

Reality status & the Yolŋu verbal paradigm

A formal account of an irrealis mood

Josh Phillips

josh.phillips@yale.edu

Yale Linguistics

Dissertation defense

21 December 2020

Roadmap

introduction

the notion of TAM prominence

Verbal inflection in Djambarrpuyuṁu

Negative asymmetry

An irrealis semantics

Introduction

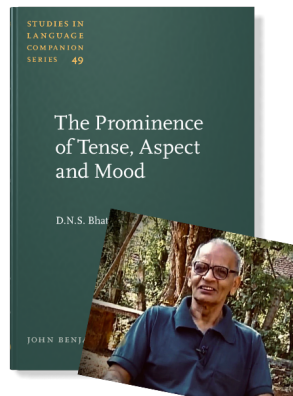
TAM prominence

- ▶ As I've suggested, TENSE, MOOD, ASPECT are related categories

Introduction

TAM prominence

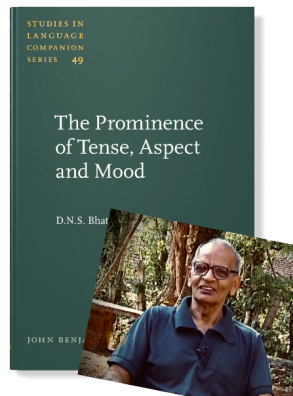
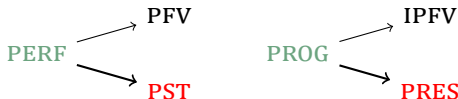
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- ▶ Bhat's typological claim (1999):
*languages can be regarded as TENSE-, ASPECT- or MOOD-**prominent***
- ▶ Typology implies • conceptual connections between categories • and that languages can 'move between' these "types".



Introduction

TAM prominence

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- ▶ Bhat's typological claim (1999): *languages can be regarded as TENSE-, ASPECT- or MOOD-prominent*
- ▶ Typology implies • conceptual connections between categories • and that languages can 'move between' these "types".
- ▶ Cross-categorical change between **tense**, **modal**, **aspectual** domains (Bybee *et al.* 1994; Condoravdi & Deo 2014)

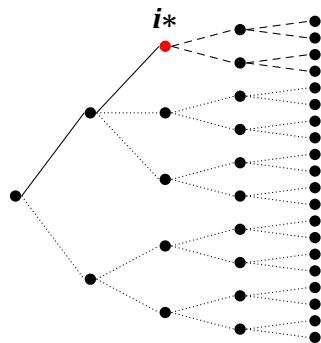


Branching times

if the determinist sees Time as a line, the indeterminist sees it as a system of forking paths

Burgess '78

- ▶ Futurity as a modal concept (Abusch 1985, Copley 2004, Kaufman 2005, Giannakidou 2012...)
- ▶ Manipuri *li* 'FUT' ← 'IRR' (e.g., Mao Naga *le*) (Bhat 1999: 19,67,183)



Yolnu

Verbal morphology

- ▶ Significant variation in grammatical expression of TMA
- ▶ Cognate inflectional paradigms point to semantic change
- ▶ **Djambarrpuyŋu** and **Wägilak**: all verbs inflect for four categories

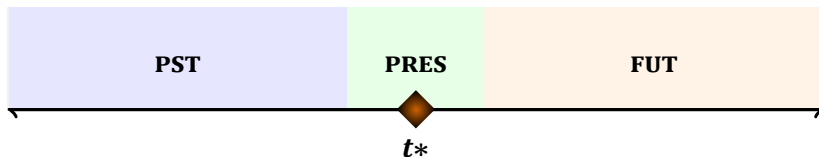


Inflection in Wägilak

- ▶ Heath (1980): Apparent 3-way tense distinction.
PAST, **PRESENT**, **FUTURE**
- ▶ Fourth inflection: **PAST POTENTIAL**

