

Cyclic tense: Discontinuous temporal reference in Djambarrpuyŋu*

Josh Phillips
Yale University

Abstract This paper presents a formal proposal for the semantics of Djambarrpuyŋu tense and temporal reference in Djambarrpuyŋu, a Yolŋu (Pama-Nyungan) variety spoken in northern Australia. On the basis of novel data, elicited in the field, it comprises the first formal treatment of “cyclic tense” phenomena, where formal devices encoding temporal remoteness are ostensibly “recycled” and posits a hypothesis about the diachronic development of cyclic tense systems.

Keywords: tense, temporality, pragmatics, Australian languages

1 Introduction

In his cross-linguistic survey of tense, Comrie (1985: 88) identifies a phenomenon (reported in Burarra [Maningrida: NW Arnhem Land] by Glasgow 1964) which he calls CYCLIC TIME REFERENCE. In languages that grammaticalise this phenomenon, the temporal intervals which license tense morphology can be thought of as being *discontinuous*, shown for Burarra in (1).

(1) **Temporal reference in Burarra** (adapted from Glasgow 1964)

- a. ngu-ba-nga
1s-eat-CONTEMP
'I am eating' **or** 'I ate recently'
- b. ngu-ba-de
1s-eat-REMOTE
'I ate today' **or** 'I ate long ago'

(1a) shows that Burarra CONTEMPorary morphology appears to be licensed in a predication about the time-of-speech as well the recent past but *before* the day

* I'd like to thank the SALT32 committee and audience at COLMEX for great feedback and discussion. This work is in part a development of my 2021a dissertation; many thanks to my committee for their support and to my consultants in Ramingining and Ngukurr for hours of patient elicitation & discussion.

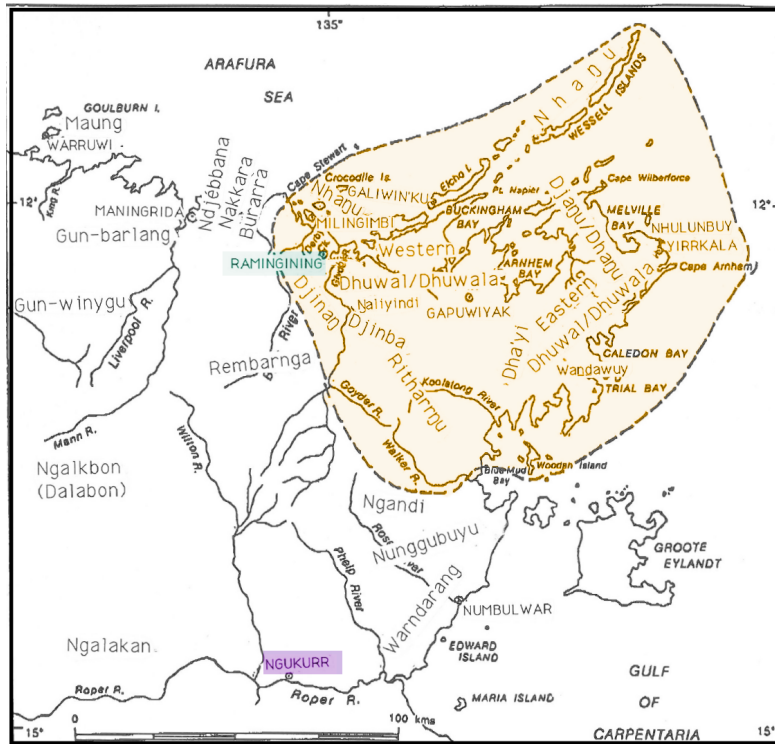


Figure 1 Arnhem Land, Northern Australia, listing major varieties of Yolŋu Matha (shaded region) and neighbouring languages (Wilkinson 1991)

of speech. Descriptions of past events *on* the day of speech receive a different class of tense marking—the REMOTE—as shown in (1b). Crucially, the REMOTE is used also in descriptions of events further in the past; those taking place more than a week or so before speech time (Rebecca Green, *pers. comm.*) That is, the past domain is partitioned between CONTEMPORARY and REMOTE, although the intervals which license each of these markers are discontinuous.

Djambarrpuyju—a variety of Western Dhuwal (Yolŋu Matha)—is a Pama-Nyungan language spoken in northern Australia.¹ The current work proposes a formal account of cyclic tense as it is realised in Djambarrpuyju on the basis of original data collected in the Ramingining community (further developing an earlier description of the system laid out in Wilkinson [1991] 2012).

