Time Without Tense: *A Typological Investigation into Tenseless Languages, their Mechanisms for Time Reference, and Theoretical Explanations*

MSc Linguistics

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List of Abbreviations

1 = first person
2 = second person
3 = third person
ABL = ablative
ACT = active
ALL = allative
APP = applicative
CL = classifier
CMP = completive
CONT = continuous
CRS = change of state
DEIC = deictic
DET = determiner
DUR = durative
ERG = ergative
EXP = experiential
M = masculine
FUT = future
FVO = finite verb phrase operator
IMPERF = imperfect
IND = indicative
IRR = irrealis
PST = past
PERF = perfective
PRESTT = presentative
PROG = progressive
REL = relativiser
SUB = subject
TEMP = temporal case
TERM = terminative
U = unmarked
WOLL = future auxiliary (will-type)

CHAPTER 1 Introduction and Core Concepts

1.1 Background and research aims

The grammatical category of TENSE has traditionally held a central position in linguistic theories of time reference, particularly within the Indo-European language family. TENSE, the grammaticalisation of location in time (Comrie, 1985:1), has traditionally been assumed to be a universal feature of natural language, essential for anchoring utterances to temporal coordinates.

However, the discovery and analysis of so-called 'tenseless languages' has presented a serious challenge to this assumption. Tenseless languages, which reportedly lack overt grammatical TENSE, have prompted linguists to re-evaluate the universality of TENSE and explore alternative mechanisms by which languages can express temporal relations. This dissertation investigates the nature, structure, and theoretical implications of tenseless languages, with a particular focus on their strategies for temporal reference, cross-linguistic variation, and the interface between syntax and semantics.

The typological diversity of temporal systems raises questions about cross-linguistic variation and the cognitive underpinnings of time in language. While some theories posit a universal inventory of TENSE features, cross-linguistic evidence indicates that languages differ in how and whether they grammaticalise temporal relations (Comrie, 1985; Dahl & Velupillai, 2011). Moreover, the existence of languages that rely more heavily on ASPECT or MODALITY than on TENSE suggests that there may be no single grammatical pathway for encoding temporal information. Tenseless languages offer an empirical testing ground for these theoretical claims about Universal Grammar and the typology of temporal systems. They allow us to ask whether the human language faculty requires grammatical TENSE at all, or whether it is simply one of several strategies for situating events in time.

The central aim of this study is to answer the following questions:

1. *Which languages are obligatorily tenseless and which are optionally tenseless?*
2. *What mechanisms do these languages employ to express time reference?*
3. *How are tenseless languages derived in the syntax? Is there evidence for a TP?*

This dissertation is structured as follows. Following this introductory chapter which outlines some key concepts in the study of time and TENSE, chapter 2 addresses the first two research questions – it proposes a typology of degrees of TENSE before presenting a data-rich

comparative description of a sample of reportedly tenseless. Chapter 3 develops an analysis of some of the theoretical approaches to explaining tenseless languages in the syntax. This offers some insight for answering my third research question. Finally, chapter 4 synthesises the findings and outlines directions for future research.

By engaging with a range of theoretical perspectives and empirical data, this dissertation aims to contribute to our understanding of how human languages encode time, and to reassess the centrality of TENSE in linguistic theory. In doing so, I challenge the claim that some languages are truly tenseless and argues for TENSE as a universal category.

1.2 Theoretical background

1.2.1 Reichenbach and Klein's framework

Reichenbach (1947) and Klein (1994) provide the standard toolkit for analysing TENSE. Three temporal parameters are distinguished:

(1) i. UT (utterance time): the time at which the sentence is spoken.
ii. RT (reference/topic time): the interval about which a claim is made.
iii. ET (event/situation time): the time when the eventuality occurs.

TENSE encodes the relation between UT and RT, while ASPECT encodes the relation between RT and ET. For example, English *I saw her last week* places RT before UT (PAST TENSE), with ET included within RT (PERFECTIVE ASPECT).

1.2.2 TENSE in syntax

In most generative accounts, TENSE is hosted in a functional head T, projecting TP. T selects AspP and introduces a variable over time intervals. Overt TENSE morphemes (e.g., *-ed* in English) lexicalise the T head. In languages without such morphology, the question arises: is T projected but covert, or absent entirely?

1.2.3 Distinguishing TENSE, ASPECT, and MODALITY

It is crucial to separate TENSE from ASPECT and MODALITY.

i. TENSE restricts RT relative to UT.
ii. ASPECT structures ET relative to RT (PROGRESSIVE, PERFECTIVE, IMPERFECTIVE).
iii. MODALITY quantifies over possible worlds (e.g., epistemic, deontic, or predictive).

Future reference often sits at the border of TENSE and MODALITY. Abusch (1985) proposed that future is never a pure TENSE but is mediated by a MODAL operator (WOLL), combining with TENSE. This idea underpins many covert TENSE analyses.

1.3 The concept of tenselessness

The term tenseless language refers to languages that do not obligatorily mark TENSE morphologically on the verb. This contrasts with tensed languages like English, where verbs are inflected for TENSE (e.g., *walked, walks*). Instead, in tenseless languages, temporal reference is typically derived from ASPECT, adverbials, context, or discourse structure.

Before introducing some morphosyntactic and semantic diagnostics for establishing tenselessness, it is useful to note a philosophical precursor: Braude (1974) distinguishes between sentences whose truth-conditions are relativised to the time of production (tensed sentences) and those whose truth-conditions are not (tenseless sentences). For example, *'John is here'* depends on the time of utterance, whereas *'Anything that isn't true is false'* holds irrespective of when it is stated. This truth-conditional distinction underpins later linguistic conceptions of tenselessness.

Interestingly, both sentences contain the same verb, but each has a different interpretation. We could argue that these are distinct lexical entries of the verb *be*: one which carries an *atemporal* interpretation and expresses a timeless, universal truth; the other which suggests an *omnitemporal* interpretation and carries temporal implication (Braude, 1974). This idea is not controversial, since it is already well-established in the literature that more than one lexeme of *be* exists in English, for example the contrast between copular *be* and auxiliary *be*. However, this distinction is more syntactic than semantic.

1.3.1 Morphological tenselessness

Lin (2012) provides a widely cited definition of morphological tenselessness, identifying it as the absence of an obligatory TENSE morpheme under the T(ense) head in syntax. A morphologically tenseless language is one in which:

(2) i. *the absence of an obligatory tense morpheme*:
unlike in English, where {*-ed*} is required in the past regardless of redundancy (*John cried yesterday*), tenseless languages lack such obligatory verbal inflection;

Ii *no consistent grammatical marker indicating PAST / PRESENT / FUTURE*:
temporal adverbials, aspectual or modal morphemes, or discourse structure can anchor events in time, but these are not TENSE morphemes because they are either optional or span other grammatical categories;

iii. *distinction between TENSE and ASPECT must be maintained*:
for example, markers such as Mandarin *le* and *zài* encode RESULTATIVE (not PAST) and PROGRESSIVE (not PRESENT) ASPECT, respectively. Their optionality and semantic contribution confirm that Chinese does not grammaticalise TENSE even covertly.

Thus, morphological tenselessness entails that a language has no grammaticalised, bound, obligatory morpheme that anchors RT to UT. Temporal interpretation instead relies on pragmatic inference and the semantic contributions of ASPECT and MODALITY. Importantly, this means that in some languages the interpretive work usually assigned to T head may instead be carried out by Asp head or discourse operators.

1.4 Broader theoretical debates

This concept of tenselessness intersects with broader theoretical debates. Teichmann (1998) raises the philosophical question of whether a fully tenseless language is conceivable at all, comparing the issue to the collapse of phenomenalist 'sense-data languages'[1]. Klein (2008) highlights the role of temporal reference in actual communicative practice, noting that even when morphology is absent, temporal interpretation is pervasive. Smith (2008) and Tonhauser (2011a) argue that tenseless languages demonstrate that TENSE is not necessary for precise temporal reference, as ASPECT and discourse structure can serve equivalent functions. Finally, the controversy between Lin (2006, 2012) and Sybesma (2007) over whether Mandarin is truly tenseless or merely has a null T head illustrates how fine-grained syntactic and semantic diagnostics are required in cross-linguistic study.

[1] a language restricted to reports of immediate sensory experience.

Overall, the study of tenseless languages forces us to refine our definitions of TENSE and ASPECT, reconsider their universality, and explore the range of grammatical strategies through which human languages situate events in time.

CHAPTER 2 Towards a Typology of Tenseless Languages

2.1 Introduction

This chapter first outlines a typology of tenseless languages, capturing the diversity of systems in which grammatical TENSE is absent or only partially realised. While the absence of TENSE morphology defines tenseless languages, such systems lack uniformity. Temporal reference can be achieved through a variety of means, including grammatical ASPECT, temporal adverbials, and pragmatic cues (Comrie, 1985; Bybee et al., 1994).

More recent work emphasises that languages differ in how far they can be considered to lack TENSE and in the mechanisms they employ to anchor events in time (Tonhauser, 2011a; Matthewson, 2006; Klein, 1994). Some systems are ASPECT-driven, some grammaticalise only one temporal category – often the FUTURE (Bittner, 2005; Dahl, 1985) or the PAST (Tonhauser, 2011a) – while others collapse categories into a binary PAST/NON-PAST opposition or rely on REMOTENESS distinctions (Nurse, 2008). Situating these patterns along a continuum clarifies how languages without TENSE ensure temporal interpretation and highlights the cross-linguistic strategies that emerge in the absence of a full TENSE system.

The second aim of this chapter is to provide a rich and varied cross-linguistic dataset from languages reported to be either truly tenseless or optionally tenseless. The discussion here is descriptive and typological, focusing on how temporal reference is expressed without TENSE, and emphasises observable patterns in the encoding of time. Theoretical questions about the syntactic or semantic representation of TENSE, its derivation, or its interaction with ASPECT and MODALITY are reserved for Chapter 3. This chapter instead establishes the empirical foundation for cross-linguistic variation in tenseless systems.

The remainder of the chapter proceeds as follows: §2.2 outlines a typology of tense systems; §2.3 examines languages argued to be tenseless; §2.4 considers areal distribution; and §2.5 summarises the findings.

2.2 Dimensions of variation in tenseless systems

Capturing cross-linguistic variation requires looking beyond a simple *tensed* vs. *tenseless* dichotomy and instead considering the finer gradations in the degrees TENSE. Tenselessness encompasses a range of strategies, from ASPECT-driven systems to those privileging a single category or underspecified systems (Comrie, 1985; Bybee et al., 1994; Tonhauser, 2011a). The typology developed here classifies languages along two dimensions: (i) the degree of tenselessness, or the extent to which grammatical TENSE is present or absent from the system,

and (ii) the mechanisms of temporal reference. This framework situates tenseless languages within the broader landscape of temporal systems and highlights the cross-linguistic diversity of strategies that emerge when TENSE is not grammatically encoded. Before focusing on tenseless languages, it is useful to situate them within a broader typology of tense.

2.2.1 A typology of degree of TENSE

TENSE systems can be conceptualised along a spectrum: at one extreme are languages with elaborate TENSE distinctions; at the other are tenseless languages. Building on Smith's (2008) tripartite typology of tensed, mixed, and tenseless languages, figure 1 presents a more elaborate version:

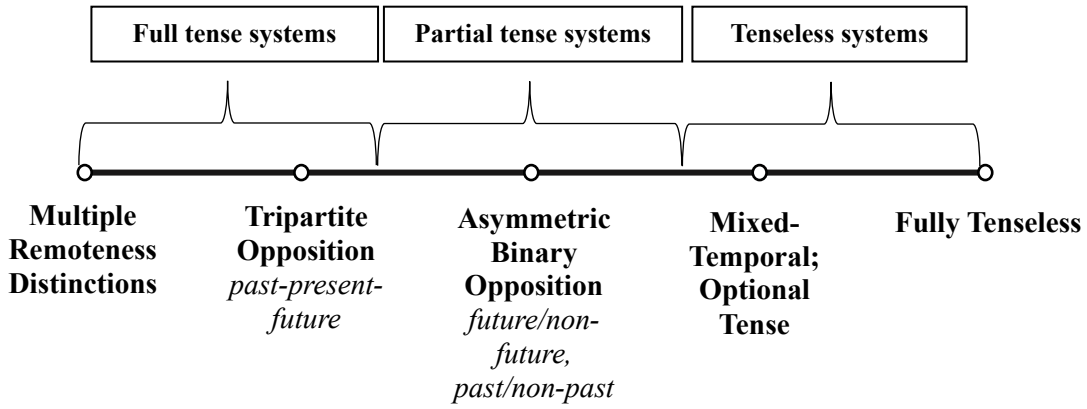

Figure 1: a continuum of degrees of tense in languages of the world

2.2.1.1 Full TENSE systems

Full TENSE systems include those with multiple remoteness distinctions, where inflectional morphology encodes fine-grained contrasts in temporal distance. Such systems are attested in Ma Manda (Pennington, 2015), Amele, and Zulu (Roberts, 1987) with two to three remoteness distinctions in the past. Yagua has at least four remoteness distinctions. In Dryer & Haspelmath's (2013) 222-language sample, 40 languages (18%) exhibit two or more remoteness distinctions.