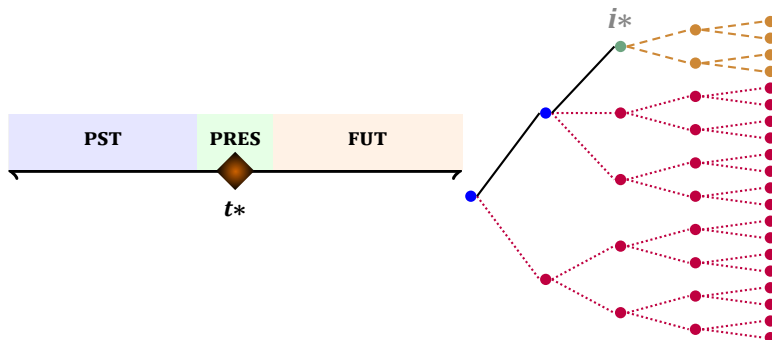
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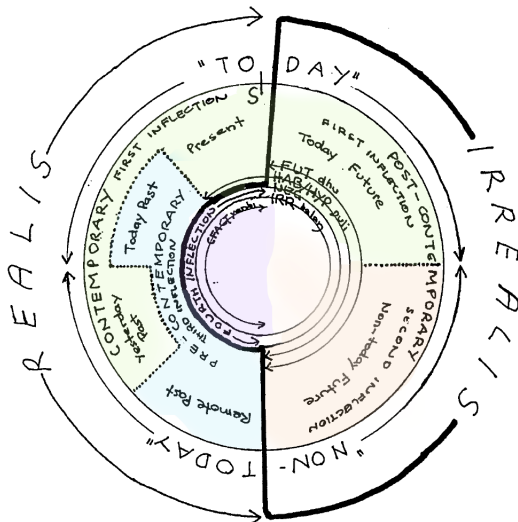


Yolŋu

Verbal morphology

- ▶ Djambarrpuyuṅu: four inflectional categories
- ▶ Two particular phenomena exhibited in (geographically Western varieties) include:
 - ▶ **Cyclic tense** (Comrie 1985)
 - ▶ **Negative asymmetry** (Miestamo 2005)
- ▶ Assigning metalinguistic labels to the Djambarrpuyuṅu inflectional categories is non-obvious:
 - ▶ They will be numbered **I**, **II**, **III**, **IV** throughout

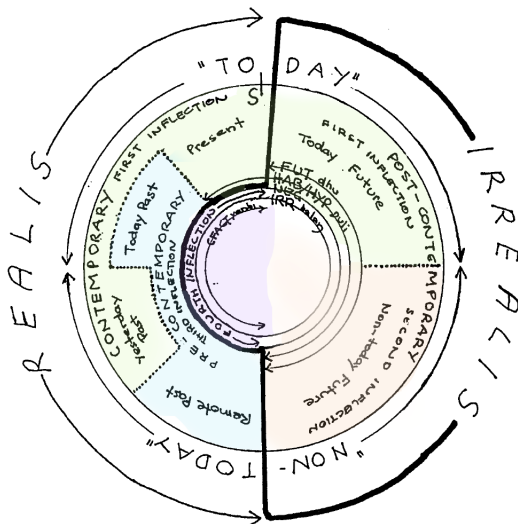
Distribution of the inflections



I PAST, PRESENT, FUTURE

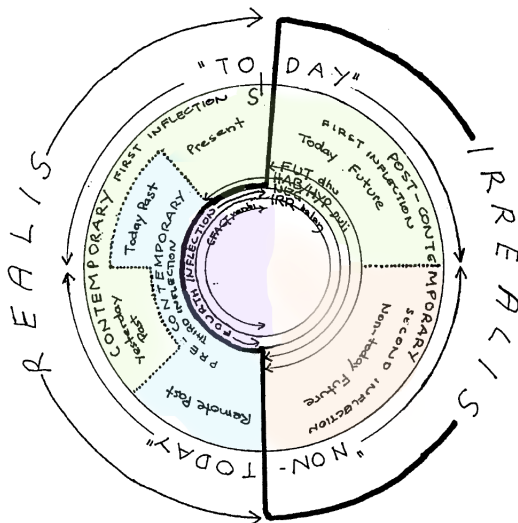
(Wilkinson 1991: 362)