¹ Yolŋu Matha- and Burarra-speaking communities are close geographically—shown in 1—although are unrelated (or extremely distantly related). Shared properties in their tense semantics are likely contact phenomena.

	I	II	III	IV
‘EAT’	<u>l</u> uka	<u>l</u> uki	<u>l</u> ukan	<u>l</u> ukanha
‘RUN’	wan <u>d</u> irr	wan <u>d</u> i	wan <u>d</u> in	wan <u>d</u> inya
‘GIVE’	gurrupan	gurrupul	gurrupar	gurrupana
‘SEE’	nhäma	nhäju	nhäjäl	nhänha

Table 1 Realization of four categories of verbal inflection across four verbs/different conjugation classes in Djambarrpuyŋu

2 Yolŋu verb morphology

Yolŋu languages have verbal paradigms which are at least partially cognate and likely reconstructable to a proto-system (Schebeck 2001, also pilot comparative reconstruction work by Bovern 2009). All varieties have between three and six different **inflectional categories**; each inflection is responsible for encoding (combinations of) temporal (tense/aspect) and modal information. The Ritharrŋu-Wägilak paradigm, for example, has four inflectional categories which correspond to PRESENT, PAST and FUTURE REFERENCE in addition to a PAST POTENTIAL inflection used primarily to indicate counterfactuality (as described in Heath 1980).

The form of each inflection additionally varies depending on the **conjugation class** associated with a given verb stem (or derivational suffix) — authors of descriptions of various Yolŋu varieties having identified between three (*e.g.*, Waters 1989 on Djinba & Djinba) and nine (*e.g.*, Lowe 1996 on Gupapuyŋu) distinct conjugation classes.

In lieu of metalinguistic glosses that index the semantics of their inflectional categories, existing descriptions of western Yolŋu varieties have tended to arbitrarily enumerate each inflection, as indicated in (1).² The apparent reason for eschewing meaningful labelling is the non-obviousness of a unified analysis of the morphology’s distributional properties/licensing conditions in these varieties.

This non-obviousness can be understood in terms of two linguistic phenomena: CYCLIC TENSE—the focus of the present paper—as well as the neutralization of a morphologized reality status (verbal mood) distinction in negative clauses (see Phillips 2021b for discussion of Djambarrpuyŋu verbal mood).

² This tradition appears to have originated in Beulah Lowe’s work on Gupapuyŋu, see Wilkinson 1991: 336 for further discussion.

3 Temporal reference in Djambarrpuyŋu

Similarly to the Burarra pattern presented in (1) above, predication of the (actual) present and past in Djambarrpuyŋu (the *actual* domain) selects for either the **I** or **III** inflection (this pattern corresponding to Burarra’s CONTEMP and REMOTE respectively).

That is, **I** is used with both present reference (shown in 2a) and with past reference—to an eventuality that obtained in the recent (yesterday) past in (2b).

(2) The distribution of the **I** inflection in Djambarrpuyŋu

- a. ŋarra **ga** **nhä-ma** mukulnha dhiyaŋ bala
 1s IPFV.**I see-I** aunt.ACC PROX.TEMP:ITV
 ‘I’m looking at aunty right now!’
- b. ŋarra **nhä-ma** mukulnha barpuru
 1s **see-I** aunt.ACC yesterday
 ‘I saw my aunt yesterday’ *nhäŋal ‘see.**III**’

III is also used in past-referring contexts: in (3a) to eventualities earlier on the day-of-speech (‘hodiernal past’), as well in descriptions of those that obtained in the distant past, this shown in (3b).

(3) The distribution of the **III** inflection in Djambarrpuyŋu

- a. ŋarra **nhä-ŋal** mukulnha dhiyaŋ bili
 1s **see-III** aunt.ACC PROX.TEMP:CPLV
 ‘I saw my aunt just a moment ago’ *nhäma ‘see.**I**’
- b. ŋunhi ŋarra yothu yän, ŋarra **nhä-ŋal** mukulnha
 COMP 1s kid only 1s **see-III** aunt.ACC
 ‘I saw my aunty when I was a little kid’

Crucially, the occurrence of either **III** in hodiernal past and **I** in ‘yesterday past’ situations is categorical; speakers robustly judge utterances that switch the verbal inflection in (2b) and (3a) is as ungrammatical. This pattern is further evinced in the sentences below, where, given a single utterance context and two descriptions of past events, the event described by **I**-marked verb is interpreted as prior to the **III**-marked one. This constitutes an argument against a characterisation of **III** as encoding anteriority/viewpoint aspect. In (4a), for example, there is no available interpretation (with or without frame adverbial *dhiyaŋu bili* ‘just before’) where the event described by the (**III**-marked) second clause *precedes* the event described in the first.