The most common full TENSE system is the tripartite opposition, distinguishing PAST, PRESENT, and FUTURE. This may include remoteness distinctions. In the same sample, 48 languages (22%) have both PAST and FUTURE inflections but no remoteness distinctions, e.g., Georgian (Dahl, 1985), while 27 (12%) have both PAST and FUTURE tense inflections plus remoteness distinctions, e.g., Udmurt (Anonymous, 1962). I assume these languages include PRESENT TENSE as default (Dahl, 1985).

2.2.1.2 Partial TENSE systems

Partial TENSE systems exhibit asymmetric binary oppositions, in which a single temporal category is grammaticalised while others remain unmarked. Ultan (1978) distinguishes prospective systems (future-oriented exhibiting a FUTURE/NON-FUTURE dichotomy) and retrospective systems (past-oriented exhibiting a PAST/NON-PAST split). A prospective system typically marks futurity while leaving PAST and PRESENT underspecified, as in Yoruba. However, an important note is that, although Yoruba is a commonly cited example of this, its FUTURE TENSE is not inflectional but expressed via a pre-verbal particle (Dahl, 1985). In contrast, a retrospective system marks PAST differently from PRESENT and FUTURE, as found in Japanese (Dahl, 1985).

Distinguishing a true FUTURE TENSE is often difficult, as many so-called FUTURE markers primarily convey modality rather than temporal reference. Grammars frequently classify these markers as IRREALIS, particularly when they appear in negated statements, counterfactuals, or imperatives (Dahl & Velupillai, 2013). However, the cross-linguistic variability of IRREALIS forms makes them a problematic universal category (Bybee et al., 1994). Because future events are inherently non-actual, Dahl (1985) argues their truth conditions are opaque, explaining why FUTURE markers frequently overlap with MOOD.

2.2.1.3 Tenseless systems

Tenseless systems, lack TENSE morphology or allow it to surface optionally. Some languages, such as Washo (Bochnak, 2016) and St'át'imcets (Matthewson, 2002), exhibit a mixed-temporal system, where tense morphology exists, but is not obligatory on every clause. When TENSE is absent, temporal interpretation must come from ASPECT, adverbials, or context.

Finally, we find fully tenseless systems such as Mandarin Chinese, where temporal interpretation relies on ASPECT, Aktionsart, or pragmatic inference (Comrie, 1985; Li & Thompson, 1981).

A complementary perspective is offered by Toosarvandani (2025), who develops a semantic typology of tenseless languages. He distinguishes three systems: A-tenselessness, where clauses contain a silent NON-FUTURE TENSE; B-tenselessness, where clauses introduce a reference time without semantic restrictions; and C-tenselessness, where no reference time is established and temporal interpretation arises instead through context shift. When set alongside the morphological continuum I have outlined here, this tripartite model highlights the multidimensional character of tenselessness, demonstrating that it can vary both in the

degree of overt tense marking and in the semantic mechanisms by which temporal interpretation is achieved.

2.2.1.4 Interim summary

Taken together, this typology demonstrates that TENSE systems do not form a simple binary opposition between *tensed* and *tenseless* languages, but rather a continuum of strategies for encoding temporal reference.

While this typology recognises the full range of TENSE systems, tensed systems fall out of the primary scope of this study. The focus here, therefore, is restricted to mixed temporal systems and fully tenseless systems, as these offer the clearest insight into how time reference is expressed without obligatory TENSE marking. The next section narrows the focus to these languages in detail.

2.3 Tenseless Languages

Temporal reference in these systems is achieved through aspectual marking, modal marking temporal adverbials, or contextual inference, rather than through dedicated tense morphology. Due to space constraints, I limit the number of languages discussed here that have been claimed to be tenseless.[2]

2.3.1 Fully tenseless systems

2.3.1.1 Mandarin Chinese

Mandarin is a canonical tenseless language. A morphologically isolating language, it lacks verbal inflection to signal time reference unlike in, say, Romance. Instead, the principal mechanisms for conveying temporality are by means of aspectual marking, modal auxiliaries, time-oriented verbs, temporal adverbials, and Aktionsart (Arcodia, 2023). One of the most widely studied aspectual markers is the PERFECTIVE particle *le*, which signals that the event is viewed as bounded, i.e., that the situation is being viewed as a whole:

[2] For the sake of completeness, additional languages reportedly falling into this category include: Acoma (Miller, 1965), Ainu (Refsing, 1986), Cebuano (Dahl 1985), Cantonese (Bybee et al., 1994; Kwok, 1971), Hmong Njua (Harriehausen, 1990), Indonesian (Dahl, 1985), Khmer (Jacob, 1968), Khmu'(Dahl, 1985), Lahu (Bybee et al, 1994), Lao (Bybee et al, 1994), Manipuri, Nguna (Nose, 2020), Paiwan (Egli, 1990), Pirahã, (Everett, 2022), Sango (Samarin 1967; Thornell 1997), Semelai (Kruspe, 2004), Shuswap (Bybee et al, 1994), and Sundanese (Dahl, 1985).

(3) Tā mǎi le dōngxi
3SG buy PERF things
'S/he bought things.'

(Ross & Sheng Ma, 2006:76)

Li & Thompson (1981) identify several semantic characteristics of events that determine the environment in which *le* can appear to denote boundness:

(4) a. being a quantified event (accompanied by a temporal adverbial expressing event duration, iteration or gradability);
b. being a definite or specific event (by means of the verb merging with internal argument with definite interpretation)
c. being inherently bounded because of a verb's Aktionsart (e.g., accomplishment, achievement or semelfactive)
d. being the first event in a sequence (with any subsequent event bounding the first)

Since the aim of this study is not to provide a full description of Chinese aspect, I will provide no further detail of these; instead see Li & Thompson (1981:185-207) for a fuller treatment. What is important to this current study, however, is that, given that such events are interpreted as bounded, time reference is inferred indirectly. That is to say, these events are interpreted as RT preceding UT, i.e., in the past.

The same *le* may also mark inchoativity with future reference sentences:

(5) Míngtiān wǒ jiu kāichú le tā
Tomorrow 1SG then expel PERF 3SG
'I'll expel him tomorrow.'

(6) Wǒ chī le fàn zài zǒu
1SG eat PERF rice then go
'I'll go after I eat.'

(Li & Thompson, 1981:213)

Following these examples, it is worth noting that Mandarin actually has two distinct *le* particles. In addition to the verb-suffix *le* which marks PERFECTIVE ASPECT (bounding the event), there is also sentence-final *le*, marking a change of state or current relevance:

(7) Tā bìng le
3SG sick CRS
'She is (now) sick.'

Here, sentence-final *le* does not place the event in the past, but instead signals that a new state now holds at speech time (Li & Thompson 1981:240–247).

The progressive-like DURATIVE particle *zài,* which co-occurs with DYNAMIC verbs (or activity verbs, as Li & Thompson call them), but not STATIVE verbs, also contributes to temporal interpretation without TENSE marking. Since it typically indicates ongoing action, it is natural to interpret sentences containing it as occurring in PRESENT time:

(8) Zhāngsān zài liàn pǎo
Zhangsan DUR practise run
'Zhangsan is practising running.'

(9) *Zhāngsān zài yǒu qián
Zhangsan DUR exist money
'Zhangsan has money.'

(Li & Thompson, 1981:218-9)

One could argue that *zài* to be analysed as a PRESENT TENSE marker; however, a sentence like (10) immediately falsifies this:

(10) Zhāngsān zuótiān zài liàn pǎo
Zhangsan yesterday DUR practise run
'Zhangsan was practising running yesterday.'

(Li & Thompson, 1981:218-9)

The addition of the temporal adverbial *zuótiān* forces a PAST time reference interpretation. This leads us to conclude that *zài* and *le* are not TENSE markers since they denote aspectual distinctions.

In addition to aspectual particles, temporal adverbials (e.g., *xiànzài* ‘now’) can serve to anchor time reference directly even without aspectual marking:

(11) Wǒ xiànzài kàn shū
1SG now read book
I am reading (now).

(Cheung, 1994:31)

It is worth noting that in Mandarin, bare predicates without either aspectual marking or a temporal adverbial are often judged infelicitous or vague in isolation. For example, a simple clause like *tā chī fàn* ‘s/he eats rice’ typically requires an aspect marker or an adverbial (e.g., *zuótiān* ‘yesterday’, *xiànzài* ‘now’) to be interpreted naturally (Lin, 2010). This distributional restriction highlights the extent to which Mandarin relies on ASPECT and adverbials, rather than TENSE, to anchor events in time.

Future reference often involves modal *huì*, but since it also occurs in NON-FUTURE contexts, it is analysed as an epistemic modal rather than a pure TENSE marker (Lin, 2012). This distributional pattern further supports the claim that Mandarin is tenseless.

2.3.1.2 Standard Thai

Thai operates without obligatory TENSE markers, and instead is ASPECT-prominent, with additional temporal reference determined by temporal adverbs and discourse context (Gsell, 2016). A temporally underspecified bare verb form can be interpreted differently depending on context:

(12) phom kin khâao
1SG eat rice
“I eat rice” / “I ate rice” / “I will eat rice”

The particle *lέɛw* marks completion and often suggests past time, while *jà* functions as a prospective/modal particle (Iwasaki and Ingkaphirom, 2005):

(13) khǎo kin khâao lέɛw
3SG eat rice PERF/COMP
‘He has eaten rice (already).’

(14) phrûng-níi chăn jà bpai krung-thêep
tomorrow 1SG FUT go Bangkok
'I will go to Bangkok tomorrow.'

In (14), time reference is reinforced by the adverb *tomorrow*.

Traditionally, *lέεw* has been analysed as an aspectual particle (Kullavanijaya and Bisang (2007); Tansiri (2005); and Boonyapatipark (1983) following Comrie's (1976) definition of ASPECT). Furthermore, Iwasaki and Ingkaphirom (2005) analyze *lέεw* to be two separate aspectual morphemes: a PERFECTIVE (*lέεw*$_1$) and a PERFECT/ANTERIOR (*lέεw*$_2$).

Thiengburanathum (2014) presents a challenge this, arguing that *lέεw* exhibits properties of both ASPECT and TENSE. On the one hand, *lέεw* functions aspectually by signalling event completion, termination or change of state. In this sense, it operates as a PERFECTIVE marker, highlighting the boundedness of an event and allowing inchoative, completive, or perfect readings depending on context. On the other hand, *lέεw* also displays TENSE-like behaviour in that it establishes a temporal relation between the ET and the RT, typically anchoring the event as anterior to the utterance time, the only caveat being "its temporal reference point is not necessarily an absolute locus (i.e. the speech time)" (p.41). Nevertheless, this property goes beyond internal event structure and aligns with the deictic function of TENSE (Klein, 1994). Because it simultaneously encodes event transition and temporal anchoring, *lέεw* resists analysis as a purely aspectual marker. Instead, Thiengburanathum categorises it as a hybrid form that conveys both ASPECT and TENSE information, yielding interpretations ranging from PERFECTIVE and PERFECT to PAST or imminent readings, depending on contextual interaction. This argument, therefore, weakens the claim that Thai be classified as a fully tenseless language.

