

## A Contrastive Study of Future Tenses in the Languages of Papua New Guinea

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### I Introduction

Tense, aspect, and modality are necessary parts of grammar (Aikhenvald 2014: chapter 7.2, Binnick 2012, Bybee et al. 1994), and this study pays special attention to the future tense. The future tense is one of tense features, and many studies are conducted from a standpoint of modal meanings, for example, there are two forms in English; *be going to* and *will* and this difference is an issue in semantics (including modal meanings) and cognitive linguistics (Dahl 2000, Tyler and Jan 2016, Velupillai 2016). This study tries to clarify the features of the future tense in the Papua New Guinea area.<sup>1)</sup>

This study chose six languages from several language families in the area. The sample languages are the following six languages: Amele, Bel, Kobon, Manam, Waskia, and Tok Pisin (see Figure 1). This study examined these six languages and checked tense features in terms of contrastive-typological points. In particular, I want to examine morphological and semantic features of the future tense, and moreover, I will summarize differences and common functions. Amele, Kobon, and Waskia belong to the Trans-New Guinea genera, Bel and Manam are from the Austronesian genera, and additionally, Tok Pisin is an English-based creole. These languages are spoken in the Madang Province of Papua New Guinea, the north-west coast area of New Guinea Island (cf. Nose 2016a, 2016b).

Section 2 is an introduction of previous studies of the general investigation of tense and language descriptions of Papua New Guinea and then shows the purposes of this study. Section 3 demonstrates the data of the future tense

<sup>1)</sup> Papua New Guinea is famous for its diversity of languages and there are around 800 languages including Papuan/New Guinea, Austronesian, and creole languages. Their grammars are different to each other and they have several rare grammatical characteristics which cannot be observed in European languages (Foley 2000, Nose 2016a).

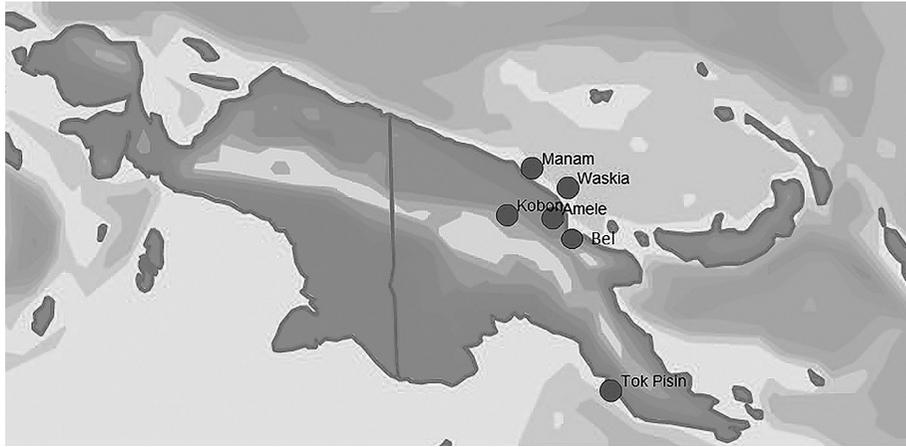


Figure 1: Sample languages of this study (Generated by the WALS language viewer)

of the sample languages. Section 4 is a discussion of form/meaning of the future tense and section 5 is a conclusion.

## II Tense studies and the languages of Papua New Guinea

This section illustrates a typological study of future tense forms and then observes several

previous studies of tense in the New Guinea area. First, there is one typological study of the future tense, conducted by Dahl and Velupillai (2005). Dahl and Velupillai created Figure 2 as a result of their typological survey. They classified 222 languages of the world into two types: inflectional future (black circles, 110 languages) and no inflectional future (white circles, 112 languages).

