Reality status & the Yolŋu verbal paradigm

A formal account of an irrealis mood

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Dissertation defense
21 December 2020

Roadmap

Introduction   TAM prominence
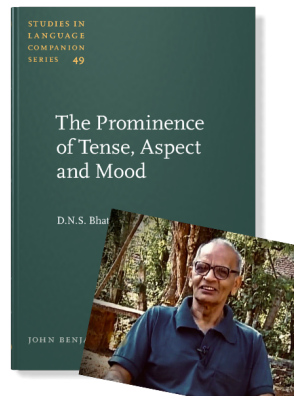
► As I've suggested, TENSE, MOOD,
  ASPECT are related categories

Introduction   TAM prominence

▶ As I've suggested, TENSE, MOOD,
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▶ Bhat's typological claim (1999):
  *languages can be regarded as TENSE-,
  ASPECT- or MOOD-**prominent***

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The Prominence
of Tense, Aspect
and Mood

D.N.S. Bhat

JOHN BENJ...

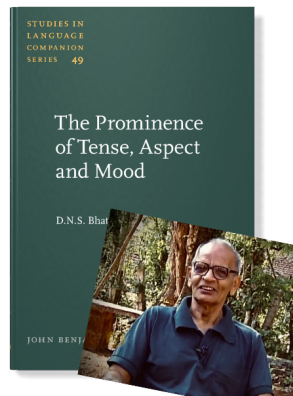# Introduction   TAM prominence

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

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The Prominence
of Tense, Aspect
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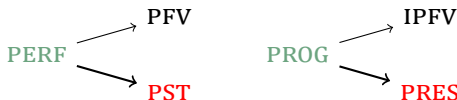## Introduction   TAM prominence

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

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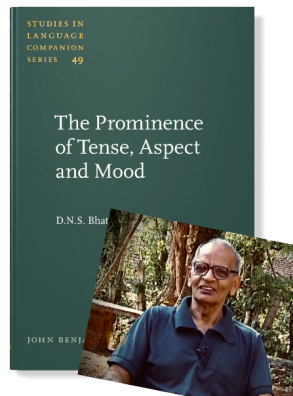
▶ Cross-categorial change between **tense**, **modal**, **aspectual** domains

(Bybee *et al.* 1994; Condoravdi & Deo 2014)

PERF → PFV

PERF → PST

PROG → IPFV

PROG → PRES

STUDIES IN LANGUAGE COMPANION SERIES 49

The Prominence of Tense, Aspect and Mood

D.N.S. Bhat

JOHN BENJAMINS

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 <small>(Abusch
1985, Copley 2004, Kaufman 2005,
Giannakidou 2012...)</small>

▶ Manipuri *li* 'FUT' ← 'IRR'
(*e.g.*, Mao Naga *le*)
<small>(Bhat 1999: 19,67,183)</small>
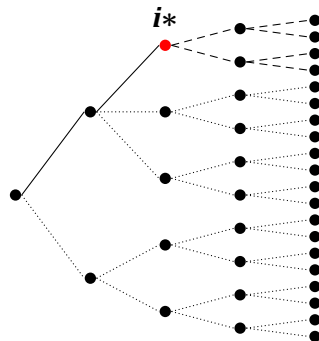
Yolŋu Verbal morphology

- ▶ 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

Inflection in Wägilak

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Inflection in Wägilak

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

Yolŋu   Verbal morphology

- ▶ Djambarrpuyŋu: 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 Djambarrpuyŋu inflectional categories is non-obvious:
  - ▶ They will be numbered **I**, **II**, **III**, **IV** throughout