2.3.1.3 Vietnamese

Vietnamese, like Thai, is underspecified for tense. According to Bui (2019), unmarked verbs are compatible with present or past readings, in combination with temporal adverbials like *tối qua* 'last night', but cannot co-occur with future temporal adverbials without the marker *sẽ*:

(15) a. Tối qua Darth Vader xây Ngôi Sao Chết
night pass Darth Vader build CL star death
'Darth Vader built the Death Star last night.'

b. Bây giờ Darth Vader xây Ngôi Sao Chết
now Darth Vader build CL star death
'Darth Vader builds the Death Star now.'

c. #Năm sau Darth Vader xây Ngôi Sao Chết
year after Darth Vader build CL star death
(Intended*: 'Darth Vader will build the Death Star next year.'*)

(Bui, 2019:118)

Beyond this, a range of preverbal particles are used to restrict the interpretation of the predicate: *đãng* expresses progressive, *đã* renders a perfect reading (not only with past time), and *sẽ* is similar to a WOLL-operator (Abusch, 1985; cf. English *will / would*), used to mark futurity and future in the past. Additionally, these particles can co-occur to render various temporal-aspectual combinations such as pluperfect and future perfect:

(16) Darth Vader đãng xây Ngôi Sao Chết
Darth Vader PROG build CL star death
'Darth Vader is / was building the Death Star.'

(Bui, 2019:131)

(17) Darth Vader đã xây Ngôi Sao Chết
Darth Vader PERF build CL star death
'Darth Vader (has) built the Death Star.'

(Bui, 2019:118)

(18) Darth Vader sẽ xây Ngôi Sao Chết
Darth Vader IRR build CL star death
'Darth Vader will build the Death Star.'

(Bui, 2019:119)

(19) Darth Vader sẽ đãng xây Ngôi Sao Chết
Darth Vader IRR PROG build CL star death
'Darth Vader will build the Death Star.'

(Bui, 2019:134)

(20) Darth Vader đã đãng xây Ngôi Sao Chết
Darth Vader PERF PROG build CL star death
'Darth Vader have been/had been/will have been/would have been building the Death Star.'

(Bui, 2019:127)

Earlier accounts of temporality in Vietnamese treat *sẽ* and *đã* as optional TENSE markers (Duffield, 1999, 2007). Phan (2013) expands on the analysis of *đã* to have a jointly temporal and aspectual compositional meaning. Bui (2019) rejects this analysis based on the fact neither of Duffield's nor Phan's accounts considers why unmarked predicates can receive past or present readings, but not future readings without the overt inclusion of *sẽ.* Such accounts fail to capture patterns like future in the past or the contrast between perfect and simple past. Instead, re-analysing them as aspect (*đã*) and modal/FUTURE operator (*sẽ*) provides better coverage.

What this reveals, however, is an asymmetry between the expression of NON-FUTURE predicates on the one hand, and FUTURE predicates on the other, and provides potential evidence for a weakened tenseless analysis of Vietnamese (Bui, 2019: 138).

2.3.1.4 Burmese

Burmese encodes time reference in main clauses in a binary FUTURE vs. NON-FUTURE distinction by means of finite verb phrase operators (FVOs) (Okell, 1969). Unlike Vietnamese, Burmese does not allow bare finite predicates; an operator is required (Cornyn, 1944). Of the various FVOs used in Burmese, I focus here on *tɛ* and *mɛ*. Following Okell (1969), *tɛ* references NON-FUTURE (ex. 21a) whereas *mɛ* expresses ABSOLUTE FUTURE in assumptive and speculative contexts (21b) and RELATIVE FUTURE (21c).

(21) a. tɕənɔ thəmì sà tɛ
1M rice eat FVO
'I eat rice.'/ 'I ate rice.'

b. tɕənɔ thəmì sà mɛ
1M rice eat FVO
'I will eat rice.'

c. mḯ məné ká la mɛ (ló) thĩ tɛ
2 yesterday ABL come FVO (SUB) think FVO
'I thought you would come yesterday.'

(Jenny, 2008:5-18)

Crucially, *tɛ* does not allow a distinction to be made between past and present time reference:

(22) a. ʔəwuʔ ɕɔ ne **tɛ**
clothes wash stay FVO
'I am washing my clothes'

b. di mənɛʔ tõù ká tɕənɔ sa pó **tɛ**
this morning TEMP ABL 1M text send FVO
"I sent you an email this morning."

(Jenny, 2008:14)

Furthermore, Jenny (2008) provides data containing the FVO *mɛ* that shows its uses beyond that of FUTURE time reference:

(23) ho tõu ká̀ tɕənɔ ʔəθɛʔ shɛ́.ŋà lauʔ ɕí
that TEMP ABL 1M age fifteen as.much.as exist

mɛ thĩ tɛ
FVO think FVO
'Back then I was/must have been about fifteen, I guess.'

(24) θu nãi.ŋã tɕhà yauʔ phù mɛ thĩ tɛ
3 country other arrive EXP FVO think FVO
'I think that he has been abroad before.'

(Jenny, 2008:19)

Clearly *mɛ* expresses something inherently more than just temporal reference. Jenny reanalyses it, at least in this context, as a speculative marker with a modal rather than temporal meaning, explaining that although it *"[...] does not occur in all events that can be labelled irrealis, [...] it can be used to express a personal (subjective) prediction about the truth of the proposition."* (p.21). Nevertheless, he maintains that *mɛ* is a FUTURE TENSE

marker which can additionally serve as an EPISTEMIC MODAL marker with an assumptive function. His argument is supported by cross-linguistic parallels, since in several languages (e.g., Romance and Germanic) epistemic modality has historically developed from FUTURE TENSE. Jenny ultimately concludes that Burmese does exhibit obligatory TENSE marking with a binary opposition between FUTURE and NON-FUTURE.

This reasoning, however, is not shared by Comrie (1985), who stresses that a defining criterion of a TENSE marker is to restrict an event to a specific temporal relation. The semantic range of *mɛ* and *tɛ* align them more closely with MOOD markers (REALIS VS. IRREALIS) than with TENSE. While these MOOD markers distinguish events in the real world from those outside of certainty, they do not themselves provide temporal anchoring. Temporal reference instead arises from contextual inference or from explicit temporal adverbials to disambiguate time reference (Myanmar Language Commission 2005:15). Temporal reference can thus be described as the outcome of the interaction of MOOD, ASPECT, and contextual information (Comrie, 1985; Vittrant, 2005; Okell, 1969; Allott, 1965).

Even if we reject Jenny's categorisation of these FVOs, it is remains evident that they contribute to a FUTURE VS. NON-FUTURE opposition, albeit with significant modal extension and reliance on pragmatic cues. Consequently, this positions Burmese within the wider typological pattern in which temporal interpretation emerges from the interaction of grammatical ASPECT, MODALITY, and contextual anchoring, rather than from an obligatory marked, fine-grained tense paradigm (Bybee et al. 1994; Comrie 1985; Vittrant 2005).

2.3.1.5 West Greenlandic (Kalallisut)

West Greenlandic (WG), along with other Inuit languages such as Inuktitut and Yup'ik, is widely analysed as tenseless (e.g., Shaer, 2003; Bittner, 2005). Bare verb forms can receive PAST or PRESENT readings depending on stem and context, while inflection for MOOD, PERSON and NUMBER is obligatory.

(25) aggirpuq
aggir-puq
come-IND.3SG
'*He is/was coming*.'

(26) tikippuq
tikit-puq
have.arrived-IND.3SG
'*He has come/came*.'

(Fortescue 1984:272-278)

Among WG's temporal suffixes, {-*sima*-} and {-*ssa*-} are often translated as past/perfect and future, respectively. Fortescue (1984) is inconsistent in his classification, alternating between a TENSE, ASPECT, or MOOD marker for {*sima*}. He more confidently labels {-*ssa*-} a FUTURE TENSE marker, though without justification.

Shaer (2003) more confidently argues that these morphemes do not qualify as TENSE markers, drawing on the set of five criteria put forward by Comrie (1985) and Bybee et al. (1994):

1. **Optionality**: temporal affixes are not obligatory, unlike MOOD/PERSON/NUMBER.
2. **Aspectual/Modal Function**: {-*sima*-} conveys perfect meaning (ex. 27); {-*ssa*-} encodes expectation/desirability rather than pure futurity (Bittner, 2002) (ex. 28);
3. **Multiple time-locating affixes** exist beyond {-*sima*-} and {-*ssa*-} (e.g., {-*nikuu*-}, {-*qqami*-} for past; {-*niar*-}, {-*jumaar*-} for future)
4. **Derivational behaviour**: Temporal morphemes vary in position and do not occupy a fixed position (ex. 29)
5. **Bound adverb-like role**: They behave as frame-setting elements (Shaer, 2003:147) that supply temporal context for discourse interpretation (ex. 30).

(27) Nuummisssimavunga.
Nuum- miis- sima- Vunga
Nuuk.be- in- PERF- IND.1SG
'*I have seen Nuuk*.'

(Fortescue 1984:272)

(28) Amia avatassatut suliarissavat.

Ami-	a	avata-	ssa-	tut	suliari-	
skin-	3SG	hunting.bladder-	EXP-	EQU	process-	
ssa-	va-	t	[…]			
EXP-	IND.TV-	2SG.3SG				

'*You will process the skin as for a hunting bladder* […]'

(Bittner 2002: 3)

The sentences below illustrate the different positions the {-*ssa*-} marker may take: in (a), it immediately follows the verbal stem {-*tuku*-} whereas in (b) certain adverbial-like elements intervene:

(29) a. Atursimassavaa.

Atur-	sima-	ssa-	vaa
use-	PERF-	EXP-	IND.3SG

'*He must have used it.*'

b. Aturssasimavaa.

Atur-	ssa-	sima-	vaa
use-	EXP-	PERF-	IND.3SG

'*He presumably will have used it.*'

(Fortescue 1980:267–268)

(30) a. Juuliup aappaani Nuummiippunga.

Juuli-	up	aappa-	a-	ni	Nuum-	miip-	puuga
July-	ERG	second-	its-	LOC	Nuuk-	be.in-	IND.1SG

'*I was in Nuuk on the second of July.*'

(Fortescue 1984:273)

Building on this, Bittner (2005) provides converging corpus evidence that WG employs dozens of distinct morphemes for future-like meanings, which she groups under the "Prospectivity Thesis". She argues these form a natural semantic class of prospective statives, inchoatives, and matrix moods, which profile current attitudes (intent/expectation/hope, etc.) toward the subject's own future prospects. On this view, morphemes like {-*ssa*-} behave as predicates (not tenses), a conclusion supported by co-occurrence and nominalisation diagnostics: they can co-occur productively and survive nominalisation (unlike TENSE markers).

In summary, WG's temporal affixes do not form a tense paradigm. Their optionality, aspectual/modal function, and syntactic flexibility support the analysis of WG as a tenseless language that relies on context and adverb-like suffixes for temporal reference.

2.3.1.6 Yúcatec Maya (YM)

Yúcatec Maya (Mayan; Mexico, Belize) expresses temporal reference not through TENSE morphology but through a combination of aspectual prefixes, status clitics, and aspectual predicates. Verbs obligatorily carry a preverbal ASPECT/MOOD (AM) marker (Bohnemeyer, 2009; 2023), which signals broad aspectual distinctions. For instance, *k-* marks IMPERFECTIVE ASPECT (habitual/generic events) while *t-/h-* marks PERFECTIVE ASPECT.

Verbs also take an obligatory status clitic (Kaufman, 1990), which bundles aspectual, modal, and illocutionary information. Bohnemeyer (2009) distinguishes five status values, including COMPLETIVE and INCOMPLETIVE. IMPERFECTIVE ASPECT co-occurs with incompletive status (example 31) and PERFECTIVE co-occurs with completive (32):

(31)	**K**-in=mèet**-ah**	le=nah=o
	IMPERF-A1SG=do.APP-CMP(B3SG)	DET=house=D2
	'I (would) build the house.'	
(32)	**T**-in=mèet**-ah**	le=nah=o
	PERF-A1SG=do.APP-CMP(B3SG)[3]	DET=house=D2[4]
	'I built the house.'	