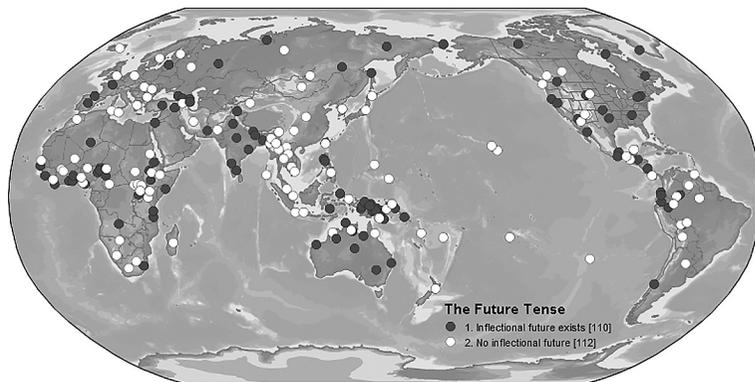


Figure 2: The Future Tense, WALS feature #67 (Dahl and Velupillai 2005)

We find several observations in Figure 2. First, European and Asian languages tend to have no inflectional future. Second, Indian, American languages, New Guinea, and Australian languages have a tendency to use inflectional futures. For example, Finnish does not have a morphological future as in (1a), and temporal adverbs such as “today” and “tomorrow” indicate present or future meanings, as in (1b). Thus, Finnish is a language which has no future tense.

(1) Finnish:

- a. Tänään on kylmää.  
today is cold.parti<sup>2)</sup>  
“It is cold today.”
- b. **Huomenna** on kylmää.  
tomorrow is cold.parti  
“It will be cold tomorrow.”

In English, there are two kinds of future tense forms, but neither is inflectional, as in (2). Tyler and Jan (2016) discuss the “be going to”

form as a metaphorical extension of the meaning “go” and “will,” so this future is based on a modal meaning “intention.”

(2) English:

- a. I **am going to** study English.
- b. I **will** study English.

On the other hand, Spanish has an inflectional future, as in (3). Inflectional “-é” indicates the 3rd person singular future tense form and it is involved in verbal morphology. In this case, it is not easy to find the original meaning of the future tense form, but these inflectional future forms are more grammaticalized in time-references.

(3) Spanish: (Uryuu 2006:116)

- Tomar-é el tren de las ocho.  
Take-fut.3sg the train of the eight  
“I will take the 8 o’clock train.”

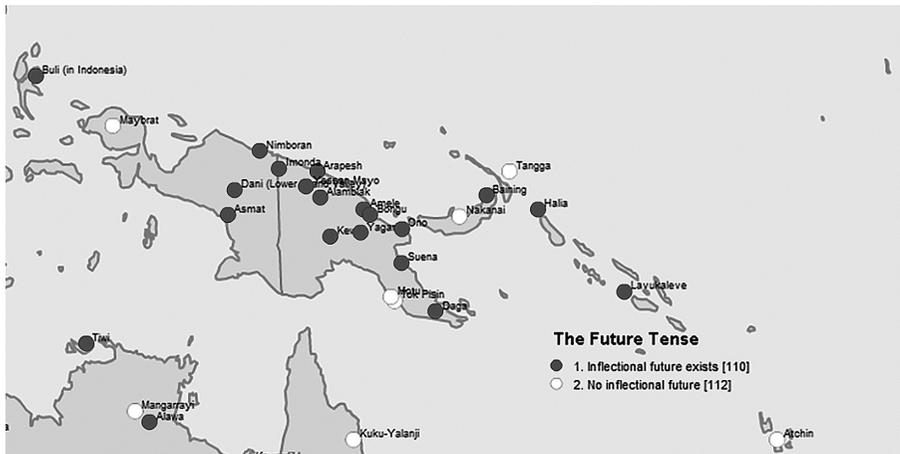


Figure 3: The Future tense in New Guinea Island (Dahl and Velupillai 2005)

2) The following abbreviations are used: parti = participle; pl = plural; pred = predicate; pres = present; sg = singular; fut = future; ir = irrealis; 1, 2, 3 = first person, second person, and third person, respectively.

Next, we will focus on the map of the New Guinea area, Figure 3, created by Dahl and Velupillai (2005). Also, we will review several previous studies of future tenses typologically and particularly, New Guinea languages. The Papua New Guinea area shows dominantly inflectional futures except Tok Pisin and some languages (mainly, Austronesian languages). Nose (2016a) and Foley (2000) claimed that the languages of Papua New Guinea show a rich morphological past tense as well. These complexities of morphology in the area are observed in Papuan or Trans-New Guinea languages.