(4) **Conjoined descriptions of yesterday and hodiernal past events receive I and III marking respectively**

- a. [ɲarra ɭuk-**a** mänha barpuru] ga [ɲarra ɭuk-**ana** mänha
 1s drink-**I** water yesterday and 1s drink-**III** water
 (dhiyaŋu bili)]
 (PROX.ERG:CPLV)

‘I **drank** water yesterday and I **drank** water just a moment ago/earlier today.’

- b. barpuru munhagu ɲarra **ɭuka** djinydjalma’ ga roŋanmara-**ɲala**
 yesterday night 1s eat-**I** crab and return.CAUS-**III**
 bapawa märr ɲayi dhu **ɭuka** dhiyaŋu bala goɖarrmirri
 father.DAT so 3s FUT eat-**I** PROX.TEMP:ITV morning

‘I **ate** some crab last night and this morning **brought** some back for Dad so that he can **eat** (some).’

Conversely, as [Wilkinson](#) points out, “the switch-over point [from **I** to **III** in prehodiernal settings] is not associated with an absolute time” (1991: 343ff). That is, while **III** is judged to be infelicitous in predications about the recent past, the distinction between **I** as against **III** in narrations about more remote events can be ultimately demonstrated to be vague (compare existing treatments of temporal remoteness marking and “graded” or metrical tense, in particular [Bochnak & Klecha’s](#) 2018 treatment of gradations in the past domain in Luganda).

Figure 2 summarises the picture of temporal reference that is presented here; cyclicity is represented as the discontinuity of licensing intervals for **I** and **III**.³ The description of this phenomenon as “cyclic” is owing to the intuition that the distribution of **I** and **III** arises from a correspondence between form and function; those reference intervals which license **III** *precede* those that license **I** relative to two possible context types: *hodiernal* (DAY-OF-SPEECH) and *prehodiernal* ones.

In [Wilkinson’s](#) description of Djambarrpuyŋu (similarly to [Eather’s](#) (1990: 165) and [Green’s](#) work on the Maningrida languages—Nakkara and Gurr-goni respectively—developing an approach adopted by [Glasgow 1964](#)), the licensing of tense morphology (and the establishment of temporal reference) is dependent on whether the run-

³ Descriptions of (post-hodiernal) future eventualities receive **II** inflection, shown below. This is analysed as a morphologised mood/reality status distinction in [Phillips \(2021a,b\)](#).

ɲarra dhu **nhä-ŋu** mukulnha goɖarr
 1s FUT see-**II** aunt.ACC tomorrow
 ‘I’ll see my aunt tomorrow’

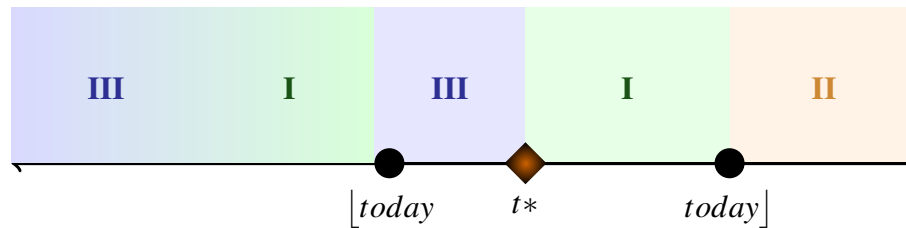


Figure 2 Cyclic tense: the temporal intervals (relative to t^* , the time-of-speech) licensing **I** and **III** are both discontinuous

time of the described situation is understood to *overlap with* or *obtain prior to* the day of utterance — this is shown in table 2.

The appeal to a contrast between hodiernal and prehodiernal “reference frames” is in fact well motivated by typologies of graded tense systems, where, cross-linguistically, the day-of-speech forms by far the most common basis for grammaticalising “objective measures” of temporal distance (Dahl 1983). This is a fact that is recapitulated over disparate language families (Brugger 2001; Cable 2013; Mucha 2017, cf. Xiqués 2021).

