Appendix) wherein two friends, Mary and Kal, are talking about how their appearance changed since they last met. As illustrated in (10), the Perfect *pe* is used to express a meaning of change of state of hair color. In contrast, when a state is marked only with the general marking, there is no interpretation of change of state, as shown in the corpus example (11), which refers to the property (*wi* 'good') of people considered to be permanent in the given context.

(10) Context: My hair used to be red, but… (from 'Haircuts')
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)

(11) Context: Describing American people in the World War II
ru=pi *nam̃er wi* *nafisoklepwen gar* *i=top*
3PL=be people good richness 3PL.POSS 3SG=big
'They were good men. They were very rich.' (041.007, Thieberger 1995–2019)

Aspectual coercion is considered to be an operation by which tenses, aspects, and temporal/aspectual adverbs transform situations of one type of lexical aspect into another (e.g. Moens & Steedman, 1988, 2005; de Swart, 1998, 2019; Michaelis, 2004).[14] We argue that in order to understand the occurrence of the meaning of change of state with perfects, we need to understand the influence (here, coercion) of the perfect aspect on states.

In order to explain the change of state in Nafsan, we adopt the analysis of aspectual coercion proposed by Koontz-Garboden (2007) for Tongan (Polynesian, Oceanic, Austronesian). Koontz-Garboden (2007) notes that Tongan does not have derivational morphology to express the meaning of change of state, and this feature in turn makes it possible for the same verb forms to have both stative and change-of-state interpretations. He takes predicates with rate adverbs, like *quickly* and *slowly*, as examples of constructions which make reference to the time interval at which a change of state occurred. Since rate adverbs explicitly refer to the 'time over which the change took place' (Koontz-Garboden, 2007:140), they cannot readily modify stative verbs in English, as in (12), unless they can get coerced into a change-of-state reading, as in (13) (see also de Swart, 2019). In Tongan, stative verbs, including those denoting property concepts, are always compatible with rate adverbs, because they can be coerced into a dynamic event of change-of-state (Koontz-Garboden, 2007).[15]

(12) #Kim knew Sandy quickly. (unless change of state 'come to know') (Koontz-Garboden,

[14] Although there are also proposals against coercion (e. g., Ziegeler, 2007), it is our view that, regardless of the exact theoretical underpinning of what aspectual coercion stands for, it is a way of explaining certain relationships between lexical and grammatical aspect, which is crucial for our understanding of perfect aspect.

[15] Comparing English and Tongan, Koontz-Garboden (2007:141) notes the following: 'Coercion from a state to a change of state is also acceptable in English, but only for a restricted set of words - for property concepts, which are lexicalized as adjectives in English, coercion is impossible'.

2007:139)

(13) Suddenly, Jennifer knew the answer. (de Swart, 2019:339)

In Nafsan, we attest a situation equivalent to the Tongan case. While the verbs in (11), produced in a context neutral with respect to aspect, can only have a stative meaning, in constructions with rate adverbs, the stative semantics of the verb is in conflict with the reference to the interval of change in time, which is dynamic in nature. Krajinović (2019, 2020) observes that, similarly to the Tongan case analyzed by Koontz-Garboden (2007), the stative verbs in Nafsan can be coerced into the meaning of change of state, as shown in (14). Due to the presence of the rate adverb *pelpel* 'quickly', the state *maet* 'angry' is coerced into the meaning of 'become angry'.

(14) Context: The children are misbehaving in the classroom.
Teplaksok ***i****=maet* ***pelpel****.*
teacher 3SG=angry quickly
'The teacher got angry quickly.' (Elicited, 28/11/2018)

Example (15) shows that the change-of-state meaning equivalent to (14) can also be expressed by using the perfect. Crucially, however, the fact that the change-of-state meaning can occur without the perfect marking in (14) tells us that perfect is just one of different contexts in the language that can trigger aspectual coercion, which means that the meaning of change-of-state is not semantically encoded by the perfect itself.[16]

(15) Context: The children are misbehaving in the classroom.
teplaksok ***ki=pe*** *maet.*
teacher 3SG.PRF=PRF angry
'The teacher got angry.' (Elicited, 28/11/2018)

In parallel to Koontz-Garboden's (2007) proposal, Krajinović (2020) observes that the aspectual coercion with the Nafsan Perfect, as in (15), is limited to the resultative perfect, as the only reading of perfect that requires a dynamic event. In Nafsan, stative verbs are compatible with experiential and universal readings of perfect, and they do not trigger a change-of-state interpretation (Krajinović, 2020). Koontz-Garboden (2007) shows that the resultative perfect meaning applied to states creates an inference that the state was preceded by a change leading to that state. Since this is in conflict with the stative semantics of the verb, it is coerced into a change of state. In Figure 5 we represent these components of meaning in Klein's (1994) approach (see Section 2.1). The interval referring to the change of state is the Situation Time and Topic Time is placed in the posttime of the Situation Time/change of state.

From a typological perspective, Koontz-Garboden (2007) makes interesting observations about two linguistic features that might be correlated with the presence of the change-of-state meaning with the perfect in languages like Tongan, which also reflects his approach that coercion can only apply to restricted cases; see Koontz-Garboden (2007:140-1, 144-7)

[16] See Matthewson et al. (2015) for a related, but different analysis of perfect in Niuean (Polynesian, Oceanic, Austronesian), which considers the change-of-state meaning to be a part of the inchoative semantic definition of perfect.

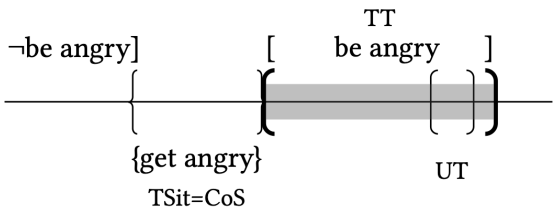

Figure 5: Representation of example (15)

for details. One such feature is the lack of derivational change-of-state morphology (e.g., *whit-**en*** in English). Thus, in order to disambiguate the change of state readings from states, such a language might need to resort to other linguistic mechanisms, such as aspectual coercion. A second feature is the lack of a verb-adjective distinction in the predicate position. Since property concepts behave like verbs in such languages, they will require a dynamic interpretation of change of state with the resultative perfect. These typological features are exactly in line with the features of Nafsan.