(Bohnemeyer, 2009:20)

Stative predicates (including nouns, adjectives, and deverbal statives) do not take status marking. They can function as predicates sans copula and are compatible with multiple temporal interpretations without TENSE morphology:

[3] In Mayan linguistics, Set A (A1, A2, A3) glosses mark ergative/possessor agreement (subjects of transitives and possessors on nouns), while Set B (B1, B2, B3) glosses mark absolutive agreement (subjects of intransitives and objects of transitives). The numbers indicate grammatical person (1 = first, 2 = second, 3 = third).
[4] The enclitic *o'* glossed as D2 is a distal/anaphoric clause-boundary particle.

(33) Túumben le=nah=o’
new(B3SG) DET=house=D2
‘The house is/was/will be new.’

(Bohnemeyer, 2009:5)

YM also uses auxiliary-like aspectual predicates to refine temporal interpretation: *táan* marks PROGRESSIVE, TERMINATIVE *ts’o’k* conveys resultative/perfect, both co-occur with incompletive status, one allomorph of which is *-ik*. Finally, PROSPECTIVE *mukah* expresses future-like events. This combines with subjunctive status on transitives and incompletive status on intransitives.

(34) **Táan** in=mèet-**ik** le=nah=o’
PROG A_1SG=do.APP-INC(B_3SG) DET=house=D_2
‘*I am/was/will be building the house.’*

(35) **Ts’o’k** in=mèet-**ik** le=nah=o’
TERM A_1SG=do.APP-INC(B_3SG) DET=house=D_2
‘I (will) have/had built the house.’

(36) **Mukah** in=mèet-Ø le=nah=o’
PROSP A_1SG=do.APP-SUBJ(B_3SG) DET=house=D_2
‘I am/was/will be going to build the house.’

(Bohnemeyer, 2009:14-21)

YM also features remoteness markers that measure the distance between topic and event time. Crucially, however, none of these markers anchor time to the utterance time, and thus do not qualify as TENSE markers (Bohnemeyer, 2009: 30).

Contrary to claims that tenseless languages rely heavily on temporal adverbials, Bohnemeyer (2009: 31) finds adverbials are not more frequent than in tensed languages, and narratives are fully interpretable without them.

In sum, YM encodes temporal interpretation through a layered system of aspectual prefixes, status clitics, and aspectual predicates, occasionally supplemented by remoteness markers. While these categories constrain how events unfold, they do not grammatically anchor events to utterance time. As a result, the same form may refer to past, present, or future depending on context. This distribution shows that, despite its elaborate aspectual and

modal morphology, YM lacks TENSE in the strict sense and thus belongs among the class of tenseless languages.

2.3.1.7 Dyirbal

Dyirbal (Pama–Nyungan; Australia), now extinct, has been described as exhibiting an asymmetric TENSE system with a marked FUTURE versus unmarked NON-FUTURE opposition (Dixon, 1972; 1980). More recently, Dixon (2022:15-16) dialectal variation [5]: whereas the southern dialects display a FUTURE/-NON-FUTURE split, northern dialects instead exhibit a PAST/NON-PAST contrast.

Austin (1998) cautions that descriptive reference grammars often blur the boundaries between the grammatical categories of TENSE, ASPECT and MOOD. In Dyirbal, this conflation may be especially relevant. Comrie (1985) reanalyses what has been described as a FUTURE/NON-FUTURE opposition as REALIS vs. IRREALIS, therefore of MOOD rather than of TENSE.

This reanalysis, however, cannot straightforwardly account for the northern dialects, where a PAST/NON-PAST split cuts across mood boundaries: grouping PRESENT/FUTURE under a single NON-PAST category spans both REALIS and IRREALIS domains. Thus, while the southern system can plausibly be recast as a MOOD distinction, the northern pattern resists such an analysis.

Further research is necessary to determine whether Dyirbal should ultimately be classified as tenseless or whether it exhibits a binary TENSE system, varying by dialect. Either way, Dyirbal illustrates the challenge of disentangling TENSE from related categories and highlights the value of dialectal comparison in typological classification.

2.3.1.8 Hausa

Hausa (Chadic, Afro-Asiatic; West Africa) is argued by Mucha (2013) to be genuinely tenseless, lacking both overt and covert TENSE morphology. Instead, temporal interpretation is pragmatically inferred from grammatical ASPECT: completive forms yield past readings whereas continuous forms yield present readings, although context may override these defaults:

[5] Dixon (2022) identifies at least ten dialects of Dyirbal.

(37) a. Sun gudù
3PL.CMP run
'They ran'

b. Su-nǎ gudù
3PL.CONT run
'They are running.'

(Schuh, 2003:19)

Crucially, Hausa also permits unmarked clauses to express future time if discourse provides a future anchor.

2.3.1.9 Maybrat

Maybrat (isolate; Bird's Head Peninsula, Indonesia) is reported to express time reference by means of temporal and aspectual adverbials (Dol, 2007). Temporal adverbials appear to the left of the verb (ex. 38) while aspectual adverbs typically appear in clause final position (ex. 39) but can also precede objects. Dol notes that temporal adverbials may stack quite freely in any order without affecting interpretation (ex. 40):

(38) is y-pat Konya y-ama
yesterday 3M-from Konya 3M-come
'Yesterday, he came from Konya.'

(Dol, 2007:151)

(39) iwai y-no honor fares
earlier 3M-do honorary.tasks still
'Earlier, he was still doing his honorary tasks.'

(Dol, 2007:151-160)

(40) a. tian pose mpair s-au rae ∅-wisau
formerly long.time.ago place one-3U person ∅-all
m-hu osau
3U-stay together
'Formerly, a long time ago, all the people lived together in one place.'

b. pose tian raero ro Belanda m-hu
long.time.ago formerly person REL Dutch 3U-stay
'A long time ago in the past, the Dutch people lived (there).'

These temporal and aspectual adverbials exhibit the syntactic behaviour typical of adverbials, displaying a degree of positional flexibility. On this basis, Dol's categorisation of these forms as adverbials may be maintained, rather than attempt to reanalyse them as TENSE or ASPECT particles. Nevertheless, Dol also presents data containing a particle that she glosses as past:

(41) ti tuf ru m-api m-ama
PST three bird 3U-big 3U-come
'Three days ago, the big aeroplane came.'

(Dol, 2007:112)

Dol offers no further analysis of this particle beyond noting its position before numerals. However, subsequent data reveal another construction that performs a comparable temporal function.

(42) me-f-o t-ait po-iit
PRESTT-very.near-U 1S-eat NOM-eat.PL
'Now I'm eating food.'

(Dol, 2007:152)

Following Anderson & Keenan (1985:279-300) and Heine et al. (1991:31), Dol explains that a construction such as *m-f-o* is a temporal deictic derived from a spatial demonstrative. It appears, therefore, that in addition to temporal adverbs, Maybrat employs certain particles that may co-occur with numerals and temporal deictics as strategies for expressing particular types of temporal reference.

Although Dol does not explicitly frame her analysis in terms of tense, the evidence I have presented seems convincing enough to classify Maybrat as a tenseless language, which instead, expresses time reference primarily through adverbial and temporal deictic constructions.

2.3.1.10 Lakota

Lakota (Siouan; USA, Canada) is unusual in the sense that most Native North American languages exhibit rather complex verbal morphology, often to indicate tense distinctions, whereas Lakota is often analysed as tenseless (Corral Esteban, 2015). Buechel (1939) reports that Lakota verb does not grammaticalise temporal reference and that the same form of a verb can express both present and past time readings. Instead, a range of temporal adverbials like *hékta* 'formerly', *híŋhaŋni kiŋ* 'yesterday', and *lé* 'now' are used to situate an event in time:

(43) Aŋpétu kiŋ lé Jimmy na Maggie uŋ-thípi él Ø-hí-pi
day the DEIC Jimmy and Maggie our-tipi to 3.ACT-arrive.here-PL
'*Jimmy and Maggie come to our house today*.'

(44) Ȟtálehaŋ Jimmy na Maggie uŋ-thípi él Ø-hí-pi
yesterday Jimmy and Maggie our-tipi to 3.ACT-arrive.here-PL
'*Jimmy and Maggie came to our house yesterday*.'

(Corral Esteban, 2015:15-16)

However, Beuchel (1939) claims that Lakota possesses a future TENSE in the form of the enclitic *ktA (kta ~ kte)*. Corral Esteban (2015), however, rejects this interpretation, instead analysing this enclitic not as a TENSE marker, but an IRREALIS marker. This analysis is motivated by the fact *ktA* can indicate not only future time, but can appear in contexts such as "subjunctive, conditional, desiderative, potential, jussive, optative or hortative, where a hypothetical meaning is present [and appears not] when the action has been realised, but […] when the action has not been realised." (pp. 13-14). Compare the two sentences below (glosses my own); in (45), a standard DECLARATIVE is expressed without any MOOD marking, whereas in (46), the addition of the IRREALIS marker *kte* yields a HORTATIVE interpretation:

(45) REALIS
Uŋ-waště-pi
1PL-good-PL
'*We are good*.'

(constructed)

(46) IRREALIS

Uŋ-waště-pi kte

1PL-good-PL IRR

'*Let's be good.*'

(Corral Esteban, 2015:15)

Taken together, these data strongly support Corral Esteban's (2015) claim that Lakota is a tenseless language.

2.3.1.11 Anii

Anii (Kwa; Benin, Togo) provides an interesting case study of a West African language that expresses temporal reference without grammatical TENSE. As Morton (2014) demonstrates, temporal interpretation in Anii is determined by lexical ASPECT, by REALIS vs. IRREALIS marking of pronouns and by temporal adverbials, rather than by a dedicated TENSE system. Temporal reference in Anii differs according to the lexical aspect of the predicate. Unmarked EVENTIVE predicates are interpreted as referring to past time, whereas unmarked STATIVE predicates may be understood as either PRESENT or PAST.

(47) a. ń dʒɔ̀m lɔ̀kɔ̀ ní

1SG.SUBJ.REAL jump well into

'*I jumped into the well.*'

(48) b. ń sɔ̀lɔ̀ ! ní

1SG.SUBJ.REAL love 3SG.OBJ

'*I love(d) him.*'

(Morton, 2014:2)

This suggests that temporal anchoring is restricted in the absence of overt marking, but not specified for TENSE.

Furthermore, future reference is not marked by a dedicated tense morpheme. Instead, Anii employs an irrealis construction, characterised by special subject pronouns and tonal patterns:

(49) gàtsɨ́ŋ́ ná, má ʃɛ̀r
tomorrow FOC 1.SG.SUBJ.IRR sweep
'*Tomorrow, I will sweep.*'

(Morton, 2014:2)

While IRREALIS often yields future readings, it also occurs in other non-REALIS contexts (e.g., in past negatives). For this reason, the construction is more appropriately analysed as an IRREALIS marker than as a FUTURE TENSE marker.

Anii also makes use of the particle *bòŋà,* which might initially appear to be a FAR-PAST TENSE marker.

(50) ń̀ bòŋà tsɨ́ gàná
1SG.SUBJ.REAL PST go CL.B.Ghana
'*I went to Ghana long ago*.'

(Morton, 2014: 3)

Closer examination shows, however, that *bòŋà* functions as a temporal REMOTENESS marker (TRM), signalling that the event is temporally distant and non-overlapping with speech time (Plungian & van der Auwera, 2006; Cable, 2013). Its distribution suggests that it does not belong to a paradigmatic TENSE system but rather encodes REMOTENESS in a deictic sense.

In sum, Morton (2014) concludes that, while Anii has markers that restrict temporal interpretation, such as IRREALIS pronouns and the TRM, these are not TENSE morphemes in the strict sense and thus Anii can be classified as a (perhaps, non-prototypical) tenseless language.

2.3.1.12 Nivaclé

A more unusual case of tenselessness is found in Nivaclé (Matacoan; Paraguay, Argentina). According to Campbell (2022), time reference in Nivaclé is inferred from demonstratives. These include *naʔ* and *xaʔ*, both of which mean 'this', 'that' or 'the'. They differ deictically in terms of visual access (Diessel, 1999), where *naʔ* is visible to the speaker, while *xaʔ* denotes displaced deixis (Himmelmann, 1996), meaning it was seen previously but is not currently visible to the speaker.

(51) yoy naʔ siwɑnɑk
escape DEM.VISIBLE dorado.fish
'*the dorado-fish is escaping*.'

(52) yoy xaʔ siwɑnɑk
escape DEM.NOT.VISIBLE dorado.fish
'*the dorado-fish escaped*.'