Assuming, then, the availability of a linguistically relevant distinction between an interval *today*’ and other intervals, we can motivate an intuition about the distributional properties of Djambarrpuyŋu tense morphology. Namely, that the contrast between **I** and **III** originates in some distinguished status for the *right edges* of temporal intervals (e.g. the reference frames *today* and *before-today*). This idea is further developed in the next section.

⁴ The relabelling of Glasgow’s REMOTE tense as ‘PRECONTEMPORARY’ is due to Eather (1990: 166).

↓ INFL • F _C →	TODAY frame	FORE-TODAY frame
CONTEMPORARY	<i>dhiyaŋ bala</i> ‘presently’	<i>barpuru</i> ‘recently’
PRECONTEMPORARY	<i>dhiyaŋ bili</i> ‘just before’	<i>baman</i> ‘long ago’

Table 2 The temporal interpretation of the verbal morphology—**I** and **III**—depends on a contextually-provided “reference frame” F_C and examples of temporal adverbials with which they (optionally) co-occur.⁴

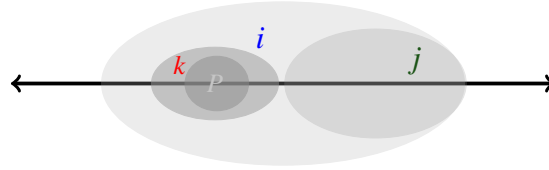


Figure 3 NFINST holds between a property P , some interval i and one of its **final subintervals** j iff P is INSTANTIATED at some other subinterval k that wholly precedes the final subinterval j .

4 Precontemporaneity

In their 2015 account of the development of PERFECT semantics for the Indo-Aryan suffix *-ta*, Condoravdi & Deo propose a relation—NONFINAL INSTANTIATION—that holds between some property P and (pairs of) intervals i, j —a definition is given in (5).

(5) **Non-final instantiation** (Condoravdi & Deo 2015: 279)

Defined iff $j \sqsubseteq_{\text{FINAL}} i$;

$$\text{NFINST}(P, i, j) \leftrightarrow \exists k(\text{INST}(P, k) \wedge k \sqsubseteq i \wedge k \prec j)$$

In effect, a predicate is non-finally instantiated within some interval i iff it held *within* i , but *prior* to j —some specified final subinterval of i . This is schematised in Figure 3. For Condoravdi & Deo, this relation captures a fundamental property of PERFECT morphology as situating an event within an *extended now* ($x\text{now} = i$) but *prior* to a specified reference time (j) within the $x\text{now}$ (2015: 283).

As in other languages, then the distribution of tense forms in Djambarrpuyŋu can then be understood as corresponding to a partition over times. Stipulating the availability of two possible reference frames (in 6), this partition is established by a PRECONTEMPORANEITY relation—in effect a special case of (5)—defined in (7).⁵

(6) **Possible “reference frames” (F)**

$$F_c = \begin{cases} \{i \mid i \sqsubseteq \text{today}_c\} & \text{HODIERNAL} \\ \{i \mid i \prec \text{today}_c\} & \text{PREHODIERNAL} \end{cases}$$

(7) **Precontemporaneity**

$$\text{PRECONTEMP}_c(i) \stackrel{\text{df}}{=} \{i \sqsubseteq F_c \mid i \prec j_F\}$$

An interval i is PRECONTEMPORARY with respect to a context c iff, given its reference frame F , i wholly precedes a determined final subinterval j_F

⁵ For current purposes, let $\text{today}' \stackrel{\text{df}}{=} \epsilon(\text{DAY}(i^*), i^*)$: the interval from some moment which counts as the beginning of the day of utterance until the moment of utterance.

Armed with this relation, we can provide lexical entries for **I** and **III** that capture their temporal contribution. Adopting a standard assumption that models tense morphemes as temporal pronouns—that is, (partial) identity functions over reference intervals (Partee 1973 a.o.)—(8) represents a proposal for the contributions of **I** and **III**.

(8) **Lexical entries for Djambarrpuyŋu inflectional categories I and III**

$$\begin{aligned} \llbracket \mathbf{I} \rrbracket^c &= \lambda i . i_c \\ \llbracket \mathbf{III} \rrbracket^c &= \lambda i : \text{PRECONTEMP}(i_c) . i_c \end{aligned}$$

In (8), **III** is taken to impose a requirement that the sentence’s reference time (at a fixed context) counts as *precontemporary* (i.e. is instantiated prior to a given final subinterval of the reference frame.)