These properties also apply to Mandarin Chinese, in which the sentence-final particle *le* has been identified as a iamitive marker by Olsson (2013), and which expresses, among other things, the resultative and change-of-state meanings, as shown in (16) and (17), respectively.[17]

(16) 阿傑寫完作業了
*Ajie xie-wan zuoye **le**.*
Ajie write-finish homework LE
'Ajie has finished writing the homework.' (from Zhang, 2019:969)

(17) 那脸蛋儿登时唰地红了
*nèi liǎndànr dēngshí shuāde hóng **le***
this cheeks immediately swiftly red LE
'these cheeks immediately turned red' (McEnery & Xiao, 2004)

Just as we have shown that aspectual coercion is available in Nafsan also in contexts other than perfect, in Mandarin Chinese, there are environments without sentence-final *le* that also allow for a change-of-state interpretation of otherwise stative predicates, as illustrated in (18). This speaks in favor of aspectual coercion being an available mechanism in the Mandarin grammar, independently of *le*, just as it is the case in Nafsan. Thus, *le* could be just one of the contexts in which aspectual coercion can happen.

(18) 三毛的头发白得很厉害
Sānmáo de tóufa bái-de hěn lìhai
Sanmao ASSOC hair white-VPRT very serious

[17] Chinese has two homophonous aspectual particles *le*, of which one is placed directly after the verb (verbal *le*), while the other appears at the end of the sentence (sentence-final *le*). Some sources, such as Li & Thompson (1981) and Li et al. (1982a) describe verbal *le* as perfective marker, and compare sentence-final *le* to English perfect. A good overview of different approaches can be found in Soh (2009:2.2). This discussion is only concerned with sentence-final *le*.

'Sanmao's hair turned drastically white' (Tham, 2013:665)

As we might expect under the hypothesis that the change-of-state interpretation here is the result of aspectual coercion, Mandarin Chinese has no clear-cut verb/adjective distinction, as has been argued by McCawley (1992), among others. There is a large class of lexemes that can serve as predicates without the copula. These include lexemes such as *gāoxìng* 'happy' and *xiūxi* 'rest'. While the verb/adjective distinction is debated in the literature on Mandarin Chinese, in the predicate position they are not distinguished, which supports Koontz-Garboden's (2007) proposed connection of this feature with the availability of change-of-state readings with perfect. Moreover, Mandarin Chinese also does not have a general, productive way of deriving dynamic predicates from stative ones, so this second correlate of aspectual coercion suggested by Koontz-Garboden (2007) also applies here.

In sum, the cases of Nafsan and Mandarin Chinese demonstrate how, by shifting our attention to fine-grained meanings, we can find language-internal explanations for functions of perfect that are not covered by its usual definitions in the literature. We showed that the meaning of change of state with perfect in Nafsan and Mandarin Chinese can be explained by the aspectual coercion of states into dynamic events. Assuming the definition of perfect aspect instead of iamitives is advantageous in this case, as it leads us to understand the interplay of lexical and grammatical aspect in specific languages and hypothesize about its cross-linguistic relevance. Focusing on language-internal explanations, such as aspectual coercion, also allows us to test typological hypotheses proposed in the literature, as we can start to test whether the change-of-state interpretation of perfect aspect relates to general grammatical features of a language, such as the lack of derivational change-of-state morphology or verb/adjective distinction.

4.2 Blocking principles in Mandarin Chinese, Oceanic, and beyond

In this section, we offer a proposal for solving the issue of absence of certain perfect functions in a category that would otherwise fit the definition of the perfect aspect. The iamitive proposal aims to explain the nature of perfect-like categories that do not have the experiential function (Olsson, 2013), considered to be a core function of perfect by Dahl & Velupillai (2013). Our argument in this paper is that the absence of certain expected functions of a given category can often be explained by the fact that another TMA marker already expresses that same function. Thus, this TMA marker, as a more specialized marker for that meaning, blocks the usage of the other TMA category with the same meaning.

Paradigmatic contrasts could be a key to understanding the lack of experiential functions with certain perfect-like markers. As mentioned, one of the primary reasons for postulating iamitives is the lack of experiential functions with otherwise perfect-like markers, such as the Mandarin Chinese *le* (Olsson, 2013). However, the experiential past in Mandarin Chinese is generally expressed by the highly specialized marker *guo*, as illustrated in (19):

(19) 你目睹过这样的场面吗?
nǐ mùdù ***guo*** *zhè-yàng de chǎngmiàn ma?*
2SG see EXP DEM-kind ATT spectacle Q
'Have you ever seen such a spectacle?' (McEnery & Xiao, 2004:A0111)

To the extent that Mandarin Chinese *guo* is dedicated to express experiential meanings (Olsson, 2013), its presence in the paradigm of TMA particles could be blocking the availability of the experiential meanings with *le*.

Similarly, in Mee [ekg], a Trans-New-Guinea language (West Central Highlands of Papua, Indonesia), the Perfect *p-* expresses all perfect functions except experiential and it contrasts with the marker *-emeg*, 'a remote past marker with an existential reading, signaling that the event has been experienced only once in the indefinite past' (Marquardt et al., 2019:123). The Perfect *p-* in Mee can also express the meaning of change of state with states, and it can express the resultative, universal, and hot news meanings. The anteriority, i.e. past perfect, is not discussed in Marquardt et al. (2019). Further, Bertrand et al. (2022) propose that there is a whole class of perfects with 'resultative strategies', which do not express experiential meanings, including Mandarin Chinese sentence-final *le*, Atayal [tay] (Austronesian) *wal*, Gitksan [git] *hlaa*, and Brazilian Portuguese *ter* + participle. Similar to Mandarin Chinese, Atayal also has a marker dedicated for expressing the experiential function; namely, the existential past tense *-in-* (Chen et al., 2020). The cases like Mee and the 'resultative' type of perfect proposed by Bertrand et al. (2022) further support the need to look for fine-grained meanings and their relationships in individual TMA systems.