(Campbell, 2022:49)

In summary, Nivaclé presents an unusual case in which temporal reference is conveyed not through verbal morphology but through NOMINAL TENSE, encoded in the DEMONSTRATIVE system. The distinction between visible (*naʔ*) and non-visible (*xaʔ*) referents has the effect of anchoring events in present versus past time. Since this strategy falls outside the cross-linguistically typical definition of TENSE – where tense is a verbal category – Nivaclé can nonetheless be classified as a tenseless language, with temporal reference mediated through demonstratives rather than verbal inflection.

2.3.1.13 Ayoreo and Chamacoco (Zamucoan)

Both Ayoreo and Chamacoco, two closely related Zamucoan languages (Bolivia, Paraguay), exhibit the absence of grammatical tense morphology and can therefore be characterised as tenseless systems, albeit with internal variation.

Bertinetto (2014) reports that Ayoreo distinguishes REALIS vs. IRREALIS MOOD, but there are no grammatical TENSE inflections. Temporal reference is instead inferred through a combination of lexical aspectual tendencies, (e.g.,r telic verbs are often interpreted as past/future while atelic verbs as present in neutral contexts), temporal adverbs (e.g., *dirica* 'yesterday', *dirome* 'tomorrow'), which provide optional anchoring when context does not suffice, and optional discourse particles such as *que* for RETROSPECTIVE and *jne* for PROSPECTIVE. The following examples from Ayoreo illustrate this (Bertinetto, 2014:152):

(53) a. Chi acote chi ch-ise yocade iguijnai que, mu
EVID wife EVID 3-find turtles house RTR but

chi tirita. Anirengo ch-uje di(rica).
EVID empty some.PL 3-kill yesterday
'*A woman found a turtle's hole, but it was empty. Someone had previously captured (the animals).*'

(54) b. Ureja cha, je boyo yi-co ga ñ-iso-cõi
Ureja PHAT MOD 2P-IRR.go 1PL.go COORD 1-collect-1PL

datatõra y-a-jo yoqu-i-tigo yoca to jne
out.there 1-eat-1PL 1PL-haul.CLF-INDT.MP turtle also PRSP
'Ureja, let us go and collect, we (shall) eat our turtles.'

Although these particles were at times described in earlier missionary sources as tense morphemes (Morarie, 1980), subsequent analyses have shown that they function more appropriately as adverbial or modal markers, given their peripheral status outside the verbal paradigm (Bertinetto, 2014). This absence of tense contrasts in the verbal paradigm, combined with reliance on adverbials and context, provides the main evidence for analysing Ayoreo as tenseless.

Chamacoco displays a broadly similar configuration, with temporal anchoring again managed through MOOD morphology and adverbials, but also presents some signs of incipient grammaticalisation of temporal markers, particularly in the Tomaraho dialect (Ciucci, 2016), suggesting a possible diachronic shift toward tense marking. In the more widely spoken Ebitoso variety, however, temporal reference continues to rely on adverbs, particles, and discourse context, with no dedicated tense morphology on verbs.

Interestingly, Old Zamuco, like its modern descendants Ayoreo and Chamacoco, lacked grammatical tense morphology and instead relied on a REALIS–IRREALIS contrast, temporal adverbs, and contextual inference for time reference. This diachronic consistency suggests a stable inheritance of tenselessness within the family (Ciucci, 2016, preprint).

To summarise, while Ayoreo exemplifies a paradigmatically tenseless system, Chamacoco demonstrates how tenselessness may co-exist with emerging pathways toward grammatical tense.

2.3.2 Interim summary

Taken together, the languages surveyed in this section illustrate the diversity of strategies available in fully tenseless systems. In each case, temporal reference is achieved not through dedicated TENSE morphology but through a combination of aspectual distinctions, modal operators, temporal adverbials, and pragmatic inference. Despite typological and areal variation, a common thread is that reference time must still be established, even if not grammatically encoded in TENSE. This convergence highlights that so-called tenseless systems are not temporally impoverished but instead redistribute the interpretive burden across other categories, setting the stage for comparison with mixed systems in the following section.

2.3.3 Temporally Mixed Systems

Not all languages that lack obligatory tense fall neatly into the fully tenseless category. Many languages exhibit optional or partial tense morphology, resulting in mixed systems. This section explores languages in which tense is present but not grammatically required, and where temporal interpretation relies on a combination of morphological and contextual strategies.

2.3.3.1 Paraguayan Guaraní (PG)

Paraguayan Guaraní (Tupian; Paraguay, Bolivia) has often been described as a tenseless in that finite verb forms do not obligatorily encode grammatical TENSE (Tonhauser 2006, 2011a; Pancheva & Zubizarreta, 2023). Verbs obligatorily carry PERSON and NUMBER marking, but when morphologically unmarked for ASPECT and MOOD, they are compatible with both present and past time readings. Interpretation is determined pragmatically and with the aid of temporal adverbials. For example, in (55) the bare verb is interpreted as present with the temporal adverb *ko'ágã* 'now', while in (56) the same morphology is interpreted as past with the adverb *kuehe* 'yesterday' (Tonhauser 2011b:3):

(55) Ko'ágã a-purahei
now 1SG-sing
'I'm singing now.'

(56) Kuehe a-purahei
yesterday 1SG-sing
'I sang yesterday.'

By contrast, bare matrix verbs are typically infelicitous with future interpretation. Without the PROSPECTIVE marker {*-ta*}, future-denoting adverbs such as *ko'ẽro* 'tomorrow' yield infelicity (Tonhauser 2011b:3-6). Thus, future requires overt marking:

(57) #Ko'ẽro a-purahei
tomorrow 1SG-sing
Intended: *'I will sing tomorrow.'*

(58) Ko'ẽro a-purahei-ta
tomorrow 1SG-sing-FUT
Intended: *'I will sing tomorrow.'*

Subordinate clauses, in contrast, allow unmarked verbs to express future time without {*-ta*}. This includes "temporal adjunct clauses […], the antecedents of conditionals […], and relative clauses of sentences whose main clause has future time reference" (Tonhauser, 2006:235):

(59) I-katu o-ky.
3-possible A3-rain
'It is possible that it rains/rained/will rain.'

Since temporality in non-matrix clauses significantly complicates the issue of determining tenselessness, I do not have the space to discuss anything further about that here.

This apparent asymmetry where future marking is obligatory in most matrix contexts but optional in subordinate clauses sets PG apart. Tonhauser (2006, 2011b) argues that while the language lacks TENSE distinctions for PAST vs. PRESENT, the future domain behaves differently. Crucially, more recent fieldwork suggests that some bare matrix verbs can, in restricted contexts, be interpreted as FUTURE (Tonhauser, 2009). This points to variation and indicates that the full distribution of future reference without morphology remains underexplored.

Further evidence of PG's mixed temporal profile comes from aspectual and modal markers. Morphemes such as *hína* (CONTINUOUS), *kuri* (RETROSPECTIVE), and {*-ta*} (PROSPECTIVE) are analysed as 'high aspects' not tenses (as opposed to viewpoint aspects: PERFECTIVE and IMPERFECTIVE) (Pancheva & Zubizarreta, 2023:1335):

(60) a. a-karú-ta
1SG-eat-PROSP
'I am going to eat.'

b. a-karu kuri
1SG-eat RETROSP
'I ate.'

c. a-karu hína
1SG-eat CONT
'I am/was eating.'

Pancheva & Zubizarreta argue that PG lacks TENSE altogether, even covertly: temporal interpretation is achieved instead through evaluation time shift, much like the narrative present in English. Crucially, however, they too observe that bare clauses disallow future readings.

To summarise, PG shows a striking asymmetry in temporal reference. Past and present are pragmatically and contextually determined without tense morphology, while future requires overt marking in most main clause contexts. This supports viewing PG not as fully tenseless but as a mixed system, i.e., pragmatically resolved in the non-future domain, but grammatically encoded in the future domain.

2.3.3.2 St'át'imcets

Matthewson (2002, 2003, 2006) provides compelling data for St'át'imcets, also known as Lillooet Salish, (Salishan; Canada) as evidence for a prototypical optional TENSE language. Predicates can appear unmarked and receive an ambiguous temporal interpretation, as in (61). In the absence of tense or other adverbial indication of time, a verb's Aktionsart class can convey temporal reference – "states and activities can be interpreted as either past or present […] but achievements and accomplishments are interpreted as past" (Matthewson, 2002:2-3).

(61) a. Sáy'sez'- lhkan
play- 1SG.SUBJ
'I played / am playing.'

(Matthewson, 2002:2)

Otherwise, St'át'imcets has at its disposal an optional 'distal demonstrative adverb', *tu7,* Matthewson (2006:696) claims 'co-occurs with [an] underspecified tense morpheme', which forces past time reference:

(62) a. K'ac- an'- lhkán- tu7
dry- DIR- 1SG.SUBJ- PST
*'I dried it / *I am drying it / *I will dry it.'*

(Matthewson, 2006:676)

Additionally, there is a temporal morpheme, *kelh*, which renders future readings:

(63) a. Wá7- lhkan kelh sáy'sez'…
IMPF- 1SG.SUBJ WOLL Play
I will be playing …' (when you arrive)

(Matthewson, 2006:699)

The classification of *kelh* as either being that of tense or mood is complicated. Matthewson (2006), following Chung and Timberlake (1985), explains that many languages are reported not to have a future tense but rather a distinction between realis and irrealis mood, since any future event is only protentional, and in fact, many languages do not show a morphological distinction between future tense and irrealis mood. Matthewson, however, argues against *kelh* as a marker of irrealis mood, since to be considered as such, it should encode not only future time, but a range of non-future meanings such as conditionals and desideratives, and "[…] St'át'imcets *kelh* is not possible in any irrealis contexts except future ones" (Matthewson, 2006:685). Instead, Matthewson considers *kelh* is equal to a WOLL-type predicate. (See Abusch, 1985).

In the absence of overt tense morphology, St'át'imcets employs lexical aspect, temporal enclitics adverbials, demonstratives, and determiners to support temporal interpretation (Matthewson, 2011; Burton, 1997; Demirdache, 1998; Wiltschko, 2001, 2003; Davis, 2016).

To summarise, as shown by Matthewson (2002, 2003, 2006), a dedicated past tense marker, *tu7*, is available to enforce a past-time reading. St'át'imcets also includes a future-oriented morpheme, *kelh*, which, despite initial analyses linking it to irrealis mood, is argued by Matthewson (2006) to function more like a modal auxiliary of the WOLL-type, restricted to future contexts. Overall, St'át'imcets exemplifies a clear example of a mixed or optionally tenseless language, where temporal reference can be established without obligatory tense morphology.

2.3.3.3 Washo

Washo (isolate; USA) is similar to St'át'imcets in that, while unmarked predicates can be interpreted as past or present, there is an optional past TENSE marker {*-uŋil*} which forces past reading (Bochnak, 2016: 249):

(64) a. háʔaši
Ø-háʔaš-i
3-rain-IND
'It is raining.'/ 'It rained.'/ 'It was raining.'

b. háʔašuŋili
Ø-háʔaš-uŋil-i
3-rain-**PST**-IND
'It rained.'/ 'It was raining.'

Along with St'át'imcets, and possibly Paraguayan Guaraní, Washo fits neatly into the mixed tense variety of the typology of tense, I proposed at the beginning of this chapter.

2.4 Areal Typology

According to Dryer (2013), languages that lack overt morphological marking of TENSE show some clear areal tendencies. First, they are concentrated in Southeast Asia and the Pacific, including among Austronesian languages, which are often morphologically isolating. Thai and Burmese serve as clear examples from this region. Second, a cluster of such languages occurs in West and Central Africa, e.g., Hausa. A third grouping extends across the Americas, from North to South. By contrast, tenseless languages are generally absent from Europe, most of Western and Central Asia, Australia, and from both northern and southern Africa.

Diagnosing tenselessness is not always straightforward, as discussed above; nonetheless, the overall distribution is revealing.

This pattern suggests that tenselessness is not a random phenomenon, but one that emerges in particular areal settings, raising questions about the structural and historical factors that favour its development.