In the HODIERNAL frame, given that any arbitrary final subinterval of F includes speech time i^* , **III** is predicted to be incompatible with **III**.

Meanwhile, in the PREHODIERNAL frame F_{PRE} —an interval that is in principle unbounded on the left and extending up until the beginning of the day-of-speech $(\infty, \text{today}]$ —PRECONTEMP makes available subintervals that exclude this interval’s right boundary. Consequently, the duration of the final subintervals (corresponding to j in figure 3) is determined discretionarily; adjudicated by speaker intention, and specifically what can be considered to count as “contemporary” with respect to the discourse context 9. This gives rise to the apparent infelicity of **III** in descriptions of *yesterday past* eventualities (as in 2b, shown again in 9) — in effect, frame adverbials like *barpuru* locate events within final subintervals of F_{PRE} .

(9) **Events situated beyond the ‘recent past’ are grammatical with I or III**

(from Wilkinson 1991: 343)

- a. marŋgi nhe ŋarrakalaŋaw bāpa’ mirriŋuwnydja ŋunhi ŋayi **dhingama**-ny
 know you 1s.ASS.DAT father-KINPROP REL 3s die-**I**
 ŋuriŋi bala dhuŋgarray
 ENDO.ERG ITV year.ERG
 ‘Did you know my father, who died last year?’
- b. nhā nhokiyiŋgal wāwa’ mirriŋu **warkthurr** ŋāthil rarrandharryu
 what 2s.ASS.DAT brother.KINPROP work.**III** previously summer.ERG
 ‘What did your brother do for work last summer?’

In this sense, given a discourse context, PRECONTEMP establishes a partition over the set of intervals \mathcal{I} , modulated by the two possible values for F. This mechanism is represented by the diagram in figure 4.

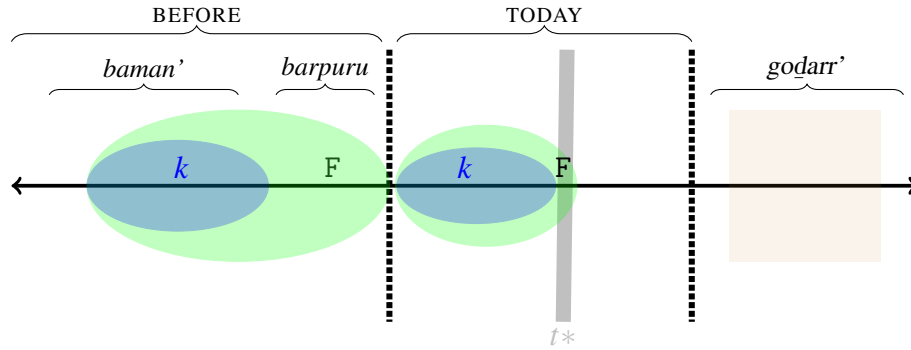


Figure 4 Given an utterance time t^* , temporal intervals can be partitioned into a set of PRECONTEMPORARY intervals $\{i \mid i \in \wp(k)\}$ and CONTEMPORARY ones $\{i \mid i \in \wp(F \setminus k)\}$.
 k is a non-final subinterval of F (either today or (∞, today'))

According to (8), **III** presupposes that the i_c , a contextually-supplied reference interval (which will correspond to the instantiation of the predicate) is precontemporary with respect to the discourse context. In the case of (3a)—repeated below in (10)—given that the context has provided a reference interval that falls on the day of speech (today/ F_{today}); it must wholly precede the time-of-speech in order to satisfy PRECONTEMP.

(10) **Interpretation of III** ≈ (3a)

- a. η arra nhājal mulkulnha gāthur
 1s see.**III** aunty.ACC today
 ‘I saw my aunt (earlier today).’

- b. $\llbracket 10a \rrbracket^c$ is defined only if i_c counts as PRECONTEMPORARY
 $= \mathbb{T} \leftrightarrow i_c \sqsubseteq \text{today}' \wedge \exists e[\text{I.SEE.AUNT}(e) \wedge \tau(e) \sqsubseteq i_c]$

Given this treatment of the contribution of **III**, which rules out its compatibility with *present* and *recent/yesterday past* reference, we can understand the complementary distribution of **I** as arising as a function of pragmatic blocking.