Paradigmatic contrasts can also be a key to understanding other distributions of perfect-like markers, such as in the distribution of available perfect meanings in Nafsan, Toqabaqita, and Unua, where the 'hot news' meaning cannot be expressed by the perfect. We argue that this distribution is because markers dedicated to expressing the 'hot news' meaning block perfect markers from it.

In Nafsan, Toqabaqita, and Unua, the markers in the perfect/'already' semantic space, *pe*, *naqa*, and *ju*/*goj nu*, respectively, express the meaning of change of state and all the meanings associated with the English Perfect except for 'hot news' (cf. Krajinović, 2020). The example with Nafsan Perfect *pe* in (20) expresses a change of state function; the marker *naqa* in Toaqbaqita illustrates an experiential function in (21), and in Unua, the marker *goj* in (22) demonstrates an anteriority function.

(20) [Nafsan]
(Imagine some fruit that is common in your area) You can eat this one. It BE RIPE. (Olsson, 2013:47, (7))
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)

(21) [Toqabaqita]
Qo lae-toqo-na qerofulae qi ***naqo****?*
2SG.NFUT go-TEST-3.OBJ airplane LOC PRF
'Have you gone on an airplane before?' (Lichtenberk, 2008:711)

(22) [Unua]
Go rraxum i-seb-rej rre xini i-mej ***goj****.*
and crab 3SG-NEG-speak NEG 3SG 3SG-die FOC.already
'But the crab did not speak, he had already died.' (XR.04.32.034, Pearce (2009))

In all three languages, there are other TMA markers used for 'hot news'. In Nafsan, the marker dedicated to the 'hot news' meaning is the prospective marker *po* (23), in Toqabaqita this is the immediate marker *biqi* (24), and in Unua the inceptive *ber* (25).

(23) [Nafsan] Context: (Talking about a teenager who didn't come home on time) Max JUST COME (Veselinova, 2018:(53))
Max ***i=po*** *mai kia.*
Max 3SG=PSP.REAL come DET
'Max has just come.' (AK1-156)

(24) [Toqabaqita]
Kera ***biqi*** *lae bo=kau.*
3PL.NFUT IMM go ASRT=AND
'They have just left.' (Lichtenberk, 2008:165)

(25) [Unua]
*No-ke-i naus i-****ber****-us ma.*
1SG-see-TR rain 3SG-INCP-rain only
'I see it has just rained.' (Pearce, 2015:229)

The blocking effects have been studied in the lexical semantic literature, explaining, for instance, why *kill* does not mean the same as *cause to die*. As Fodor (1970) shows, *kill* denotes the direct killing and blocks *cause to die* for this meaning, which gets the interpretation of indirect killing instead. Following this reasoning, von Prince (2018) and Krajinović (2020) showed that blocking effects can also be applied to TMA paradigms,[18] in that a category missing a function, compatible with its semantic definition, can be explained by paradigmatic blocking caused by another TMA marker dedicated to that same function.

We compare the semantic maps of the perfect in Nafsan, Toqabaqita, and Unua, with the semantic space of 'already' and iamitives by combining them into a single semantic map in Figure 6. As noted by Krajinović (2020), the 'hot news' in Nafsan, Toqabaqita, and Unua cannot be expressed by the perfect, because markers specialized for that meaning, namely *po*, *biqi*, and *ber* in (23)-(25), are a more informative choice than perfect when it comes to expressing 'hot news'. The perfect is then blocked from the 'hot news' meaning by the availability of *po*, *biqi*, and *ber*. Thus, the blocking effects can provide an explanation to why perfect markers in some languages lack certain functions expected from a 'perfect'.

Moreover, blocking effects, or the lack thereof, might also play a role in the availability of the change-of-state meaning with perfect. Note that in Nafsan, Toqabaqita, and Unua there is no dedicated word for meanings equivalent to the English 'already', which could additionally explain why perfect extends to the change-of-state meaning, in concert with the typological features of not encoding a change-of-state meaning derivationally and not distinguishing the word classes between adjectives and verbs of property concepts, as identified by Koontz-Garboden (2007).

In sum, the lack of an experiential reading, proposed to be a defining feature of an iamitive, can potentially be explained by paradigmatic effects in the language, where a specialized

[18] See also Mucha (2015); Cable (2017); Chen et al. (2020) who use pragmatic principles, such as Maximize Presupposition, in order to analyze the meaning of tense markers.

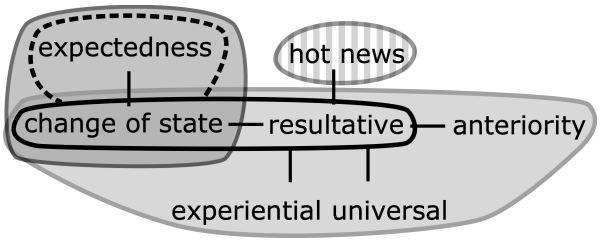

Figure 6: Semantic map of the perfect and hot news in Nafsan, Toqabaqita, and Unua, combined with the semantic domains of 'already'/iamitive. [**dark shade of gray**: 'already'; **black outline**: iamitives as proposed in Olsson (2013); **light shade of gray**: perfect in Nafsan, Toqabaqita, and Unua; **striped gray**: hot news in Nafsan, Toqabaqita, and Unua]

marker is used instead. This was illustrated, for instance, with Mandarin Chinese *guo*, an experiential marker, and sentence-final *le* which lacks the experiential reading. This blocking pattern was suggested to account for Mee and Atayal perfect markers, which also lack the experiential reading. The lack of other perfect readings, such as *hot news* in Oceanic languages Nafsan, Toqabaqita and Unua, were also shown to be due to the blocking effect of a marker specialized for that reading. These patterns can be successfully explained by paradigmatic effects without changing the existing semantic definitions of perfect and 'already'.

4.3 Meaning compatibility in Javanese

In this section we discuss the notion of meaning compatibility of TMA markers, which should be differentiated from genuine semantic functions of TMA markers. We argue that distinguishing between the meanings denoted by a given TMA marker and the meanings with which it is compatible could be the key to understanding difficult-to-analyze markers in the perfect/'already' space.