Previous studies of tense and aspect (Comrie 1976, 1985, Binnick 2012, Bybee and Dahl 1989, Bybee et al. 1994, and Velupillai 2016) demonstrated that the future tense is partly related to mood in that its meaning includes uncertainty or an irrealis situation. Moreover, in many languages, the present tense covers near-future meanings and thus, some languages lack a morphological future tense in their grammars. Particularly in the New Guinea area, Foley (2000: 381) pointed out that Austronesian languages have simple tense systems or often lack the grammatical category altogether, instead they employ a modal contrast between realis-irrealis (see also, Elliot 2000). On the other hand, Papuan (or Trans-New Guinea) languages may have complex tense systems through multiple deictic distinctions of distance from the present “now.” For example, Amele, one of the Trans-New Guinea languages, has a complicated tense system, as shown in (4).

- (4) Amele: (Roberts 1987: 224–225)<sup>3)</sup>  
 Present: Ija fi-gi-na. “I see.”  
 Past: Today’s past: Ija fi-g-a. “I saw (today).”

<sup>3)</sup> Amele has a portmanteau suffix of tense, person, and number. Full conjugations of the verb *jiga* (to eat) are shown in the Appendix.

Yesterday’s past: Ija fi-g-an. “I saw (yesterday).”

Remote past: Ija fe-em. “I saw (before yesterday).”

This study examines specific morphology of future tenses and their meanings, and then, we try to find common features of the sample languages. We analyze the data and we will explain how the sample languages consider future tenses and the concept of time. For this purpose, this study uses the following materials and the data of the sample languages. Thus, this study utilized the described data and partly my elicitation data (in particular, Amele and Bel). Finally, this study and further studies will complete the data and description by adding step-by-step field data.<sup>4)</sup>

- Amele: Trans-New Guinea (TNG), coast area; Roberts (1989) and my data
- Kobon: TNG, mountain area; Davies (1989)
- Waskia: TNG, coast area; Ross and Paol (1978)
- Bel: Austronesian (AUS), coast area; Dempwolff (n.d.) and my data
- Manam: AUS, coast area; Lichtenberk (1983)
- Tok Pisin: English-based creole, Mihalic (1971) and my data

### III | Syntax and morphology of Future tenses: Data of future tense

This section investigates forms and functions of future tenses among the sample languages. This section shows example sentence from each

<sup>4)</sup> The sample languages in Madang Province have already been described before. The quality of each description is enough to contrast them. Nevertheless, it is still difficult to conduct a field study on the spot for some languages, and it is also hard to find good language consultants (cf. Aikhenvald 2014).

language and the forms and meanings of the future tense. Finally, we summarize the data and contrast them in terms of future time reference.

First, Amele is a Trans-New Guinea language and it has a morphological future, though the present tense form implies future meaning (present tense: *hu-gi-na*. “I come”). Thus, Amele has present and future tenses, in addition to the rich past tense forms (Roberts 1989, Nose 2016a). The inflectional future tense form in (5) is “-an” or “-en,” which can be inflected with person and number in a portmanteau form. Moreover, Amele has distinctions among the absolute future, relative future, and negative future tense forms as in (6).

- (5) Amele (Roberts 1989: 229)  
*Uqa sab man-igi-an.*  
 3sg food cook-3sg.fut  
 “She will cook the food.”

- (6) Future tense forms in Amele
- Future: -an/-en
  - Relative future: -a/-e
  - Negative future: -aun

Roberts (1989: 229) describes that the usage of the relative future indicates an event that is about to take place in the near future, as shown in (7).

- (7) *Uqa lotoc oso faj-igi-a*  
 He cloth one buy-3sg.relative fut  
*bili wau-g ben tawen.*  
 be-pred stomach-his big stand3sg.remote  
 past  
 “He stood proudly about to buy a garment.”

However, my field data show that another future tense form “-ig on” can be used in several verb forms as in (8) and (9). These forms are different from the future tense form “-an/-en” (see also, Appendix).

- (8) *Ija rais jig on.*  
 1sg rice eat-1sg.fut  
 “I will eat rice.”
- (9) a. *Ija buk sia-niga.*  
 1sg book read-1sg.pres  
 “I read a book.”
- b. *Ija uqada buk sianig on.*  
 1sg tomorrow book read-1sg.fut  
 “I will read a book.”

To summarize, Amele has three kinds of inflectional future tenses: absolute future, relative future, and negative future. However, another “-ig on” form is observed in some discourses. Amele has rich past tense forms (today, yesterday, and remote) and it has morphological means expressing temporal sequences of the past events.