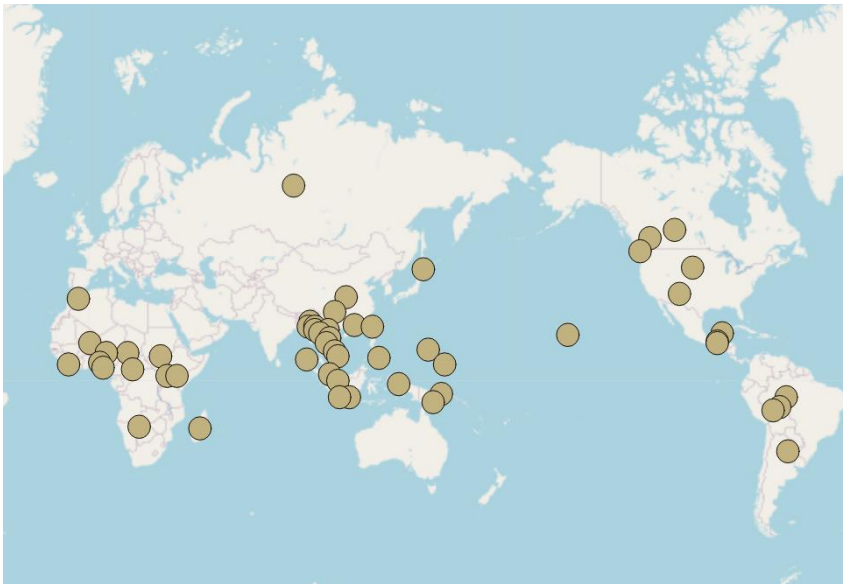

Figure 2: A map showing the areal distribution of languages exhibiting no past tense and no inflectional future (Dryer, 2013).

2.5 Summary

This chapter has developed a typology of tense systems, situating tenseless languages within a broader spectrum ranging from fully inflected systems with multiple remoteness distinctions to fully tenseless systems relying exclusively on aspect, adverbials, and contextual cues. Case studies across a range of language families reveal significant diversity in how temporal reference is achieved without grammatical tense. Some languages, such as Mandarin, Vietnamese, and Yúcatec Maya, operate as fully tenseless systems, while others, like St'át'imcets, Washo, and Paraguayan Guaraní, exhibit optional tense morphology, allowing for context-driven temporal interpretation in the absence of obligatory marking. The presence of optional or emerging tense markers challenges binary classifications and supports the notion of a continuum of tenselessness. Additionally, the cross-linguistic pattern reinforces the view that TENSE is not a universal category for temporal interpretation; in tenseless languages, it is replaced by a flexible interplay of other grammatical and contextual resources. Finally, the areal distribution of tenseless systems underscores the influence of typological and historical factors in shaping temporal marking cross-linguistically.

CHAPTER 3 The Syntactic Representation of TENSE in Tenseless Languages

3.1 Introduction

In languages like English, TENSE is morphologically overt, and the syntactic projection of TP is uncontroversial. However, as I have shown in Chapter 2, many languages lack overt tense morphology while still allowing precise reference to past, present, and future. This raises a foundational question: do all natural languages have TENSE in their syntax, or can these superficially tenseless languages genuinely be 'tenseless' from a theoretical approach?

Two competing proposals dominate the debate. The tensed view argues that all finite clauses universally project T, even if the TENSE morpheme is phonologically null. Under this view, "tenseless" languages like St'át'imcets (Matthewson, 2006) and Vietnamese (Bui, 2019) contain a covert TENSE morpheme that anchors temporal interpretation. The tenseless view, in contrast, claims that some languages lack TENSE altogether, with temporal reference derived from aspectual marking, temporal adverbials, or pragmatic inference (Lin, 2012, on Mandarin).

In this chapter, I show how, using evidence from St'át'imcets, Vietnamese, and Mandarin, these competing analyses differ in their syntactic assumptions, empirical predictions, and theoretical implications.

3.2 The Tenseless View

The tenseless approach argues that some languages genuinely lack TENSE in the syntactic derivation. This view rejects TENSE as a universal category and the projection of TP as a functional projection. The best-developed account of this type is Lin's (2012) analysis of Mandarin Chinese, in which a range of syntactic diagnostics undermines Matthewson's TENSE account. Rather than requiring a null TENSE, the data can be better explained if Mandarin is treated as a truly tenseless language.

3.2.1 Mandarin Chinese

As shown in §2.3.1.1, Mandarin verbs do not inflect for TENSE, and clauses with bare predicates can be interpreted in multiple ways. Crucially, bare clauses can also appear in future contexts when accompanied by a future adverbial. Aspectual markers such as *-le* (PERFECTIVE) and *zài* (PROGRESSIVE) contribute additional temporal information, but none is obligatory. Temporal adverbials like *zuótiān* 'yesterday' or *míngtiān* 'tomorrow' also locate

events in time. Future reference often involves MODALS such as *huì* or *yào*, but these are not obligatory in all contexts.

Lin (2012) offers four key pieces of syntactic evidence to show Chinese lacks a T node, and as such, should be analysed as a tenseless language: (i) bare nominal/adjectival predicates, (ii) lack of expletive subjects, (iii) no finite/non-finite distinction, and (iv) lack of case-motivated movement. I summarise each of these below.

3.2.1.1 Bare predicates and the absence of a T node

Given that it is agreed that English is an overtly tensed language[6,7], sentences containing nominal or adjectival predicates require a semantically vacuous copula (Tang, 2001) which selects for a PredP containing the DP or AP. This copula then raises to T to get TENSE. In contrast, in Mandarin, there is no such requirement:

(65) Zhāngsān hěn[8] cōngmíng
Zhangsan very smart
'Zhangsan is very smart.'

(Lin, 2012:677)

Following Lin's claim that Mandarin is tenseless, then we can assume that there is no T head with a TENSE feature needing to be checked. This explains the grammaticality of (65) containing a bare adjectival predicate.

3.2.1.2 Lack of expletive subjects

Roberts and Roussou (2002) posit the following subject requirement:

(66) The head containing T must have a filled specifier.

This principle neatly explains why languages like English require a filled SpecTP even where a semantic subject is not available. As a result, expletives such as *there* and *it*, which are

[6] At least in the present and past.
[7] In finite clauses; claims for TENSE or lack thereof in non-finite clauses and small clauses is not an issue I address here.
[8] The inclusion of *hěn* 'very', is required in such constructions. Grano (2011) refers to this as a "positive marker". Gradable adjectives, such as *cōngmíng* 'smart', in the absence of a copula, must co-occur with overt degree morphology to receive positive interpretation.

semantically vacuous, appear only for fulfilling syntactic requirements. In contrast, Mandarin has no such requirement. Lin explains that this is due to Mandarin's lack of a T node.

3.2.1.3 No finite/non-finite distinction

The next piece of evidence concerns the distinction between finite and non-finite predicates. Since one of the defining properties of finite predicates is TENSE, the lack thereof explains why Mandarin makes no distinction between finite and non-finite verbs. That is, the same verb form is found in all syntactic environments be it a matrix or non-matrix clause (Lin, 2012).

3.2.1.4 Lack of case-motivated movement

The final piece of evidence concerns subject movement motivated by the need to check structural CASE. In English, passives and raising constructions require A-movement for the purposes of checking syntactic CASE. Again, Mandarin differs in this respect in not requiring A-movement in such constructions. Lin, following Pesetsky and Torrego (2001), points out the possible link between structural nominative case and the T node. If no T is present, then there is no motivation for A-movement into a subject position. In fact, Huang, Li & Li (2009) have shown that Mandarin passives exhibit A'-movement instead. Similarly, Lin suggests subject movement in Mandarin raising constructions is optional and is likely focus or topic movement.

3.2.2 Alternatives to TP: an aspect-based approach

The previous section outlined Lin's (2012) arguments that Mandarin should be considered a genuinely tenseless language: it lacks obligatory TENSE morphology, finiteness distinctions, expletive subjects, and case-driven movement, all of which follow straightforwardly from the absence of a syntactic T head. This conclusion, however, raises an immediate theoretical challenge. If Mandarin does not project TP, then how are events temporally anchored? Put differently: if tense is absent from the clausal spine, what grammatical resources step in to provide temporal interpretation?

Lin addresses precisely this question by developing an ASPECT-based account of temporality. On this view, Mandarin relies not on TENSE but on a combination of aspectual heads, temporal adverbials, and discourse structure to locate situations in time. In what follows, I outline this proposal as a principled alternative to TP, before weighing it against the null tense analysis of Matthewson.

3.2.2.1 Aspect as a temporal anchor

According to Lin (2012), rather than a Tense Phrase, Mandarin sentences are headed by an Aspect Phrase (AspP). Aspect is therefore the highest inflectional category in the clause structure, and it plays the interpretive role that TENSE plays in tensed languages.

Lin suggests every Mandarin sentence is headed by a functional ASP head that can either be perfective or imperfective. This head can be either filled, for example by *le* as I illustrated in Chapter 2, or,uuu in the absence of any overt ASP head, default ASPECT is interpreted according to the predicate's lexical semantics:

(67) i. States and dynamic processes (i.e., atelic predicates) are interpreted as imperfective by default and render a present reading.
ii. Accomplishments and achievements (i.e., telic predicates) are interpreted as perfective by default and yield a past reading.
(Smith and Erbaugh, 2005; Lin, 2003, 2006; Boynemeyer and Swift, 2004)

Consequently, this fulfils the same role as the T head in tensed languages.

3.2.2.2 Temporal adverbials and discourse as overrides

The final mechanism that Lin outlines for temporal interpretation without TP relates to non-functional components of a clause. Although ASPECT provides the default time reference, temporal adverbials such as *zuótiān* "yesterday" or *míngtiān* "tomorrow" can override the default by supplying an explicit reference time. Likewise, discourse can shift interpretation: a progressive clause may be interpreted in the past if it occurs in response to a past-oriented question. This flexibility highlights a crucial difference with tensed languages: temporal anchoring in Mandarin is not fixed by a grammatical T head but emerges from the interaction of aspect, adverbials, and discourse pragmatics.

3.2.2.3 Future reference via modality

The discussion of Mandarin this far has only concerned the mechanisms for present and past time reference. In Mandarin future orientation is expressed through modals such as *huì*, *jiāng*, and *yào*, which pattern with epistemic modals: they do not obligatorily appear in every future context and frequently occur in non-future contexts. Their contribution is modal (prediction, volition, inevitability), not purely temporal. Thus, future reference in Mandarin is derived from modality interacting with aspect and context, rather than from a dedicated future TENSE.

3.2.3 The possibility of a tensed analysis of Mandarin

Despite these arguments, Lin (2012) acknowledges that a tensed analysis remains conceivable. I outline it briefly here, before returning to her reasons for rejecting it.

Although much of the literature following Lin (2003, 2006, 2010) argues that Mandarin should be treated as tenseless, Lin (2012) herself acknowledges that a tensed analysis is not impossible in principle. Under this view, Mandarin would project a TP like other languages, with temporal anchoring provided by a null TENSE morpheme. This would bring Mandarin in line with analyses of other superficially tenseless languages (like those of Matthewson, 2006 and Bui, 2019), where covert TENSE is argued to explain systematic interpretive restrictions.

The main motivation for a tensed analysis of Mandarin comes from the restricted temporal interpretations of bare clauses. Sentences without overt aspectual or temporal marking systematically resist future readings: an unmarked predicate can be interpreted as past or present, but not as future. From a tensed perspective, this distribution is straightforwardly explained by positing a covert tense head that encodes a [±PAST] contrast but lacks a [+FUTURE] specification. Future reference must therefore be supplied through modal auxiliaries such as *huì* or *yào*. This parallels the behaviour of many overtly tensed languages, where future is not morphologically tensed but modal in nature (Lin, 2012).

A further argument in favour of a tensed analysis concerns cross-linguistic uniformity. If all languages project TP, then the syntax of Mandarin can be treated as structurally identical to that of English, with variation confined to whether TENSE morphology is overt or covert. This reduces the burden on acquisition: learners need only determine whether tense has phonological exponents in their language, not whether TP itself is present in the grammar. From this perspective, maintaining TP in Mandarin supports a strongly universalist view of clause structure.

Finally, a tensed analysis provides a natural account of the distribution of reference time. If Mandarin sentences contain a T head, then temporal anchoring can be understood as the relation between T and the utterance time, with aspectual operators providing additional constraints. This view fits neatly into the established Reichenbachian framework, where speech time, event time, and reference time are linked through tense morphology.