This account, then, relies on MAXIMIZE PRESUPPOSITION.⁶ That is, given the more “specific” semantics of **III** relative to **I**,⁷ the usage of **I** in a given discourse context c implicates that c cannot satisfy the conditions for felicitous use of **III**.

6 The formulation of this principle due to Heim (1991). See also Sauerland 2002 (et seq), which argues for a trivial semantics for the English present tense on the basis of a scalar implicature obtaining between $\langle \text{PRS}, \text{PST} \rangle$.

7 That is, $\llbracket \text{III} \rrbracket \subset \llbracket \text{I} \rrbracket$ (in other words, $\langle \text{I}, \text{III} \rangle$ is a Horn scale.)

Consequently, usage of **I** gives rise to an implicature that the reference interval that has been provided by context *does not* satisfy PRECONTEMP and, within its reference frame, is situated within a final subinterval. As a consequence **I** is only felicitous with CONTEMPORARY reference.

5 Whence cyclic tense?

In his 1985 discussion of cyclic tense in Burarra, Comrie suggests that, given that this type of system “does not fit well within most current conceptions of tense, although its existence must be acknowledged; at best, one could appeal to its rarity as an excuse for according it marginal status within the overall theory” (88). Certainly, the analysis provided above runs the risk of drawing *ad hoc* stipulations about the identity of reference frames and final subintervals.

Conversely, a well-motivated semantic account of the distributional facts in these systems may provide valuable insight into the function, representation and emergence of tense morphology. One promising avenue comes from considering the system against the backdrop of a usage-based dichotomy such as Benveniste’s notion of *plans d’énonciation* (“utterance planes”), which seeks to understand apparent interpretive differences between linguistic expressions (including tense forms) in *historique* and *discours* modes (1966: 238ff).⁸

Our two reference frames: the HODIERNAL and PREHODIERNAL might be thought of as (loosely) corresponding to Benveniste’s dichotomy between the discursive and narrative planes respectively. For Benveniste, the different communicative intentions associated with discourse and historical narrative are at the root of contrasting strategies for establishing temporal relations, hence differing interpretive conventions for tense morphology between the two planes. He suggests that DISCOURSE is primarily interactional and directly indexes conversational participants, while NARRATIVE is characterised as an attempt to represent a chronological sequence of historical facts.

In this sense, the historical “plane” is likely to be associated with descriptions of situations that obtained before the here-and-now (e.g. the day of speech) and more interested in distinguishing degrees of remoteness from a deictic centre. Conversely, in everyday “discourse” a distinction between situations that hold at the moment of speech (the domain of the PRESENT) and those that are located in the immediate past (and where conversational participants were more likely to have been involved) is an obviously profitable semantic distinction to draw. This ul-

⁸ ‘Les temps d’un verbe français ne s’emploient pas comme les membres d’un système unique, ils se distribuent en *deux systèmes* distincts et complémentaires. Chacun d’eux ne comprend qu’une partie des temps du verbe; tous les deux sont en usage concurrent et demeurent disponibles pour chaque locuteur’ (Benveniste 1966: 238).

timately boils down to a contrast in the likely relevance of the day-of-speech to discursive as against narrative use of language and, consequently, the optimisation of available morphological material in each “plane”.

This phenomenon is related to the **historical/narrative present** as it has been described in numerous other languages—that is, the use of PRESENT tense morphology (strongly associated with discourse) to achieve past temporal reference. The distribution of these non-canonical uses of (present) tense and constraints on reference establishment that appear to obtain have been the focus of recent work in the formal semantic tradition (e.g. Anand & Toosarvandani 2018; Eckardt 2015; Pancheva & Zubizarreta 2019; Schlenker 2004 a.o.)

A hypothesis that motivates cyclicity in Djambarrpuyŋu, then is that uses of **I** in (recent) past contexts can, in some sense, be understood as the categorisation of a narrative present. Whereas **I** originated as a present tense form (and cognates of **I** in closely-related varieties of Yolŋu Matha outside of western Arnhem do appear to receive a conventional PRESENT interpretation), its use as a narrative present in descriptions of recent (hence more local to the discourse context) events eventually became obligatory. Consider, for example, (11) — an excerpt from a Djambarrpuyŋu narrative. **III** is used in the first sentence to refer to a speech event in the remote past (*wajana* ‘spoke’). In the (directly) quoted speech that follows, **III** now naturally refers to moments in the (recent/relevant) past as evaluated at (shifted) topic time of the narrative.