Second, Manam is an Austronesian language spoken in the north part of Madang Province. Lichtenberk (1983) is a comprehensive descriptive grammar which this study utilizes. Manam does not have a formal future tense. Instead, Manam has a distinction between irrealis and realis and the irrealis prefix form carries future meaning, as in (10).

- (10) Manam (Lichtenberk 1983: 184)  
*Zama ?usi ne-gu*  
 tomorrow loincloth possessive-1sg  
*mi-asa?-i.*  
 1sg.ir-wash-3sg  
 “I will wash my loincloth tomorrow.”

The form “mi” is a mood marker and it is a prefix which indicates an irrealis meaning (Lichtenberk 1983: 183). Lichtenberk (1983) explains this irrealis as events that will (will not) take place in the future in relation to the time of the speech act or some other event. Similarly, another prefix “masa” indicates indefinite irrealis and it also carries future meaning, as in (11).

- (11) **Masa** ʔaba m-pura  
 in-ir again 1sg-come  
 “I will come again.”

Third, Tok Pisin is a lingua franca of Papua New Guinea and it has been developed as an English-based creole since the 19th century (Mihalic 1971). Tok Pisin has an independent future marker “bai,” derived from the English form “by and by.” The form “bai” has a longer form “baimbai” as in (12). Romaine (1995) claimed that “bai/baimbai” have grammaticalized into irrealis. The present form (so called “zero form”) in (13) can indicate future meaning as well by using the temporal adverb “tomorrow.”

- (12) Tok Pisin:  
 Mi **bai (baimbai)** go long town.  
 I fut go to town  
 “I will go to a town.”

- (13) Mi go long town **tumora**.  
 I go to town tomorrow  
 “I will go to a town tomorrow.”

Next, Bel is also an Austronesian like Manam, which was described by Dempwolff around 1940–1950. His description (Demp-

wolff n.d.) was already old, and this study confirmed the sentence examples by the author in 2015–2016 (cf. Nose 2016b). Bel has an enclitic marker “-oi/ -woi.” This enclitic carries an irrealis meaning and it has future meaning as well. Its suffixal tendency is a result of language contact with Trans-New Guinea languages (for example, another Austronesian Manam uses a prefix. cf. Takia, Ross (2002)). The sentences (14) and (15) carry the future tense, and Dempwolff (n.d.: 13) points out that the form “-oi/ -woi” is usually like the English “shall” and “will,” auxiliary verbs and additionally, the imperative may be expressed by this form.

- (14) Bel: The same as present tense  
 Nga ngarag-**oi**.  
 I go-irrealis  
 “I go/ I will go.”  
 (15) Tamol imat-**oi**.  
 Man die-ir  
 “the man will die.”

Next, Waskia is a Trans-New Guinea language, which has heavy contacts with the neighboring Austronesian Takia and Bel (Ross 2002). As a result, its grammar is similar to Austronesians (Ross and Paol 1978). Thus, it is remarkable that Waskia has rather a distinction between realis and irrealis, in particular, realis subject-tense-mood suffix and irrealis subject-tense-mood suffix (Ross and Paol 1978 42, 67–68, see also Appendix). Realis forms have three kinds of tense forms and meanings: present, habitual past, and simple past. Irrealis forms carry future, imperative, and desiderative meanings. All forms are suffixes and partly inflect with person and number. Its future suffix is “-uko” or “-uki” as in (16) and (17).

(16) Waskia (Ross and Paol 1978: 69):  
 nu mise se urat biter-**uko** labo  
 He today work do-fut.3sg perhaps  
 “He will probably work today.”

(17) (Ross and Paol: 1978: 15)  
 mukolase nu Madang namer-**uki**.  
 Tomorrow he Madang go-fut.3sg  
 “He will go to Madang tomorrow.”

Finally, Kobon (Davies 1989) is spoken in the mountain area of Madang Province. It is said that it has the grammatical tendency of the highland languages (Foley 2000). Kobon has rich inflections with tenses such as Amele, and it has the following several tenses with inflections. Tense markings are classified in simple past, remote past, present, future, and perfect aspect (see the Appendix, future tense morphology in Kobon). However, the present tense can express future meaning in Kobon, as in (18). The difference between present and future is slight in forms: 1st singular present: “ab-in” / future: “nab-in,” and only infix “n” form indicates a future meaning as in (19).

(18) Kobon (Davies 1989: 166)  
 Uri nöp ar-**ab-in**.  
 Now emphatic go-pres-1sg  
 “I am going (will) right now.”