Nevertheless, Lin (2012:673–674) argues that the evidence for a tensed analysis is not decisive. While the absence of future readings in bare clauses might be taken as evidence for covert TENSE, it can also be explained under an ASPECT-based account, where aspectual class and pragmatic inference jointly exclude futurate interpretations. Similarly, while cross-

linguistic uniformity is desirable, it cannot override empirical mismatches: Mandarin lacks finiteness contrasts, expletive subjects, and case-driven movement, all of which are predicted by a tensed grammar. For this reason, Lin concludes that a tenseless analysis is empirically more satisfactory, even if a tensed analysis remains theoretically available.

3.2.4 Crosslinguistic parallels

Lin's conclusions regarding the absence of TP are echoed in analyses of other languages: Blackfoot (Ritter and Wiltschko, 2009); Algonquian languages (Ritter and Rosen, 2005); West Greenlandic (Bittner, 2005; Shaer, 2003); Guaraní (Tonhauser, 2011a,b) inter alia. This typological convergence strengthens the tenseless analysis: it would be implausible to assume that all such languages independently lost overt TENSE morphology but retained a null tense. Instead, the crosslinguistic picture suggests a systematic absence of TENSE as a grammatical category. Furthermore, the aspect-based approach is not unique to Mandarin. Lin (2012) compares Mandarin to West Greenlandic. Both languages demonstrate that temporality can be grammatically expressed without TP: aspectual categories and reference times provide sufficient anchoring. These crosslinguistic parallels suggest that ASPECT-based temporal systems are a natural typological alternative to TENSE-based ones.

3.3 The Tensed View

The strongest arguments for the tensed view come from superficially tenseless languages whose behaviour reveals a covert tense morpheme. Under this view, all finite clauses project T, even if tense is phonologically null. The most fully developed case is Matthewson's (2006) analysis of St'át'imcets, which has become a cornerstone of the debate, and this line of argument has been extended to Vietnamese by Bui (2019).

3.3.1 Evidence from St'át'imcets

Matthewson (2006) presents the most comprehensive defence of a tensed analysis for a superficially tenseless language[9]. She argues that although St'át'imcets lacks overt TENSE morphology, every finite clause contains a phonologically null tense morpheme that restricts the reference time (RT) to the non-future. In other words, superficially tenseless sentences

[9] Matthewson's earlier work (2002a, 2002b) first proposed that St'át'imcets contains an underspecified, covert TENSE morpheme, introducing arguments such as the "stove" diagnostic (Partee, 1973) and the mixed temporal reference test. These studies provided the groundwork for the claim that all finite clauses contain a T head, even when no overt TENSE is present.

(STSs) can be interpreted as either past or present, but never future. The argument has several layers:

(68)
(i) *Restriction to non-future*: bare clauses systematically disallow future readings, even with future adverbials, which instead produce ungrammaticality. This follows naturally if a covert TENSE morpheme requires RT ≤ UT.

(ii) *Future requires modality*: future reference is possible only when the enclitic *kelh* is present. Matthewson shows that *kelh* cannot be analysed as IRREALIS MOOD or epistemic modality; rather, it instantiates Abusch's (1985) WOLL operator, introducing quantification over possible worlds. Like English *will/would*, *kelh* produces both simple future and past-future (*would*) readings, depending on whether it combines with a present or past RT.

(iii) *Past reference and tu7*: the enclitic *tu7* enforces past interpretations but cannot itself be TENSE. Matthewson argues it is best treated as a 'distal temporal adverb' (like English *then*), which presupposes the presence of covert TENSE. Its distribution makes sense only if TENSE is always present in finite clauses.

(iv) *Underspecification, not ambiguity*: one might claim that STSs are ambiguous between a null past and a null present morpheme. Matthewson rejects this: a single STS can simultaneously describe past and present sub-events (e.g., "Theresa vomited, Charlie is vomiting"), which would be impossible with an ambiguous but discrete past vs. present contrast. Instead, the null tense is semantically underspecified as non-future[10].

3.3.1.1 Broader theoretical implications

Matthewson (2006) also situates the analysis in a broader perspective. The differences between English and St'át'imcets are minor: English TENSE morphemes are overt and fully specified, while St'át'imcets has only one covert, partially underspecified morpheme. She

[10] Matthewson (2006) offers the most complete defence of the tensed view. This article expands considerably on her 2002 proposals, presenting a broader empirical base (including conditionals, embedded clauses, and future-in-the-past contexts) and systematically contrasting the tensed analysis with alternative "tenseless" accounts (Lin on Mandarin, Bittner on Kalaallisut, Bohnemeyer on Yukatek Maya).

likens this to pronouns, which may be null and may fail to encode PERSON/NUMBER distinctions. In both languages, the architecture is the same: TP is universal, TENSE anchors RT to UT, ASPECT orders ET relative to RT, and future arises only when TENSE combines with a MODAL element.

3.3.2 Evidence from Vietnamese

Bui's (2019) argument mirrors Matthewson's in crucial respects, but also brings out independent evidence from aspectual particles that further supports the separation of TENSE and ASPECT. She provides a detailed analysis of Vietnamese temporal reference, arguing that, like St'át'imcets, Vietnamese is a superficially tenseless language. Although it lacks inflectional TENSE morphology, finite clauses obligatorily contain a phonologically empty non-future TENSE morpheme (NON-FUT). This morpheme restricts the reference time (RT) to past or present, explaining why bare predicates can only be interpreted as past or present, never future. For this, Bui puts forward the following evidence:

(69) (i) *Bare predicates*: clauses with bare verbs are compatible with past-time adverbials (*tối qua* 'last night') or present-time adverbials (*bây giờ* 'now'), but not future adverbials (*năm sau* 'next year'). This holds both in out-of-the-blue sentences and in answers to temporal questions. Thus, bare clauses can answer *What did X do last night?* or *What is X doing now?*, but not *What will X do next year?*.

(ii) *Future requires sẽ*: futurity is only available with the preverbal particle *sẽ*. Bui shows that *sẽ* behaves exactly like Abusch's (1985) WOLL operator: it combines with TENSE to yield future reference, and it also licenses future in the past readings. This cannot be explained if *sẽ* were simply a TENSE morpheme locating RT after UT; instead, it must be MODAL.

(iii) *Perfect marker đã:* while *đã* has often been glossed as a past TENSE, Bui argues that it is a PERFECT ASPECT marker. It introduces anteriority and can yield PLUPERFECT and FUTURE PERFECT readings. These uses show that *đã* cannot be a PAST TENSE morpheme, since it is not restricted to locating RT before UT. Instead, it encodes a relation of anteriority between ET and RT.

(iv) *Progressive marker đãng*: *đãng* clearly marks progressive ASPECT, yielding overlap between RT and ET. Importantly, *đãng* combines with the covert TENSE to allow both PRESENT PROGRESSIVE and PAST PROGRESSIVE interpretations.

(v) *Interaction of TENSE, ASPECT, and MODALITY*: Vietnamese shows the same systematic layering as St'át'imcets and English. Bare clauses contain NON-FUT TENSE plus a null PERFECTIVE ASPECT, yielding PAST/PRESENT PERFECTIVE readings. With *đãng*, NON-FUT + PROG yields PAST/PRESENT PROGRESSIVE. With *đã*, NON-FUT + PERFECT yields PAST or PRESENT PERFECT readings. With *sẽ*, NON-FUT + WOLL yields FUTURE or FUTURE-IN-THE-PAST. This confirms the division of labour: TENSE anchors RT, ASPECT orders ET relative to RT, and MODALITY quantifies over possible worlds.

Bui further strengthens the case against treating Vietnamese as tenseless by pointing to contrast with previous analyses (Duffield, 1999, 2007; Phan, 2013). If *sẽ* and *đã* were TENSE morphemes, one would expect bare predicates to allow FUTURE interpretations (contrary to fact), and one would not expect *sẽ* to permit "FUTURE IN THE PAST." Similarly, *đã* would not be expected to appear in FUTURE PERFECT contexts. Only the analysis with a covert NON-FUT TENSE, plus overt aspectual and MODAL particles, captures the full distribution.

In sum, Vietnamese offers a near-perfect parallel to St'át'imcets. Both languages appear tenseless, but both require a null TENSE morpheme anchoring RT to non-future, with overt future markers (*sẽ*, *kelh*) realising WOLL. ASPECT is overtly expressed (*đãng*, *đã*), further confirming that TENSE and ASPECT are distinct categories.

3.3.3 Evaluation

Taken together, the analyses of St'át'imcets (Matthewson, 2006) and Vietnamese (Bui, 2019) provide compelling support for the tensed view[11]. The decisive evidence is that bare clauses are systematically restricted to non-future interpretations. If they were truly tenseless, one

[11] It is useful to distinguish Matthewson's earlier and later stages of argumentation. The 2002 papers introduced the idea of ØTENSE in St'át'imcets, drawing on key diagnostics and making the theoretical case for the universality of T. The 2006 paper consolidates and refines this account, offering the canonical statement of the St'át'imcets facts. Accordingly, while both are cited here, this dissertation treats Matthewson (2006) as the definitive version of the analysis.

would expect them to be compatible with any temporal interpretation, supplied pragmatically. Instead, the restriction follows directly if covert tense universally anchors RT to non-future. Overt future markers like *kelh* and *sẽ* are then best treated not as tense morphemes but as modals (WOLL), combining with covert TENSE to produce both will- and would-like readings. This division of labour between TENSE and MODALITY is strikingly parallel across languages.

The tensed view thus preserves the universality of TP and the uniformity of clausal architecture. It also provides a clean typology: languages differ not in whether they have TENSE, but in whether tense morphemes are overt, covert, or semantically underspecified.

The semantic typology introduced in Chapter 2 (Toosarvandani, 2025) is particularly relevant to this debate. While A-tenseless systems may plausibly be analysed as projecting a silent T head, B- and C-tenseless systems do not display the interpretive properties associated with TENSE. In these languages, temporal reference is supplied either by unrestricted reference time pragmatics or by context shift, rather than by covert TENSE features. This supports the view that TP may be absent in at least some languages, aligning with the strongest version of the tenseless hypothesis.

However, if one adopts the position advanced by Matthewson (2006), namely that all natural languages project a TP, Toosarvandani's tripartite distinction may be seen as overstating the variation. What he analyses as three distinct types of tenselessness can instead be understood as surface differences in how TENSE is realised: overtly, covertly, or pragmatically. Even in so-called C-tenseless systems, a reference time is arguably always present, with its anchoring supplied through discourse rather than morphology. In this light, reliance on context does not entail the absence of TENSE; rather, it reflects underspecification of a universal category. This reanalysis has the advantage of maintaining theoretical parsimony, ensuring cross-linguistic comparability, and avoiding the proliferation of fundamentally different systems where a single universal mechanism may suffice.

3.3.4 Cross-linguistic extensions of the tensed view

The discussion so far has shown that St'át'imcets (Matthewson, 2006) and Vietnamese (Bui, 2019) provide strong evidence for a covert non-future TENSE morpheme, even in the absence of overt verbal inflection. In this section, I extend the argument by examining several additional languages introduced in Chapter 2. These cases further support the position that superficially tenseless languages are not truly tenseless, but instead project a TP headed by a null TENSE morpheme, with overt morphology elsewhere in the clause spelling out ASPECT, modality, or discourse-related categories.

3.3.4.1 West Greenlandic

WG has often been cited as a paradigmatic tenseless language (Shaer, 2003; Bittner, 2005), since its so-called temporal suffixes ({-*sima*-} 'perfect/anterior' and {-*ssa*-} 'prospective/future') do not behave like obligatory TENSE markers. They are optional, semantically overlapping, and syntactically flexible, leading many to analyse them as aspectual or modal operators. Yet, as shown in §2.3.1.5, bare verb forms are never truly free in their interpretation. Instead, they yield systematic present or past readings, but resist unrestricted futurate interpretations without overt morphology. This pattern aligns closely with Matthewson's account of St'át'imcets: a null TENSE morpheme anchors reference time (RT) to non-future, while prospective morphology supplies a modal WOLL-like contribution. Temporal reference not being entirely left to pragmatic inference suggests that a covert T head is active in WG, providing the same syntactic anchoring function as in overtly tensed languages.