Distribution of the inflections



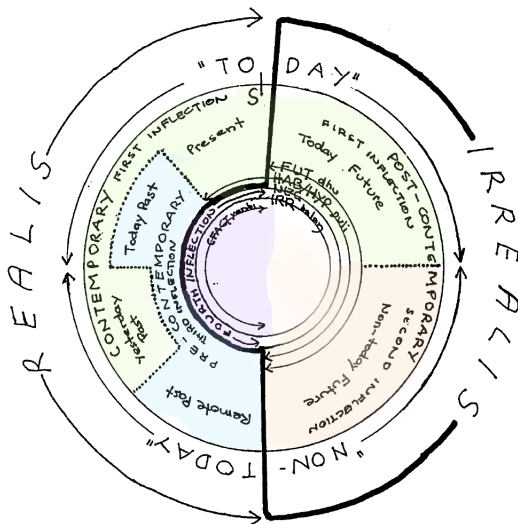
- I PAST, PRESENT, FUTURE
- II FUTURE, NON-PAST IRREALIS

Distribution of the inflections



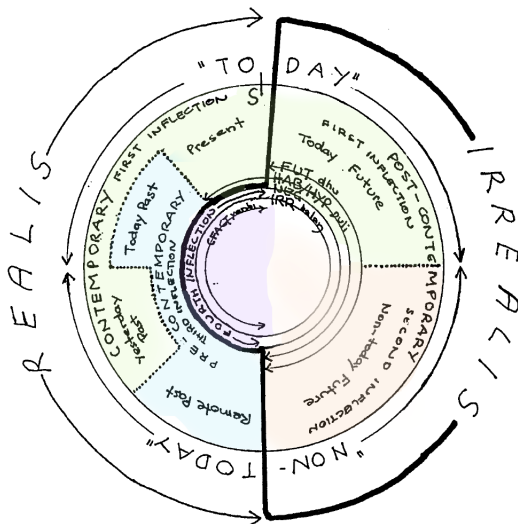
- I PAST, PRESENT, FUTURE
- II FUTURE, NON-PAST IRREALIS
- III PAST

Distribution of the inflections



- I** PAST, PRESENT, FUTURE
- II** FUTURE, NON-PAST IRREALIS
- III** PAST
- IV** PAST IRREALIS, PAST HABITUAL

Distribution of the inflections



I PAST, PRESENT, FUTURE

II FUTURE, NON-PAST IRREALIS

III PAST

IV PAST IRREALIS, PAST HABITUAL

★ here we go...

Djambarrpuyngu cyclic tense

- ▶ Tense morphology licensed by discontinuous intervals



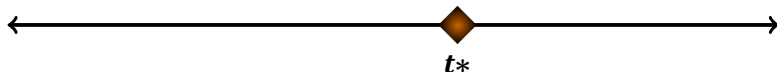
Djambarrpuyngu cyclic tense

- ▶ Tense morphology licensed by discontinuous intervals
- ▶ Reported in the languages of Maningrida

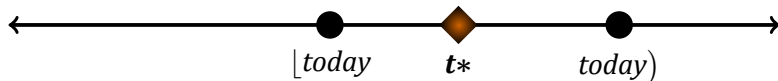


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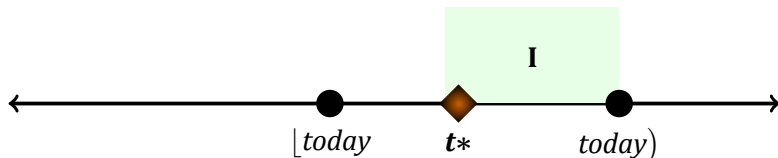