(11) **Quoted dialogue in a narrative context inducing reference frame shift**

nhanŋu ŋändi’ mirriŋu-nydja waja-na-na : “Go, gäma’kama-na nhuma dhu
 3s.DAT mother.KINPROP say-**III**-SEQ bring.**I**-SEQ 2p FUT
 girriny’-tja mala, nhakuna munhdhurr-nydja ŋayi waku. Ga ŋunhi dhu
 thing PL like gift.PROM 3s daughter and ENDO FUT
 yolthu warrpam’ gurrupan ŋunhi nhaku ŋarra ŋäj’thu-**rruna**, ga
 who.ERG all give.**I** ENDO what.DAT 1s ask-**III** and
 ŋuriŋiyi dhu märrama wakunha-nydja ŋarraku.”
 ENDO.ERG.ANA FUT get.**I** daughter.ACC 1s.DAT

‘...then her mother said: “Okay, bring stuff, gifts for my daughter. And whoever brings everything that I asked for, that person gets my daughter.”’

[Mätjarra (MG) [trans.] 1981]

Relevantly, Benveniste (1966: 242) argues:

Chaque fois, au sein d’un récit historique apparaît un discours, quand l’historien par exemple reproduit les paroles d’un personnage ou qu’il intervient lui-même pour juger les événements rapportés, on

passé à un autre système temporel, celui du discours. Le propre du langage est de permettre ces transferts instantanés.⁹

In a situation where, for example, quoted speech in narratives came to furnish a significant source of primary data for the acquisition of tense semantics, the tight association between hodiernality in conversational modes and prehodiernality in storytelling/narrative modes provides a possible locus for reanalysis of the contribution of verbal morphology in context. In this sense, the existence of cyclic tense systems can be thought of as a fascinating additional datapoint when considering the functional contribution and cognitive representation of tense as a displacement device and intensional category.

6 Conclusion

This paper has proposed a formal treatment of cyclic tense—tense morphology licensed by discontinuous temporal intervals—as it is realised in Djambarrpuyu. The analysis relies on a crisp distinction between a HODIERNAL and PREHODIERNAL FRAME, arguing that **III**—the PRECONTEMPORARY tense morpheme—is a marked form which restricts the reference time of a proposition to *nonfinal subintervals* of either of these two frames. As a result of pragmatic competition, the unmarked **I** is then restricted to the complement of **III**'s domain (relative to its reference frame)—*viz.* the present as well as the recent pre-today past.

Finally, the HODIERNAL/PREHODIERNAL distinction—one that frequently seems to be morphologised cross-linguistically—was associated with the distinction between conversational and narrative modes (Benveniste's *plans d'énonciation*). This constitutes a proposal for the diachronic emergence of a cyclic system; as a possible consequence of the semanticisation of divergent usage conditions that are associated with the same tense morphology between these two “planes”.

References

- Anand, Pranav & Maziar Toosarvandani. 2018. No explanation for the historical present: Temporal sequencing and discourse. In Uli Sauerland & Stephanie Solt (eds.), *Sinn und Bedeutung* 22, 73–90. Berlin: ZAS. doi:10.21248/zaspil.60.2018.455.
- Benveniste, Émile. 1966. Les relations de temps dans le verbe français. In *Problèmes de linguistique générale*, vol. I, 237–250. Paris: Gallimard.

⁹ ‘Whenever—in the midst of a narrative—the narrator reproduces the speech of a character or themselves intervenes to make observations on the reported events, we’ve jumped to another temporal system: discourse. It is a property of language to allow for these instantaneous jumps.’ (My translation)