3.3.4.2 Yúcatec Maya

YM presents another instructive case. As described in §2.3.1.6, YM obligatorily marks ASPECT through preverbal ASPECT/MOOD markers and status clitics. At first glance, this points to an ASPECT-based temporal system with no role for TENSE. However, temporal interpretation in YM is not unconstrained: aspectual forms consistently correlate with past vs. present readings, while future requires auxiliary-like prospective predicates such as *mukah*. A purely aspectual analysis struggles to explain why interpretations are not more variable across contexts. A tensed account, by contrast, captures these facts naturally: a null non-future TENSE anchors RT to the UT, while aspectual morphology determines the relation between RT and ET. Prospective auxiliaries then provide the modal contribution necessary for future reference. This makes YM another case where covert TENSE must be posited to explain systematic restrictions in interpretation.

3.3.4.3 Burmese

Burmese encodes a binary opposition between future and non-future through finite verb phrase operators (Okell, 1969; Jenny, 2008). The operator *tɛ* yields non-future readings, compatible with both past and present, while *mɛ* yields future readings, though with frequent modal extensions. Importantly, bare finite predicates are not permitted, which suggests that clausal anchoring is obligatory. If *tɛ* simply indicated ASPECT or MOOD, one would not expect its obligatory presence across all finite clauses. Instead, its distribution is best captured if

Burmese contains a covert T head anchoring RT as non-future, with *mɛ* instantiating a modal operator analogous to English *will* or St'át'imcets *kelh*. This analysis aligns Burmese more closely with the tensed view, despite the surface appearance of tenselessness.

3.3.4.4 Hausa

Hausa has been argued to lack TENSE altogether, since temporal reference is largely derived from ASPECT (Mucha, 2013). COMPLETIVE forms are typically interpreted as past, while continuous forms yield present readings. However, these interpretations are not purely pragmatic but display a high degree of consistency. The robustness of this mapping suggests that an underlying TENSE feature is at play: the COMPLETIVE aligns with a covert PAST TENSE and the CONTINUOUS with a covert PRESENT. This separation of TENSE from ASPECT is particularly clear when considering future reference, which requires discourse anchoring or auxiliary support, a pattern entirely consistent with the universal TP model. Thus, Hausa contributes further evidence that a covert TENSE analysis better explains systematic interpretive restrictions than a purely aspectual account.

3.3.4.5 Lakota

Lakota (Corral Esteban, 2015) is instructive because its putative future TENSE enclitic *kta* has been reanalysed as IRREALIS MOOD. Bare predicates, however, yield consistent past or present readings, never future. Once again, this asymmetry is best explained by positing a null non-future TENSE morpheme, restricting RT to ≤ UT. Future reference then emerges from modal operators like *kta*, which quantify over possible worlds. This pattern recapitulates the Matthewson–Bui argument: covert TENSE handles the RT–UT relation, while modal operators provide futurate readings.

3.3.5 Summary

Across these languages, we observe a common pattern: bare clauses systematically exclude unconstrained futurate interpretations, even when aspectual and adverbial information is present. Instead, future readings require overt modals or auxiliary-like elements. This mirrors the St'át'imcets and Vietnamese cases and strongly supports the hypothesis that all finite clauses universally project TP, with covert TENSE anchoring RT to UT. Apparent tenselessness, therefore, does not reflect the absence of TENSE in syntax, but rather the absence of overt TENSE morphology.

3.4 Critical Conclusion

The expanded cross-linguistic evidence presented in §3.3.4 shifts the balance of the debate. Lin's (2012) ASPECT-based analysis of Mandarin demonstrates that some phenomena, such as the absence of finiteness contrasts and case-driven subject movement, can be captured without positing a T head. However, when these arguments are considered alongside the broader typological evidence from St'át'imcets, Vietnamese, West Greenlandic, Yúcatec Maya, Burmese, Hausa, and Lakota, the ASPECT-only approach appears insufficient. Across these languages, bare clauses systematically exclude unrestricted futurate interpretations. This consistency suggests that temporal anchoring is grammaticalised through a covert T head, even if overt TENSE morphology is absent. Thus, while Lin's account highlights important surface differences, the null TENSE hypothesis offers a more powerful cross-linguistic generalisation.

In light of this evidence, I side with the tensed approach: superficially tenseless languages project TP, with a silent T head that anchors reference time. Lin's arguments show that the surface grammar of Mandarin (and others) diverges from Indo-European norms, but this divergence does not amount to a wholesale absence of TENSE in the syntax. Instead, it reflects variation in how TENSE is realised morphologically and how it interacts with ASPECT and modality.

This conclusion sets the stage for Chapter 4, where I synthesise the findings and consider their implications for linguistic theory. Specifically, I return to the three guiding research questions introduced in Chapter 1: (i) which languages are obligatorily or optionally tenseless, (ii) what mechanisms they employ to express time reference, and (iii) whether there is evidence for a TP across languages. The analysis advanced here strongly supports a positive answer to the third question: TP is universal, even when TENSE is morphologically silent.

CHAPTER 4 Conclusion

This dissertation has examined the nature of temporal reference in so-called "tenseless" languages, with the aim of testing the universality of TENSE and the role of TP in the clausal spine. I have framed the analysis around three guiding questions: (i) which languages are obligatorily tenseless and which are optionally tenseless, (ii) what mechanisms these languages employ to express time reference, and (iii) whether there is evidence for a TP across languages. In what follows, I revisit each research aim, synthesise the findings, and present my argument that the tensed view, according to which TP is universal and some languages host a covert TENSE head, is the more compelling theoretical position.

4.1 Obligatory vs. optional tenselessness

Chapter 2 established that tenselessness is not monolithic but gradient. Some languages, such as Mandarin, Yúcatec Maya, Hausa, and Maybrat, can be classified as fully tenseless insofar as they lack obligatory TENSE morphology. Others, such as St'át'imcets, Washo, and Paraguayan Guaraní, fall into the category of mixed or optionally tenseless: they possess TENSE markers but these are not obligatory, leaving temporal interpretation often recoverable from other cues. Between these lie hybrid cases, such as Thai, Vietnamese, Burmese, Dyirbal, and Chamacoco, where markers display both aspectual and TENSE-like behaviour or dialectal variation complicates classification.

This continuum reveals that what has often been described under the broad label "tenseless" represents a range of morphosyntactic profiles. Recognising this spectrum allows us to better evaluate the theoretical stakes: even where TENSE morphology is absent or optional, languages still exhibit systematic constraints on temporal interpretation that call for explanation.

4.2 Mechanisms of temporal reference

The typological survey showed that in the absence of grammatical TENSE, languages rely on a range of alternative strategies. The following table consolidates the cross-linguistic picture presented in Chapter 2:

System	Languages	Mechanisms of Temporal Reference	Typological Status
Aspect- / mood-driven systems	Mandarin Chinese	Aspectual particles (le, zài), Aktionsart, temporal adverbials, modals (huì)	Fully tenseless
	Standard Thai	Aspectual particle (*léɛw*), prospective/modal (*jà*), temporal adverbs, context	Fully tenseless (hybrid tendencies)
	Vietnamese	Aspectual particles (*đãng*, *đã*), modal/future (*sẽ*), temporal adverbials	Fully tenseless (hybrid tendencies)
	Yúcatec Maya	Aspect/mood prefixes, status clitics, prospective predicates (*mukah*), remoteness markers	Fully tenseless
	Hausa	Aspectual morphology (completive vs. continuous), pragmatic inference, adverbials	Fully tenseless
Mood-driven systems	Burmese	Future vs. non-future operators (*mɛ*, *tɛ*), modal extensions, adverbials	Hybrid / debated
	Dyirbal	Future vs. non-future (southern dialects) / past vs. non-past (northern)	Mixed/uncertain
	Lakota	Unmarked verbs + adverbs, irrealis enclitic (*kte*)	Fully tenseless
	Anii	Realis/irrealis pronouns, lexical aspect, adverbials, remoteness marker (*bòŋà*)	Fully tenseless
	Ayoreo & Chamacoco	Lexical aspect, mood, adverbs, discourse particles; emerging tense in Chamacoco	Fully tenseless / hybrid
Adverbial / deictic-driven systems	Maybrat	Temporal adverbials, deictics (from demonstratives)	Fully tenseless
	Nivaclé	Demonstratives encoding visible vs. non-visible → present vs. past	Fully tenseless (nominal tense)
Optional tense / mixed systems	St'át'imcets	Optional past (*tu7*), future (*kelh*), lexical aspect, adverbials	Mixed/optional
	Washo	Optional past suffix (*-uŋil*), unmarked verbs ambiguous	Mixed/optional
	Paraguayan Guaraní	Pragmatic past/present; {*-ta*} obligatory for future	Mixed/optional

Table 1: a summary of tense categorisation and temporal mechanisms of the languages cited in this study.

The typology makes clear that ASPECT and MODALITY are the two dominant anchors of temporal reference in tenseless systems, while adverbials serve as near-universal supplements. More unusual systems, such as Nivaclé's nominal TENSE, remind us of the breadth of grammatical pathways through which languages can achieve temporal anchoring.

4.3 The syntactic status of TP

The third and most theoretically charged question concerned whether tenseless languages lack TP altogether. Chapter 3 examined this issue in detail, contrasting the tenseless view (Lin, 2012) with the tensed view (Matthewson, 2006; Bui, 2019).

The tenseless view highlights important empirical observations: in Mandarin, for example, the absence of finiteness contrasts, expletive subjects, and case-driven movement makes a traditional TP analysis less straightforward. Yet when we broaden the scope beyond Mandarin, the typological picture is strikingly consistent: bare clauses are systematically restricted to non-future readings across languages. Whether in St'át'imcets, Vietnamese, Yúcatec Maya, or Hausa, futurate interpretations require overt modal or auxiliary-like elements. This pattern is not what one would expect if temporal anchoring were left entirely to ASPECT, adverbials, or pragmatics. Instead, it follows directly that all finite clauses project TP, with a covert non-future TENSE morpheme anchoring RT to UT.

I therefore argue that the evidence favours the tensed view. The apparent diversity of temporal systems reflects differences in morphological exponence and the division of labour with ASPECT and MODALITY, not the absence of TP in the syntax. In this respect, superficially tenseless languages are not exceptions to Universal Grammar but further evidence of its flexibility: TENSE is always structurally present, even if morphologically and phonologically silent.

Against this background, Toosarvandani's (2025) tripartite model can be reinterpreted without abandoning universality. While his A–C classification usefully highlights variation in temporal interpretation strategies, such differences are more parsimoniously analysed, following Matthewson (2006), as surface variation in how TENSE is realised or pragmatically anchored. Even in cases that appear to depend on discourse, a reference time is always present and best analysed as part of a universal TENSE system. This preserves cross-linguistic comparability while avoiding the proliferation of fundamentally different systems.

4.4 Implications and future directions

This dissertation has made three contributions. First, it clarifies that "tenselessness" is best understood as a cline, encompassing fully tenseless, optionally tenseless, and hybrid systems. Second, it demonstrates the richness of alternative strategies for temporal reference, from ASPECT to MODALITY to nominal TENSE. Third, and most importantly, it argues for the universality of TP, even where TENSE morphology is absent.

By siding with the tensed view, I propose a strong claim: all natural languages grammatically anchor time through TP. What varies cross-linguistically is not whether TENSE exists, but whether it surfaces overtly, covertly, or in interaction with other categories. This conclusion reconciles typological variation with theoretical universality, challenging the notion that some languages are truly tenseless in the syntax.

Future work should pursue two directions. First, diachronic studies could illuminate how optional or hybrid systems evolve into fully tensed ones, as suggested by Chamacoco. Second, psycholinguistic investigation may shed light on whether speakers of tenseless languages process temporal reference differently, or whether covert TENSE provides comparable cognitive scaffolding.

4.5 Final remarks

The study of tenseless languages has long been treated as a challenge to the universality of TENSE. This dissertation has shown that the challenge is not to the existence of TP, but to our assumptions about how TENSE is realised. If TENSE is sometimes silent, this only reinforces the need to distinguish morphology from syntax. Far from undermining Universal Grammar, tenseless languages demonstrate its resilience: even when surface markers are absent, the underlying architecture of time in language remains constant.

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