English 'already' and perfect exemplify meaning compatibility. That these two aspectual markers can have significant overlap in English has been noted by e.g., Traugott & Waterhouse (1969), Dahl & Wälchli (2016:327), and Vander Klok & Matthewson (2015:180-181). 'Already' in English can co-occur and is compatible with almost all perfect meanings, as we can see in the semantic map of the English perfect and 'already' in Figure 2, repeated here as Figure 7. However, when co-occurring with perfect in these meanings, 'already' only contributes the meanings of change of state and expectedness. For instance, in (26), Perfect and 'already' co-occur, but only Perfect gives the experiential reading, while 'already' gives the 'earlier than expected' implicature. It is clear that the meaning compatibility, as between perfect and 'already' in English, could be a challenge for descriptions of underdescribed languages, where we need to decide which marker is in fact contributing which meanings.

(26) I **have already tried** this dish.

The case of Javanese illustrates the overlap within the TMA system between 'already' and the meanings of perfect aspect. In Javanese, the marker *wis* is compatible with a number of perfect environments, including experiential, resultative, anteriority, and uni-

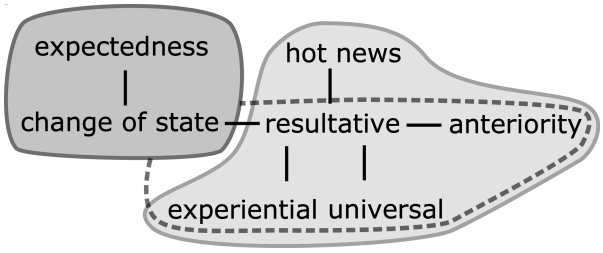

Figure 7: Semantic map of the English Perfect in light gray and English 'already' in dark gray (**full outline**: core meanings, **dashed outline**: perfect meanings with which it can combine), adapted from Krajinović (2020:112)

versal readings, but does not contribute these core meanings. The core meaning of Javanese *wis* is 'already', which has a change-of-state reading and an implicature of expectedness (Vander Klok & Matthewson, 2015), as illustrated in (27) from a recorded conversation and in (28) from elicitation.[19]

(27) *Mbok* ***wes*** *jam setengah wolu ndakan engko kari* *reng pasar.*
grandmother already hour half eight or.else later left.behind at market
'Grandmother, it's **already** 7:30 a.m. otherwise there won't be anything left at the market.' (Vander Klok & Matthewson, 2015:187)

(28) Context (offered by consultant, translated): 'She was being taught math. She couldn't manage to do it. Then now she can.'
Yanti iku ***wes*** *pinter matematika.*
Yanti DEM already smart mathematics
'Yanti is smart in math.' (Vander Klok & Matthewson, 2015:190)

As (29-a) shows, Javanese *wis* is compatible with experiential readings, co-occurring with the existential past tense marker *tau* (Chen et al., 2020). But *wis* does not contribute a past tense or the 'experiential' reading, and is in fact infelicitous in this context without *tau*, as demonstrated in (29-b). Instead, it is the existential quantification of past tense *tau* that contributes the 'experiential' reading. Javanese *tau*, as a past tense marker, cannot convey nor is compatible with resultative, universal, or anteriority (future perfect or past perfect) readings, see Chen et al. (2020) for details.

(29) Context: Your friend does not expect that Miss Mayu has flown in an airplane before. You tell your friend:
a. *mbak Mayu* ***wes*** ***tau*** *numpak pesawat.*
Miss Mayu already E.PST AV.ride airplane
'Miss Mayu already rode on an airplane.'
b. #*mbak Mayu* ***wes*** *numpak pesawat.*
Miss Mayu already AV.ride airplane
'Miss Mayu rode on an airplane.'

[19]The orthography of *wis* is used in the main text as representative of this marker across varieties, whereas in the examples, the preferred spelling for many East Javanese varieties as *wes* is used.

Based on elicitation, Javanese *wis* is also possible in resultative contexts, as in (30)-(31); universal contexts, as in (32), and in anteriority contexts, as in (33). But in all these examples, the bare predicate is also equally possible, indicated by the optionality of *wis*, with parentheses. Javanese does not have an independent perfect aspect marker in its TMA system, and without an overt tense marker, Javanese bare predicates can be interpreted with past, present, or future reference time (Vander Klok & Matthewson, 2015). What the Javanese marker *wis* contributes in these contexts is a change-of-state (for stative predicates) and an implicature of expectedness; for instance, as suggested by the speaker comment in (30).

(30) *Aku **(wes)** nduwe tumo.*
1SG already AV.have lice
'I already have lice.' (Speaker comment on sentence with *wes*: *Hooray! Finally! You never had lice before, and you are happy to have lice!*)

(31) Context: You are breaking up wtih someone now. You tell them:
*Awakmu mbek aku **(wes)** putus!*
2 with 1SG already break.off
'You and I are done!'

(32) *Ahmad (**wes**) manggon nek Gresek kawit walong taun kepungkor.*
Ahmad already AV.live at Gresik begin.from eight.LNK year ago
'Ahmad has lived in Gresik for 8 years [and he still lives there].'

(33) *Pas adik-ku muleh wingi, aku (**wes**) metu.*
when younger.sibling-my AV.return yesterday 1SG already AV.go.out
'When my younger sibling got home yesterday, I had already gone out.'

However, the 'hot news' reading—one of the functions associated with the perfect—is best expressed by the marker *lagek* 'PROG, just', and cannot co-occur with *wis* in Javanese, as shown in (34) (see also Vander Klok, 2012).[20]

(34) Context: You know that Fina's class ends at 3pm. Now is it 3:05pm:
a. *Kursus-e Fina **lagek** mari.*
course-DEF Fina just finish
'Fina's course just finished.'
b. ***Kursus-e Fina **wes** **lagek** mari.*
course-DEF Fina already just finish

We can represent the meaning contributions of these three markers in the semantic map in Figure 8: while *tau* 'E.PST' and *lagek* 'PROG, just' both only express one of the functions, the marker *wes* 'already' has two core meanings, and is compatible with a range of other meanings often associated with the perfect. We can consider that *wes* in Javanese is on the one hand in paradigmatic contrast with *lagek* 'PROG,just' and on the other hand compatible with *tau* 'E.PST'. Moreover, *wis* co-occurs with the bare predicate (and not other TMA markers) in resultative, anteriority, and universal contexts.