(19) a. Ar-**ab-in** “I go”  
 b. Ar-**nab-in** “I will go.”

The data observed is shown in table 1 in the Appendix. Now, we will summarize the observations. First, there are two tendencies, possibly Trans-New Guinea (TNG) and Austronesian (AUS) features. TNG type is based on the semantic distinction past versus non-past. Moreover, a verbal suffix is preferred to express

tense distinctions, and these suffixes carry several tense meanings such as remoteness distinctions (near past and remote past) among past, present, and future. It is also noted that the present tense can imply future meaning. In contrast, Austronesian type (AUS) has a semantic distinction between realis and irrealis. The irrealis form carries a future meaning and morphologically a prefix or a suffix. It is remarkable that the future form does not imply present, because present tense event indicates realis meaning. Romaine (1995) claims that “bai” has grammaticalized into irrealis like “Bai yumi go (Let’s go).” Thus, the future form in Tok Pisin belongs to AUS type.

We claim that the sample languages prefer inflectional futures, and they are mostly suffix, but AUS type is semantically based on irrealis future. Among the sample languages, Amele has the most complicated tense system.

## IV | Discussion

This section discusses the future tenses in contrast. The languages in Papua New Guinea have quite different grammars from typical European languages (Foley 2000), and this study will discuss two points: one is what are the common features in the sample languages and another point is how the languages consider time and grammar in functional-cognitive terms (cf. Dahl 2000, Sinha et al. 2011).

First, this study considers the common feature(s) of the sample languages and will show how differently each grammar uses the future function. Both types (TNG and AUS types) have morphological markers for the future tense. Future forms are marked rather in verbal inflections, as a suffix. This suffixal fea-

ture is mainly observed in Trans-New Guinea languages. We cannot identify a common feature between the two types. This study found that Austronesian languages have a future tense, originally derived from irrealis meaning. In contrast, TNG languages have a continuum of past-present-future sequence, past/non-past model (cf. Dahl 2000, Elliott 2000). Moreover, it is remarkable that Amele has a positive/negative distinction (Roberts 1987). By their language contact processes (cf. Sinha et al. 2011, Ross 2002), Waskia and Tok Pisin acquired an irrealis system although Waskia is Trans-New Guinea and Tok Pisin is a creole language. Thus, the irrealis future is dominant in the languages in the area.

Second, we consider time and grammar in cognitive terms. This study clarified that there are two kinds of future markings: past/non-past and realis/irrealis viewpoints. TNG type has past/non-past distinction and AUS type and Tok Pisin have realis/irrealis distinction, but Waskia has changed to irrealis future in spite of Trans-New Guinea. Bel is an Austronesian and it keeps a realis/irrealis distinction, but its usage is similar to non-past. Sinha et al. (2011) described the Amondawa language in the Amazon that does not have the concept of time. But even Amondawa has temporal adverbs such as “tomorrow” or “next month,” and generally, all languages have grammatical or lexical means for future reference. Therefore, there are several kinds of grammaticalization or lexicalization paths for expressing future time meaning. TNG type has a marked future form, which indicates “not past” and “not present.” In contrast, AUS type has a marked future, which indicates “it is not real (in the territory of mood).”

## V | Conclusion

This study claims that the sample six languages have at least one future tense marker, but their forms are two-fold: one is TNG type and another is AUS type. Many languages have inflectional futures, but some have a simple future marker only. Thus, we cannot identify common features. This study found that Austronesian languages, Tok Pisin and Waskia (it is a Trans-New Guinea language, but it changed its grammar) have future tenses, originally derived from irrealis and within the area of Mood. In contrast, TNG languages have a continuum of past-present-future sequence, based on past/non-past distinction. We examined the future tense in a global context in Figure 1 and found that half of languages do not have an inflectional future tense form (112 of 222 languages), but particularly the majority of languages in New Guinea island have rather an inflectional future tense except Tok Pisin and a few languages.

These findings mean that these languages’ grammaticalization paths differ significantly and the languages themselves are radically different from English and other European languages. Furthermore, we should remember that New Guinea people are bilingual speakers of native indigenous languages and Tok Pisin, and they can understand easily and translate each concept of future time (in both TNG and AUS types), sometimes by the help of temporal adverbs.