- Bochnak, M. Ryan & Peter Klecha. 2018. Temporal remoteness and vagueness in past time reference in Luganda. In *African linguistics on the prairie*, 377–391. Berlin: Language Science Press. doi:10.5281/zenodo.1251752.
- Bowern, Claire. 2009. Conjugation class stability: Charting the history of conjugation classes in Yolŋu languages.
- Brugger, Gerhard. 2001. Temporal modification, the 24-hour rule and the location of reference time. In Javier Gutiérrez-Rexach & Luis Silva-Villar (eds.), *Current issues in Spanish syntax and semantics*, 243–270. Berlin: De Gruyter Mouton. doi:10.1515/9783110850536.243.
- Cable, Seth. 2013. Beyond the past, present, and future: Towards the semantics of ‘graded tense’ in Gĩkũyũ. *Natural Language Semantics* 21(3). 219–276. doi:10.1007/s11050-012-9092-3.
- Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.
- Condoravdi, Cleo & Ashwini Deo. 2015. Aspect shifts in Indo-Aryan and trajectories of semantic change. In Chiara Gianollo, Agnes Jäger & Doris Penka (eds.), *Language Change at the Syntax-Semantics Interface*, Berlin: Mouton de Gruyter.
- Dahl, Östen. 1983. Temporal distance: Remoteness distinctions in tense-aspect systems. *Linguistics* 21(1). 105–122. doi:10.1515/ling.1983.21.1.105.
- Eather, Bronwyn. 1990. *A grammar of Nakkara (Central Arnhem Land coast)*. Canberra, ACT: Australian National University dissertation.
- Eckardt, Regine. 2015. *The semantics of free indirect discourse*. Leiden: Brill.
- Glasgow, Kathleen. 1964. Frame of reference for two Burera tenses. In Richard S Pittman & Harland B Kerr (eds.), *Papers on the languages of the Australian Aborigines*, 118. Canberra: Australian Institute of Aboriginal Studies.
- Green, Rebecca. 1995. *A Grammar of Gurr-goni (North Central Arnhem Land)*. Canberra, ACT: Australian National University dissertation.
- Heath, Jeffrey. 1980. *Basic Materials in Ritharngu: Grammar, texts and dictionary* (Pacific Linguistics B - Monographs 62). Canberra: Pacific Linguistics.
- Heim, Irene Roswitha. 1991. Artikel und Definitheit. In *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, 487–535. Berlin: De Gruyter.
- Lowe, Beulah M. 1996. *Grammar lessons in gupapuyŋu*. Darwin, NT: Yolŋu Studies, CDU.
- Mätjarra. 1981. *Dhawu Märrma wa Dirramuwa*. Milingimbi: Milingimbi Literature Production Centre.
- Mucha, Anne. 2017. Past interpretation and graded tense in Medumba. *Natural Language Semantics* 25(1). 1–52. doi:10.1007/s11050-016-9128-1.
- Pancheva, Roumyana & Maria Luisa Zubizarreta. 2019. Temporal reference in the absence of tense in Paraguayan Guaraní. In *NELS 50: The Fiftieth Annual*

- Meeting of the North East Linguistic Society* 26 October, .
- Partee, Barbara Hall. 1973. Some Structural Analogies between Tenses and Pronouns in English. *The Journal of Philosophy* 70(18). 601. doi:10.2307/2025024.
- Phillips, Josh. 2021a. *At the intersection of temporal and modal interpretation: Essays on irrealty*. New Haven, Conn: Yale dissertation.
- Phillips, Josh. 2021b. Negation, irrealty & the Djambarrpuyá u inflectional paradigm. In *The 39th West Coast Conference on Formal Linguistics (WC-CFL39)*, Tucson, Ariz.: Cascadilla.
- Sauerland, Uli. 2002. The Present Tense is Vacuous. *Snippits* 6. 12–13.
- Schebeck, Bernhard. 2001. *Dialect and Social Groupings in Northeast Arnhem Land* [sic]. Muenchen: LINCOM.
- Schlenker, Philippe. 2004. Context of thought and context of utterance: A note on free indirect discourse and the historical present. *Mind and Language* 19(3). 279–304. doi:10.1111/j.1468-0017.2004.00259.x.
- Waters, Bruce E. 1989. *Djinang and Djinba – A grammatical and historical perspective*. Canberra: Pacific Linguistics.
- Wilkinson, Melanie P. [1991] 2012. *Djambarrpuyá: A Yolŋu variety of Northern Australia*. Munich: LINCOM.
- Xiqués, Teresa M. 2021. More on hodiernality. In Kristin Melum Eide & Marc Fryd (eds.), *Studies in Language Companion Series*, vol. 217, 182–211. Amsterdam: John Benjamins Publishing Company. doi:10.1075/sles.217.08xiq.

Josh Phillips
 Yale Linguistics
 370 Temple Street
 New Haven CT 06511
 josh.phillips@yale.edu