We propose that the meaning compatibility of *wis* across a number of perfect functions,

[20]While speakers report *wis* can also occur by itself in these contexts, it contributes its core meaning of 'already', and *lagek* is preferred to express the current relevance of the 'hot news' reading.

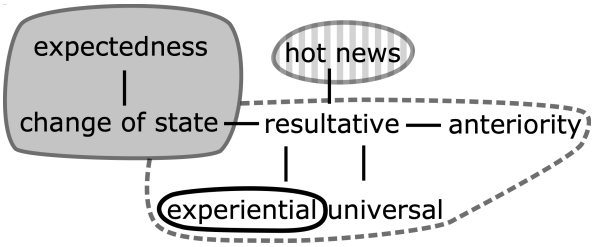

Figure 8: Semantic map of *wes* in dark gray, *lagek* in striped gray (hot news), and *tau* in black outline (experiential) in Javanese

along with the fact that the Javanese language does not have a separate perfect marker, contributes to its higher frequency. That is, Dahl & Wälchli (2016) and Dahl (2022) report that Javanese *wis* has a much higher frequency than English 'already', and argue that this fact supports the analysis of Javanese *wis* as an iamitive, as an indication of being more grammaticalized than 'already'. Specifically, Dahl & Wälchli (2016:334) find that '…Javanese *wis* is about 20 times as frequent as English "already" in all NT [New Testament] translations, and that it, unlike "already", is highly frequent in natural development contexts', as illustrated in (35).[21]

(35) *Putra-ning Manungsa* ***wis*** *mèh* *rawuh.*
child-POSS human.being IAM almost come/arrive
'… the Son of Man is near.' (Dahl & Wälchli, 2016:334)

While we agree with Dahl & Wälchli (2016:334) that the semantic analysis of *wis* as a focus-sensitive operator 'already' proposed by Vander Klok & Matthewson (2015) does not by itself explain this higher frequency, we disagree that an analysis of *wis* as an iamitive—as more grammaticalized—*does* explain this observation.[22]

Instead, we argue that its meaning compatibility across the perfect functions, as schematized in Figure 8, contributes to this higher frequency within the TMA system of Javanese. Moreover, little research has been done on properties of event types and lexical aspect in Javanese. We suggest that this is also important in understanding the frequency of such markers; for instance, Javanese does not seem to lexicalize telicity. The syntactic category of the TMA marker could also be a factor: Javanese *wis* has been analyzed as an auxiliary (Vander Klok, 2012) or a particle (Vander Klok, 2018), which are both considered more grammaticalized than an adverbial, such as English 'already'. Thus, these factors are likely to play a role in the frequency of Javanese *wis* in comparison to English 'already', neither of which are related to its semantic analysis—and ultimately deserve further study.

In sum, the case study on meaning compatibility in Javanese demonstrated that while the marker *wis* can (co-)occur in almost all contexts associated with perfect functions, it does not mean that this compatibility contributes to the core meaning of that marker. That

[21]Note that 'natural development contexts' in Dahl & Wälchli's (2016) terms all refer to stative predicates.

[22]Dahl (2022) reiterates this position by pointing out that *wis* is not a translational equivalent of 'already' in his sample of Bible translations. However, there is no reason to expect that similarities and equivalence in the semantics of grammatical meanings are directly reflected in translational equivalency, which should be expected only when comparing languages with sustained language contact (cf. Gumperz & Wilson, 1971).

is, although *wis* 'already' can co-occur with the Existential Past Tense marker *tau*, it does not contribute the experiential component of meaning. And although *wis* 'already' is compatible with bare predicates expressing resultative, universal, and anteriority contexts, *wis* does not uniquely contribute those meanings.

Overall, although meaning compatibility can be a challenge for researchers—in that because of these overlaps, the TMA marker under study can easily be misanalyzed—by investigating the semantic contribution of the aspectual marker in relation to what we know about the perfect aspect and 'already', it is hoped that these overlaps will become clear. Thus in the case of iamitives, it remains to be answered whether some of the markers labeled as such are in fact perfect markers, 'already' markers, or markers with non-perfect core meanings which happen to occur in some perfect environments. Lastly, the effect of frequency of the marker should be understood also in relation to how these aspectual markers function within the TMA semantic space in the language: we find alternative scenarios such as Javanese *wis* whereby the marker is semantically analyzed as 'already', but has a higher frequency than in other languages.

5 Conclusion

The broad position defended in this paper is that, especially in the early stages of describing previously underreported categories, we should not be quick to replace in-depth analyses with a new label. Fine-grained facts about distributions, meanings, and the wider paradigm of an expression are necessary to distinguish between different hypotheses. The convenience of a new label may preempt such detailed investigations, without relating it to our existing knowledge about related expressions. By analyzing the semantic space of perfect and 'already', we focused on challenging the necessity of assuming the existence of the newly proposed category of iamitives (Olsson, 2013), which is proposed to have a core meaning of change of state, similar to 'already', with an additional resultative meaning making it also similar to the perfect aspect.

We explored several perfect/iamitive/'already' markers in Nafsan (Oceanic), Toqabaqita (Oceanic), Unua (Oceanic), Javanese (Malayo-Polynesian), and Mandarin Chinese (Sinitic), and projected their meanings on the classical semantic map of perfect and 'already'. We showed that the distribution of their meanings and their language-internal mechanisms related to these meanings provide evidence that the categories of perfect and 'already' may be sufficient to describe the range of meanings found in languages. Crucially, we argue that characteristics that have been taken as evidence to necessarily posit iamitives, including the availability of the change-of-state meaning or the lack of the experiential function, can be explained by the interaction between the perfect/'already' and the following language-internal mechanisms: (a) aspectual coercion in languages with underspecified verbal aspect can explain the presence of the change-of-state meaning with perfect aspect; (b) paradigmatic blocking can explain the lack of some perfect functions of a given marker in a language; and (c) compatibility in meaning can explain certain overlaps between perfect and 'already'.