- ▶ Tense morphology licensed by discontinuous intervals



Djambarrpuynu cyclic tense

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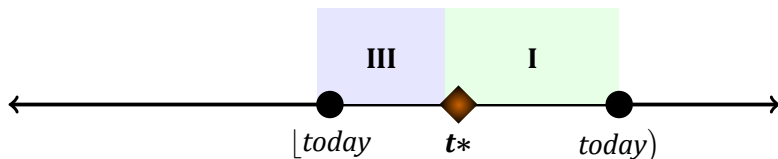


7 *ɲarra ga nhä-ma mukulnha*
1s IPFV.I see.I aunt.ACC

'I'm looking at aunty rn!'

Djambarrpuynu cyclic tense

- ▶ Tense morphology licensed by discontinuous intervals

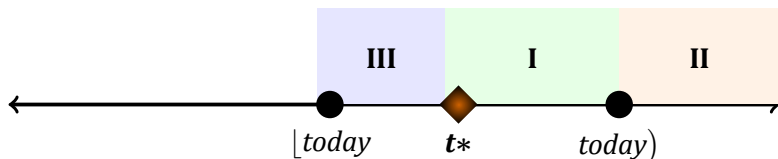


8 *ɲarra nhä-ɲal(a) mukulnha dhiyaŋ(u) bili*
 1s see.III aunt.ACC PROX.ERG CPLV

'I saw my aunt just a sec ago'

Djambarrpuynu cyclic tense

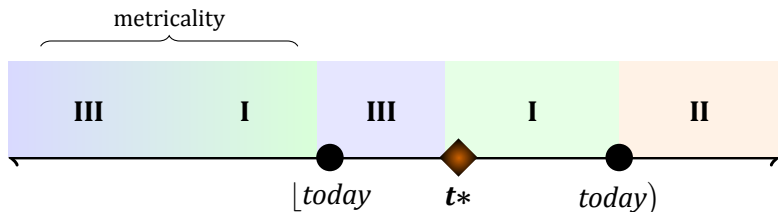
- ▶ Tense morphology licensed by discontinuous intervals



9 *ɲarra dhu nhä-ɲu mukulnha godarr*
 1s FUT see.II aunt.ACC yesterday
 ‘I’ll see my aunt tomorrow’

Djambarrpuynu cyclic tense

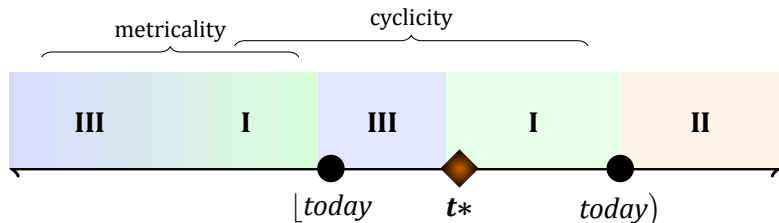
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10 *ɲarra nhä-ma mukulnha barpuru*
 1s see.I aunt.ACC yesterday
 ‘I saw my aunt yesterday’

Djambarrpuynu cyclic tense

- ▶ Tense morphology licensed by discontinuous intervals

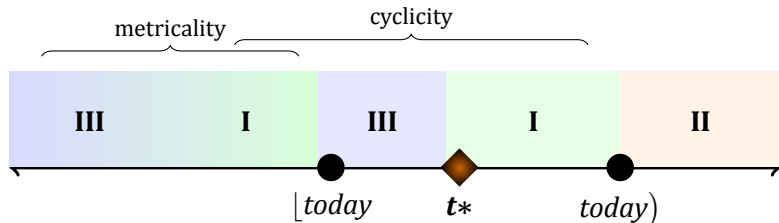


11 *ɲunhi ɲarra yothu yän, ɲarra nhä-ɲal(a) mukulnha*
 COMP 1s kid only 1s **see.III** aunt.ACC

'I saw my aunty when I was a little kid'