### 【Acknowledgement】

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## Appendix

Verbal morphology in Amele: *Jiga* “to eat”

Present	Today's past	Yesterday's past	Remote past
1sg: jigina	1sg: jiga-(on)	1sg: jigan-(on)	1sg: je-em
2sg: jaga	2sg: jaga-on	2sg: jagan-on	2sg: je-em
3sg: jena	3sg: jeya-on	3sg: jeyan-on	3sg: jen
1pl: jobona	1pl: joba-on	1pl: joban-on	1pl: jon
2/3 pl: jegina	2/3 pl: jeisa-on	2/3 pl: joban-on	2/3 pl: jein
Habitual past	Negative past	Future	Negative future
1sg: jigina-on	1sg: jerim	1sg: jig-on	1sg: jigin
2sg: jagana-on	2sg: jerem	2sg: jeg-on	2sg: jegen
3sg: jena-on	3sg: jeer	3sg: jigi-on	3sg: je-dami
1pl: jobona-on	1pl: jorun	1pl: je-nu	1pl: jobon
2/3 pl: jegina-on	2/3 pl: jerin	2/3 pl: jobaig-on	2/3 pl: jowain

Irrealis Subject-Tense-Mood suffixes in Waskia (Ross and Paol 1978: 68)

1sg: -iki	1pl: -naki
2sg: -i/ zero	2pl: -ani
3sg: -uki	3pl: -uni

Future tense morphology in Kobon (Davies 1989: 166):

1sg: nab-in	1dual: nab-ul	1pl: nab-un
2sg: nab-ön	2/3dual: nab-il	2pl: nab-im
3sg: nab-φ		3pl: nab-öl

Table 1: A contrastive result of future tense forms in the sample languages

	Morphology	Meanings	Future nuance in present tense	Other points
Amele (TNG)	Verb inflection, (suffix)	Absolute, Relative, and negative	Yes	Negative future and relative future
Kobon (TNG)	Verb inflection, (suffix)	Absolute future only	Yes	Future form is similar to present
Waskia (TNG)	Subject-tense-mood suffix	Irrealis	No?	Realis/Irrealis distinction (AUS type)
Bel (AUS)	Enclitic in the verb (suffix)	Irrealis	Yes	Irrealis, but it means present tense
Manam (AUS)	Modal prefix	Irrealis mood	No	Irrealis future
Tok Pisin (Creole)	Independent future marker “bai”	Irrealis, English “by and by”	Yes	Longer “baimbai” Irrealis (AUS type)

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# A Contrastive Study of Future Tenses in the Languages of Papua New Guinea

Masahiko Nose

This study tries to clarify the functions of future tense forms in the area of Madang Province, Papua New Guinea; particularly, the sample languages are Amele, Bel, Kobon, Manam, Waskia, and Tok Pisin. This study examined the six languages and checked tense features in terms of contrastive-typological points.

Amele, Kobon, and Waskia are a Trans-New Guinea language, and Bel and Manam are Austronesian and additionally, Tok Pisin, an English-based creole.

According to Dahl and Velupillai (2005), the majority of the languages of New Guinea Island use inflectional future tenses. But some languages such as Tok Pisin have no inflectional future. Generally, Trans-New Guinea languages tend to depend on verbal morphology and in contrast, Austronesian languages have less verb inflection.

This study tries to clarify the characteristics of the future tense of the sample languages, and examines how their future features are combined in verbal morphology and consider their lexical origins. In (1)-(3), we show several examples of future tenses.

(1) Amele (Roberts 1989: 229):

By using inflectional future

Uqa sab man-igi-an. "She will cook the food"

(2) Manam (Lichtenberk 184):

By using irrealis prefix

Zama?usi ne-gu mi-asa?-i. "I will wash my loin-cloth tomorrow"

(3) Tok Pisin:

By using independent marker with irrealis meaning

Mi bai go long town. "I will go to a town"

Amele has a morphological future tense affix "-an," and Austronesian Manam has also morphological, but the prefix marker "mi-" indicates an irrealis meaning. Tok Pisin has a distinctive future marker "bai," originated from English "by and by."

Finally, this study claims that the sample languages have at least one future tense marker, but their forms are various and we cannot identify common features. This study found that Austronesian languages (AUS type) have future tenses, originally derived from irrealis and within the area of Mood. In contrast, other languages (Trans-New Guinea languages, TNG type) have a continuum of past-present-future sequence.