Going forward, our approach of identifying fine-grained meanings can also facilitate large-scale typological comparisons, as the distribution of fine-grained meanings of the

perfect/'already' space can be systematically tested for correlation with other language-internal mechanisms (using an approach akin to Bickel, 2015), such as those argued for in this paper, namely, aspectual coercion, occurrence and compatibility with other aspectual markers, and paradigmatic blocking. On the other hand, assuming the category of iamitives steers away from finding such relationships, and instead focuses on labeling yet another cross-linguistically variable set of features. Crucially, by looking for typological correlations between language-internal properties and the characteristics of perfect aspect and 'already' (known from other languages), we come closer to understanding where and why languages differ from each other, even when they express very similar meanings.

References

Arnold, Laura Melissa. 2018. *Grammar of Ambel, an Austronesian language of Raja Ampat, West New Guinea.* PhD dissertation, The University of Edinburgh.

Bertrand, Anne & Aonuki, Yurika & Chen, Sihwei & Davis, Henry & Gambarage, Joash & Griffin, Laura & Huijsmans, Marianne & Matthewson, Lisa & Reisinger, Daniel & Rullmann, Hotze & Salles, Raiane & Schwan, Michael D. & Todorović, Neda & Trotter, Bailey & Klok, Jozina Vander. 2022. Nobody's perfect. *Languages* 7(2). 148. doi: https://doi.org/10.3390/languages7020148

Bickel, Balthasar. 2015. Distributional Typology: Statistical inquiries into the dynamics of linguistic diversity. In Heine, Bernd & Narrog, Heiko (eds.), *Oxford handbook of linguistic analysis, 2nd ed.*, 901–923. Oxford: Oxford Univeristy Press.

Bohnemeyer, Jürgen. 2014. Aspect vs. relative tense: The case reopened. *Natural Language & Linguistic Theory* 32. 917–954.

Burton, Strang & Matthewson, Lisa. 2015. Targeted construction storyboards in semantic fieldwork. In Bochnak, M. Ryan & Matthewson, Lisa (eds.), *Methodologies in semantic fieldwork*, 135–156. New York: Oxford University Press. doi:10.1093/acprof:oso/9780190212339.001.0001

Bybee, Joan & Dahl, Östen. 1989. The creation of tense and aspect systems in the languages of the world. *Studies in Language* 13(1). 51–103.

Bybee, Joan L. & Perkins, Revere D. & Pagliuca, William. 1994. *The evolution of grammar: Tense, aspect, and modality in the languages of the world.* Chicago: University of Chicago Press.

Cable, Seth. 2017. The implicatures of optional past tense in Tlingit and the implications for 'discontinuous past'. *Natural Language & Linguistic Theory* 35(3). 635–681.

Chen, Sihwei & Jiang, Haowen. 2020. 'Iamitives' are discourse markers: Evidence from Bunun. Talk given at '12th International Austronesian and Papuan Languages and Linguistics Conference (APLL 12)', 18-20 June, 2020, Oslo.

Chen, Sihwei & Vander Klok, Jozina & Matthewson, Lisa & Rullmann, Hotze. 2020. The 'experiential' as an existential past: Evidence from Javanese and Atayal. *Natural Language & Linguist Theory* doi:https://doi.org/10.1007/s11049-020-09488-6

Comrie, Bernard. 1976. *Aspect.* Cambridge: Cambridge University Press.

Croft, William. 2001. *Radical construction grammar.* New York: Oxford University Press.

Dahl, Östen. 1985. *Tense and aspect systems.* Oxford: Blackwell.

Dahl, Östen. 2000. The Perfect Questionnaire. In Dahl, Östen (ed.), *Tense and aspect in the languages of Europe*, 800–809. Berlin: Mouton de Gruyter.

Dahl, Östen. 2014. Studying TAME systems by questionnaires and parallel corpora. Lecture given at the 'International summer school in language documentation and linguistic diversity', University of Stockholm. `http://academiasalensis.org/images/TAMELecture6.compressed.pdf`, Accessed on 12 Jan 2019.

Dahl, Östen. 2019. Gram types as clusters in grammatical space. Talk given at Workshop 'Tense, aspect, mood across languages at 52nd Annual Meeting of the Societas Linguistica Europaea', 21–24 August 2019, Leipzig University, Germany.

Dahl, Östen. 2021. "Universal" readings of perfect and iamitives in typological perspective. In Melum Eide, Kristin & Fryd, Marc (eds.), *The perfect volume: Papers on the perfect*, 43–64. Amsterdam: John Benjamins.

Dahl, Östen. 2022. Perfects across languages. *Annu. Rev. Linguist.* 8. 279–97. doi:https://doi.org/10.1146/annurev-linguistics-031120-123428

Dahl, Östen & Velupillai, Viveka. 2013. The Perfect. In Dryer, Matthew S. & Haspelmath, Martin (eds.), *The world atlas of language structures online*, Leipzig: Max Planck Institute for Evolutionary Anthropology. `http://wals.info/chapter/68`, Accessed on 22 Mar 2017.

Dahl, Östen & Wälchli, Bernhard. 2016. Perfects and iamitives: two gram types in one grammatical space. *Letras de Hoje* 51(3). 325–348. doi:http://dx.doi.org/10.15448/1984-7726.2016.3.25454

de Swart, Henriëtte. 2019. Mismatches and coercion. *Semantics-Lexical Structures and Adjectives* 321. doi:https://doi.org/10.1515/9783110626391-010

de Swart, Henriëtte. 1998. Aspect shift and coercion. *Natural Language & Linguistic Theory* 16(2). 347–385.

de Swart, Henriëtte. 2007. A cross-linguistic discourse analysis of the perfect. *Journal of Pragmatics* 39(12). 2273–2307.

Döhler, Christian. 2018. *A grammar of Komnzo*, vol. 22 (Studies in Diversity Linguistics). Berlin: Language Science Press.

Ebert, Karen H. 2001. Tense-aspect flip-flop and a somehow elusive gram type. In Ebert, Karen H. & Zúñiga, Fernando (eds.), *Aktionsart and aspectotemporality in non-European Languages, Proceedings from a workshop held at the University of Zurich, June 23-25, 2000*, 141–158. Universität Zürich.

Fodor, Jerry A. 1970. Three reasons for not deriving "kill" from "cause to die". *Linguistic Inquiry* 1(4). 429–438.

Gärdenfors, Peter. 2014. *The geometry of meaning: Semantics based on conceptual spaces*. Cambridge, Massachusetts: MIT Press.