Djambarrpuynu cyclic tense

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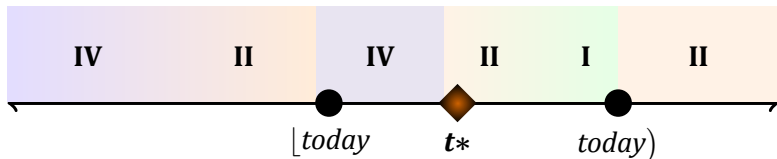


Licensing conditions

	$t_r \circ \text{today}$	$t_r \prec \text{today}$
I	NONPAST	RECENT PAST
III	PAST	REMOTE PAST

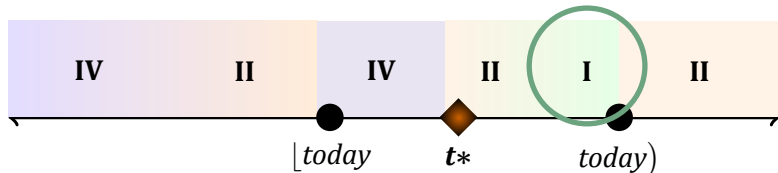
The negative asymmetry

- ▶ There are a number of overt operators which constrain the distribution of **I** and (particularly) **III** as presented here
- ▶ **I** and **III** are ungrammatical under negation



The negative asymmetry

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Djambarrpuynu

7 *ŋarra ga nhäma mukulnha*
 1s IPFV.I see.I aunt-ACC

[PRESENT]

'I see my aunt (right now).'

Djambarrpuynu

7 *ɲarra ga nhāma mukulnha*
 1s IPFV.I see.I aunt-ACC

[PRESENT]

'I see my aunt (right now).'

8 *ŋarra nhāŋal mukulnha gāthur*
 1s see.III aunt-ACC today

[TODAY PST]

'I saw my aunt this morning.'

Asymmetric negation

Djambarrpuyŋu

- 7 *ŋarra ga **nhāma** mukulnha*
 1s IPFV. **I see.I** aunt-ACC

[PRESENT]

‘I see my aunt (right now).’

- 8 *ŋarra **nhāŋal** mukulnha gāthur*
 1s **see.III** aunt-ACC today

[TODAY PST]

‘I saw my aunt this morning.’

- 9 *ŋarra dhu **nhāŋu** mukulnha*
 1s FUT **see.II** aunt.ACC

[FUTURE]

‘I’ll see my aunt (tomorrow).’

- 10 *ŋarra **nhāma** mukulnha barpuru*
 1s **see.I** aunt-ACC yesterday

[REC PST]

‘I saw my aunt yesterday.’

Asymmetric negation

Djambarrpuyŋu

7 *bäyŋu ŋarra gi nhäma mukulnha*
NEX 1s IPFV.Ⅱ see.Ⅱ aunt-ACC

[PRESENT]

‘I don’t see my aunt (right now).’

8 *bäyŋu ŋarra nhänha mukulnha gäthur*
NEX 1s see.Ⅳ aunt-ACC today

[TODAY PST]

‘I didn’t see my aunt this morning.’

9 *bäyŋu ŋarra dhu nhäŋu mukulnha*
NEX 1s FUT see.Ⅱ aunt.ACC

[FUTURE]

‘I won’t see my aunt (tomorrow).’

10 *bäyŋu ŋarra nhäŋu mukulnha barpuru*
NEX 1s see.Ⅱ aunt-ACC yesterday

[REC PST]

‘I didn’t see my aunt yesterday.’

Negative asymmetry

IN DJAMBARRPUYŊU

Negative REALIS and IRREALIS
predications are inflected
identically

INFLECTION	
-NEG	+NEG
I	II
II	
III	IV
IV	

Negative asymmetry

II and IV as IRR

- ▶ So II and IV turn up as the counterparts of I and III in negative predication. Also...