Gil, David. 2015. The Mekong-Mamberamo linguistic area. In Enfield, Nicholas J. & Comrie, Bernard (eds.), *Languages of mainland Southeast Asia: The state of the art*, vol. 649, 266–355. Berlin/Boston: De Gruyter.

Glottolog. 2020. Family: Austronesian. `https://glottolog.org/resource/languoid/id/aust1307`, Accessed on 16 Oct 2020.

Gorbunova, Irene. 2021. Perfect and its relatives in Atayal. In Melum Eide, Kristin & Fryd, Marc (eds.), *The perfect volume: Papers on the perfect*, 65–86. Amsterdam: John Benjamins.

Gumperz, John J & Wilson, Robert. 1971. A Case from the Indo-Aryan/Dravidian Border in India. In Hymes, Dell (ed.), *Pidginization and creolization of languages: Proceedings of a conference held at the unievrsity of the west indies, mona, jamaica, april 1968*, vol. 151, Cambridge: Cambridge University Press.

Haspelmath, Martin. 2003. The geometry of grammatical meaning: Semantic maps and cross-linguistic comparison. In Tomasello, Michael (ed.), *The new psychology of language*, vol. 2, 1–30. New York: Psychology Press.

Iatridou, Sabine & Anagnostopoulou, Elena & Izvorski, Roumyana. 2003. Observations about the form and meaning of the Perfect. In Alexiadou, Artemis & Rathert, Monika & Stechow, Arnim von (eds.), *Perfect explorations*, 153–204. Berlin: Mouton de Gruyter. doi:https://doi.org/10.1515/9783110902358.153

Kiparsky, Paul. 2002. Event structure and the perfect. In Beaver, David I. & Martinez, Luis D. Casillas & Clark, Brady Z. & Kaufmann, Stefan (eds.), *The construction of meaning*, 113–136. Stanford: Center for the Study of Language and Information.

Klein, Wolfgang. 1994. *Time in language*. London: Routledge.

Klein, Wolfgang. 2014. Is aspect time-relational? Commentary on the paper by Jürgen Bohnemeyer. *Natural Language & Linguistic Theory* 32. 955–971.

Koontz-Garboden, Andrew. 2007. Aspectual coercion and the typology of change of state predicates. *Journal of Linguistics* 43(1). 115–152.

Koss, Tom & De Wit, Astrid & van der Auwera, Johan. 2022. The aspectual meaning of non-aspectual constructions. *Languages* 7(2). doi:10.3390/languages7020143. `https://www.mdpi.com/2226-471X/7/2/143`

Krajinović, Ana. 2019. The semantics of perfect in Nafsan and implications for typology. In Bochnak, M. Ryan & Butt, Miriam & Meertens, Erlinde & Zymla, Mark-Matthias (eds.), *Proceedings of TripleA 5: Fieldwork Perspectives on the Semantics of African, Asian and Austronesian Languages*, 106–121. Tübingen: Universitätsbibliothek Tübingen, Publikationssystem. http://hdl.handle.net/10900/95496.

Krajinović, Ana. 2020. *Tense, mood, and aspect expressions in Nafsan (South Efate) from a typological perspective: The perfect aspect and the realis/irrealis mood*. Humboldt-Universität zu Berlin and The University of Melbourne. PhD thesis, http://hdl.handle.net/11343/237469, https://doi.org/10.18452/21598.

Kramer, Raija. 2018. Position paper on Phasal Polarity expressions, Ms. Paper written for the conference The Expression of Phasal Polarity in sub-Saharan African languages, February 2nd-4th, 2018, Hamburg. https://www.aai.uni-hamburg.de/afrika/php2018/medien/position-paper-on-php.pdf, Accessed on 1 Feb 2021.

Kramer, Raija L. (ed.). 2021. *The Expression of Phasal Polarity in African Languages*. Berlin: De Gruyter.

Krifka, Manfred. 2000. Alternatives for aspectual particles: Semantics of *still* and *already*. *Annual meeting of the Berkeley Linguistics Society* 26(1). 401–412.

Kuteva, Tania & Heine, Bernd & Hong, Bo & Long, Haiping & Narrog, Heiko & Rhee, Seongha. 2019. *World lexicon of grammaticalization. 2nd ed.* Cambridge: Cambridge University Press. doi:https://doi.org/10.1017/9781316479704

Li, Charles N. & Thompson, Sandra A. 1981. *Mandarin Chinese: A functional reference grammar*. Berkely: University of California Press.

Li, Charles N. & Thompson, Sandra A. & Thompson, R McMillan. 1982a. The discourse motivation for the perfect aspect: the Mandarin particle LE. In Hopper, Paul J. (ed.), *Tense-aspect: Between semantics and pragmatics*, 19–44. Amsterdam: John Benjamins.

Li, Charles N. & Thompson, Sandra A. & Thompson, R. McMillan. 1982b. The discourse motivation for the perfect aspect: the Mandarin particle *le*. In Hopper, Paul (ed.), *Tense-aspect: Between semantics and pragmatics*, vol. 1982, 19–44. Amsterdam/Philadelphia: John Benjamins.

Lichtenberk, Frantisek. 2008. *A grammar of Toqabaqita*. Berlin: Mouton de Gruyter. doi: 10.1515/9783110199062

Lynch, John & Ross, Malcolm & Crowley, Terry. 2002. *The Oceanic languages*. London: Routledge.

Löbner, Sebastian. 1989. German *schon-erst-noch*: An integrated analysis. *Linguistics and Philosophy* 12(2). 167–212.

Marquardt, Christine & Schwarzer, Marie-Luise & Tebay, Sören Eggert. 2019. The Perfect in Mee: New Evidence for a Result State Approach. In Bochnak, M. Ryan & Butt, Miriam & Meertens, Erlinde & Zymla, Mark-Matthias (eds.), *Proceedings of TripleA 5: Fieldwork Perspectives on the Semantics of African, Asian and Austronesian Languages*, Tübingen: Universitätsbibliothek Tübingen, Publikationssystem. http://hdl.handle.net/10900/95500.

Matthewson, Lisa. 2014. Miss Smith's Bad Day. *Totem Field Storyboards* http://www.totemfieldstoryboards.org, Accessed on 10 Sep 2018.

Matthewson, Lisa & Quinn, Heidi & Talagi, Lynsey. 2015. Inchoativity meets the Perfect Time Span: The Niuean perfect. *Lingua* 168. 1–36.

Mazzitelli, Lidia Federica. 2020. Valency-Changing Morphology in Lakurumau, a Western Oceanic Language of Papua New Guinea. *Oceanic Linguistics* 59(1). 190–211.

McCawley, James D. 1992. Justifying part-of-speech assignments in Mandarin Chinese. *Journal of Chinese linguistics* 20(2). 211–246.

McEnery, Anthony & Xiao, Richard. 2004. The Lancaster Corpus of Mandarin Chinese. http://www.lancs.ac.uk/fass/projects/corpus/LCMC/. Accessed on 2 Feb 2021.

Michaelis, Laura A. 2004. Type shifting in construction grammar: An integrated approach to aspectual coercion. *Cognitive Linguistics* 15(1). 1–68.

Moens, Marc & Steedman, Mark. 1988. Temporal ontology and temporal reference. *Computational Linguistics* 14(2). 15–28.

Moens, Marc & Steedman, Mark. 2005. Temporal ontology and temporal reference. In Inderjeet Mani, Robert Gaizauskas, James Pustejovsky (ed.), *The language of time: A reader*, Oxford: Oxford University Press.

Mucha, Anne. 2015. *Temporal interpretation and cross–linguistic variation*. PhD dissertation, Faculty of Human Sciences at the University of Potsdam. http://nbn-resolving.de/urn:nbn:de:kobv:517-opus4-85935.

Nedjalkov, Vladimir P. (ed.). 1988. *Typology of resultative constructions*. Amsterdam: John Benjamins.

Olsson, Bruno. 2013. *Iamitives: Perfects in Southeast Asia and beyond*. MA thesis, Stockholm University.

Pearce, Elizabeth. 2015. *A grammar of Unua*. Berlin: De Gruyter Mouton.

Pearce, Elizabeth (collector). 2009. Unua material (EP2). Digital collection managed by PARADISEC. [Open Access] https://dx.doi.org/10.4225/72/56E97939B0049. Accessed on 2 Feb 2021.

Regier, Terry & Khetarpal, Naveen & Majid, Asifa. 2013. Inferring semantic maps. *Linguistic Typology* 17(1). 89–105.

Ross, Malcolm & Pawley, Andrew & Osmond, Meredith. 2016. Introduction. In Ross, Malcolm & Pawley, Andrew & Osmond, Meredith (eds.), *The lexicon of Proto Oceanic: The culture and environment of ancestral Oceanic society, Volume 5 – People: body and mind*, 1–36. Canberra: Asia-Pacific Linguistics. https://digitalcollections.anu.edu.au/handle/1885/106908.

Smith, Alexander D. 2017. The Western Malayo-Polynesian Problem. *Oceanic Linguistics* 56(2). 435––489.

Soh, Hooi Ling. 2009. Speaker presupposition and Mandarin Chinese sentence-final-*le*: a unified analysis of the "change of state" and the "contrary to expectation" reading. *Natural Language & Linguistic Theory* 27(3). 623–657.

Tatevosov, Sergei. 2001. From resultatives to evidentials: Multiple uses of the perfect in Nakh-Daghestanian languages. *Journal of Pragmatics* 33(3). 443–464.

Tham, Shiao Wei. 2013. Change of state verbs and result state adjectives in Mandarin Chinese. *Journal of Linguistics* 647–701.

Thieberger, Nicholas. 2006. *A grammar of South Efate: An Oceanic language of Vanuatu*. Honolulu: University of Hawai'i Press.

Thieberger, Nick. 1995–2019. Guide to the Nafsan, South Efate collection. http://www.nthieberger.net/sefate.html. Accessed on Mar 14, 2018.

Traugott, Elizabeth Closs & Waterhouse, John. 1969. 'Already'and 'yet': a suppletive set of aspect-markers? *Journal of Linguistics* 5(2). 287–304. doi:10.1017/S0022226700002279

van Baar, Theodorus M. 1997. *Phasal polarity*. Dordrecht: Foris Publications.

van der Auwera, Johan. 1993. 'Already' and 'still': Beyond duality. *Linguistics and Philosophy* 16(6). 613–653.

Vander Klok, Jozina. 2012. *Tense, aspect, and modal markers in Paciran Javanese*. McGill University. PhD dissertation, https://escholarship.mcgill.ca/concern/theses/5999n690n.

Vander Klok, Jozina. 2018. Reconsidering the syntax of Javanese wis 'already'. In Kalin, Laura & Paul, Ileana & Vander Klok, Jozina (eds.), *Heading in the right direction: Linguistic treats for lisa travis*, vol. 25, 446–456. Montreal, QC: McGill Working Papers in Linguistics.

Vander Klok, Jozina & Matthewson, Lisa. 2015. Distinguishing already from perfect aspect: a case study of Javanese *wis*. *Oceanic Linguistics* 54(1). 172–205.

Veselinova, Ljuba. 2018. Questionnaire on iamitives 'already' and nondums 'not yet', Ms. https://www2.ling.su.se/staff/ljuba/notyet_questionnaire.pdf, Accessed on 8 Dec 2018.

von Prince, Kilu. 2018. Paradigm-induced implicatures: The case of the Daakaka distal. In Truswell, Robert & Cummins, Chris & Heycock, Brian, Carolinea nd Rabern & Rohde, Hannah (eds.), *Proceedings of Sinn und Bedeutung 21, 4-6 September 2016, University of Edinburgh*, 969–984. https://semanticsarchive.net/Archive/DRjNjViN/SuB21.pdf.

Zhang, Niina Ning. 2019. Sentence-final aspect particles as finite markers in Mandarin Chinese. *Linguistics* 57(5). 967–1023.

Ziegeler, Debra. 2007. A word of caution on coercion. *Journal of Pragmatics* 39(5). 990–1028.

Ziegeler, Debra. 2020. Changes in the functions of already in Singapore English: A grammaticalization approach. *Journal of Pidgin and Creole Languages* 35(2). 293–331.