Negative asymmetry

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11 *Barpuru godarr ŋarra dhu nhä-ŋu* [FUTURE]
funeral tomorrow 1s FUT see.II
'I'll see the funeral tomorrow'

Negative asymmetry

II and IV as IRR

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11 *Barpuru goḍarr ṇarra dhu nhä-ṇu* [FUTURE]
funeral tomorrow 1s FUT see.II
'I'll see the funeral tomorrow'

12 *nhä-ṇu nhanṇu dhurrwara!* [IMPERATIVE]
look.II 2s.DAT door
'Look at her mouth!'

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- So II and IV turn up as the counterparts of I and III in negative predication. Also...

11 *Barpuru godarr narra dhu nhä-ŋu* [FUTURE]
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'I'll see the funeral tomorrow'

12 *nhä-ŋu nhanŋu dhurrwara!* [IMPERATIVE]
look.II 2s.DAT door
'Look at her mouth!'

13 *ŋayi bala balanu bakthu-rru* [CIRC]
3s MVTAWY MOD break.II
'It [the recorder] might break.'

Negative asymmetry

II and IV as IRR

- 14 *waṭuy balanu luka-nha chocolate* [CIRC]
 dog.ERG MOD eat-IV chocolate

‘The dog may/must have eaten the chocolate.’

- 15 *ṇarra ṇuli baman’ luplupthu-na dhiyal* [PST HAB]
 1s HAB prior swim-IV PROX.LOC

‘I used to swim there.’

- 16 *ṇāthil ṇarra ṇuli balan liya-ṇamaṇamayunmi-nya* [COND]
 earlier 1sg MOD MOD head-make.I.REFL-IV

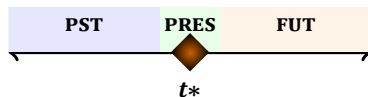
bala ṇarra balan waṇa-nha-n
 then 1s MOD speak-IV-SEQ

‘Had I thought of it before, I would have spoken.’ (Wilk 91)

RECAP

THE PARADIGMS

Wägilak

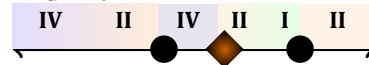


Western Dhuwal(a)

POSITIVE



NEGATIVE



Negation as a modal operator

- ▶ Building on a symbolic-logical tradition that conceives of negation as a modal operator

Negation as alethic impossibility (cf Wansing 2001):

$$\mathcal{M}, w \models \sim A \iff \forall u. wCu \rightarrow \mathcal{M}, u \not\models A$$

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- ▶ I propose that *yaka*, *bäyŋu* ‘NEG’ are part of a class of modal particles (2-place operators, following Kratzer a.o.)

$$\llbracket \text{NEG} \rrbracket = \lambda P_{\langle s, t \rangle} \lambda i. \nexists w' [w' \in \cap \mathbb{C}(w) \rightarrow \text{AT}(P, i)]$$

Pred modifiers that asserts that there’s no w -compatible world, the pred is not instantiated

I.e., they effectively mark the counterfactual status of P

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- ▶ Takeaway: there's a way of conceptualising \neg as a (2-place) modal operator

Modal particles

- ▶ This treatment allows us to posit a natural class with the other licensing environments for **II** and **IV**.
- ▶ In one way or another, WD modal particles signal the **objective nonveridicality** of prejacent
 - ▶ $\underset{\text{def}}{=} \exists w' [w' \in \mathbb{M} \wedge w' \in \neg p]$
(Giannakidou 2016a.o.)
 - ▶ this p much means that **the truth of a given proposition can't be known/asserted** as a “settled” fact in a given situation
- ▶ Our semantics for negative and modal operators — those elements that co-occur with **II** and **IV** — all satisfy **nonveridicality** in some circumstantial modal base

Proposal for the WD paradigm

The paradigm is organised
around two semantic features:

► NONVERIDICALITY

$$\exists i' [i' \in \cap \approx_i \wedge P(i')]$$

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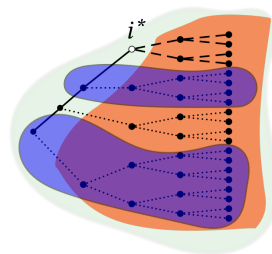
- ▶ **NONVERIDICALITY**
satisfied when c-commanding a modal

$$\exists i' [i' \in \cap \approx_i \wedge P(i')]$$

- ▶ **“PRECONTEMPORANEITY”**
(NONFINAL INSTANTIATION)

$$\exists j [j \sqsubseteq_{\text{FINAL}} i \wedge \text{NFINST}(P, i, j)] \quad (\text{C\&D '15})$$

Proposal for the WD paradigm



I II III IV

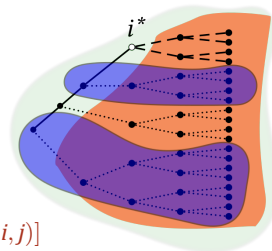
Proposal for the WD paradigm

$$\llbracket \text{I} \rrbracket^{i*} = \lambda P \lambda i. P(i)$$

$$\llbracket \text{II} \rrbracket^{i*} = \lambda P \lambda i : \exists i' [i' \in \cap \approx_i \wedge \neg P(i')] . P(i)$$

$$\llbracket \text{III} \rrbracket^{i*} = \lambda P \lambda i : \exists j [j \sqsubseteq_{\text{FINAL}} i. \text{NFINST}(P, i, j)]$$

$$\llbracket \text{IV} \rrbracket^{i*} = \lambda P \lambda i : \exists i' [i' \in \cap \approx_i \wedge \neg P(i')] \wedge \exists j [j \sqsubseteq_{\text{FINAL}} i. \text{NFINST}(P, i, j)]$$



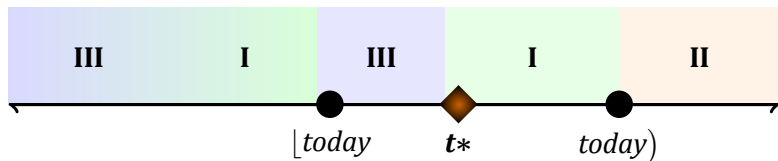
I II III IV

Selected References

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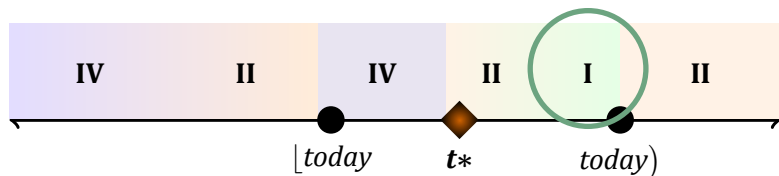
Appendix A

The I same-day future



Appendix A

The I same-day future



- ▶ Under negation, **I** occurs only in same-day future predications

17 (bäyɲu) ɲarra dhu ga ɲhäma mukulnha [SAME-DAY FUT]
(NEG) 1s FUT IPFV.I see.I aunty.ACC

'I'm (not) seeing my aunt (tonight).'

Appendix A

The I same-day future

- ▶ A grammaticalised FUTURATE (Copley 2009)

$\text{PLAN}(d)(p)(w)(t)$

- ▶ ‘The speaker of a futurate has some high level of confidence that the future eventuality will happen’
- ▶ Copley’s conditional presupposition: *If p is planned, p will happen*
- ▶ In this case, the reality status of $\text{PLAN}(p)$ and $\text{PLAN}(\neg p)$ ought to be the same.

Appendix A

The I same-day future

- ▶ Conversely the neutralisation still happens in the present

7 *ɲarra ga nhäma mukulnha* [PRESENT]
1s IPFV.I see.I aunt-ACC

'I see my aunt (right now).'

- ▶ Negative present descriptions are still counterfactual
- ▶ Note that this is fine for the current analysis:
I is maximally underspecified, and is outcompeted by the other inflections (MAXPRESUPP)

Appendix A

The I same-day future

- ▶ Conversely the neutralisation still happens in the present

7 *bäyŋu* *ŋarra gi* *nhäma mukulnha* [PRESENT]
 NEX 1s IPFV. II see. II aunt-ACC

‘I don’t see my aunt (right now).’

- ▶ Negative present descriptions are still counterfactual
- ▶ Note that this is fine for the current analysis:
 I is maximally underspecified, and is outcompeted by the other inflections (MAXPRESUPP)

Propositional attitudes

- ▶ I'd pointed out that the semantics of higher predicate doesn't license IRR (*contra* SBJV)

Appendix C

Directionality

- ▶ Yolŋu as a Pama-Nyungan “enclave” in the Arnhem Land
- ▶ Most other (nPN) Arnhem languages express NEG asymmetry
- ▶ Maningrida language family has cyclic tense
- ▶ Waters (1989) provides a number of other features shared between W Yolŋu and Arnhem languages
- ▶ Evidence of a Sprachbund
- ▶ Bower (2009) proposes a 6-way inflected Proto-Yolŋu paradigm. The West Arnhem Sprachbund features are not reconstructed.

Appendix D

Inflection in Wägilak

- 1 *godarr* *ɲarra* ***nhäɲu*** *mukulnha*
tomorrow 1s see.**II** aunt.ACC

[FUTURE]

‘I will see my aunt tomorrow.’

- 2 ***nhäma*** *rra yakuthi mukulnha*
see.**I** 1s now aunt.ACC

[PRESENT]

‘I’m looking at my aunt currently.’

- 3 *gätha* *ɲarra* ***nhäwala*** *mukulnha*
today 1s see.**III** aunt.ACC

[PAST]

‘I saw my aunt this morning.’

Appendix D

Inflection in Wägilak

- 1 *godarr ŋarra nhäŋu-**'ma'** mukulnha*
tomorrow 1s see.**II-NEG** aunt.ACC

[FUTURE]

‘I won’t see my aunt tomorrow.’

- 2 *nhäma-**'ma'** rra yakuthi mukulnha*
see.**I-NEG** 1s now aunt.ACC

[PRESENT]

‘I’m (not) looking at my aunt currently.’

- 3 *gätha ŋarra nhäwala-**'ma'** mukulnha*
today 1s see.**III-NEG** aunt.ACC

[PAST]

‘I didn’t see my aunt this morning.’

Appendix C

Inflection in Wägilak

- ▶ Closest related Yolŋu languages do not exhibit the asymmetry
- ▶ Inflections encode temporal information
- ▶ Imperatives formally identical to declaratives
- ▶ **II** and **IV** also occur in conditionals (without modal particles)

4 *wäniya* *ŋay* *ŋunbalaya* *bulu*, *ŋayi* *guyupiya* [SBJV]
 go.**IV** 3s that way again 3s die.**IV**

‘If he had gone that way, he would’ve died’

5 *wäni* *ŋay* *ŋunbalaya* *bulu*, *ŋayi* *guyupi* [COND]
 go.**II** 3s that way again 3s die.**II**

‘If he had gone that way, he would’ve died’

Appendix C

Wāgilak

II and IV as IRR

- ▶ We need a way of uniting the FUTURE and MODAL (e.g. conditional) uses of II
- ▶ II as a MODAL FOR THE PRESENT

$$\llbracket \text{II}(\varphi) \rrbracket^{w, t^*, \mathbf{MB}} \leftrightarrow \forall w' \in \mathbf{MB}(w, t^*) [t^* \preceq t' \wedge \varphi(w', t')]$$

- ▶ IV as a MODAL FOR THE PAST

$$\llbracket \text{IV}(\varphi) \rrbracket^{w, t^*, \mathbf{MB}} \leftrightarrow \forall w' \in \mathbf{MB}(w, t^*) [t^* \succ t' \wedge \varphi(w', t')]$$