Distribution of the inflections
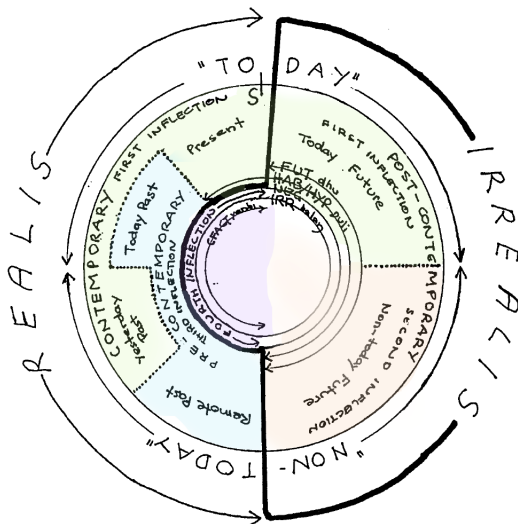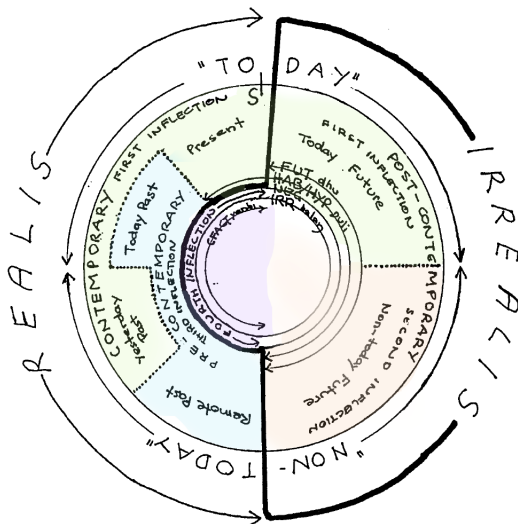
I PAST, PRESENT, FUTURE

(Wilkinson 1991: 362)

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Verbal inflection in Djambarrpuyŋu

Distribution of the inflections

I PAST, PRESENT, FUTURE

II FUTURE, NON-PAST IRREALIS

(Wilkinson 1991: 362)

Distribution of the inflections

I PAST, PRESENT, FUTURE

II FUTURE, NON-PAST IRREALIS

III PAST

(Wilkinson 1991: 362)

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Verbal inflection in Djambarrpuyŋu

Distribution of the inflections

I PAST, PRESENT, FUTURE

II FUTURE, NON-PAST IRREALIS

III PAST

IV PAST IRREALIS, PAST HABITUAL

(Wilkinson 1991: 362)

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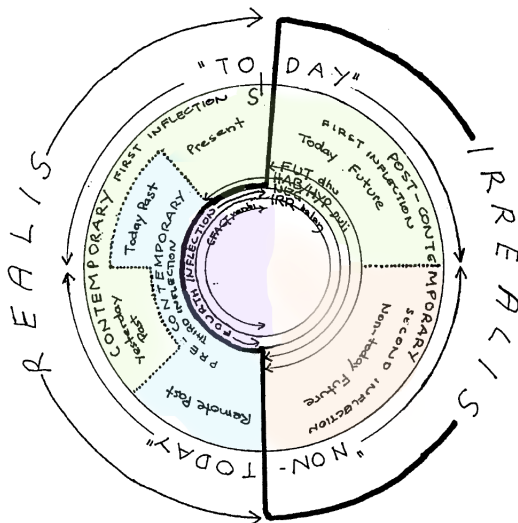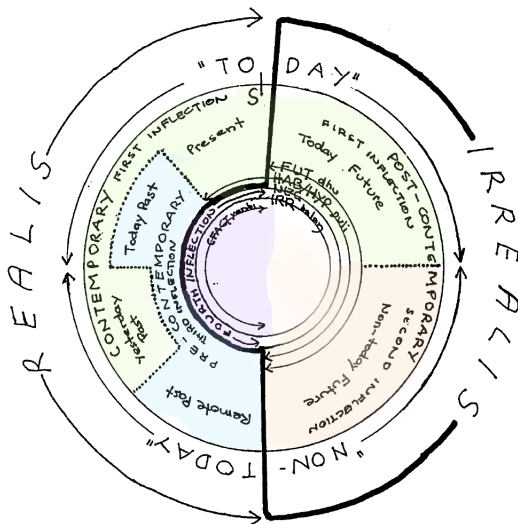
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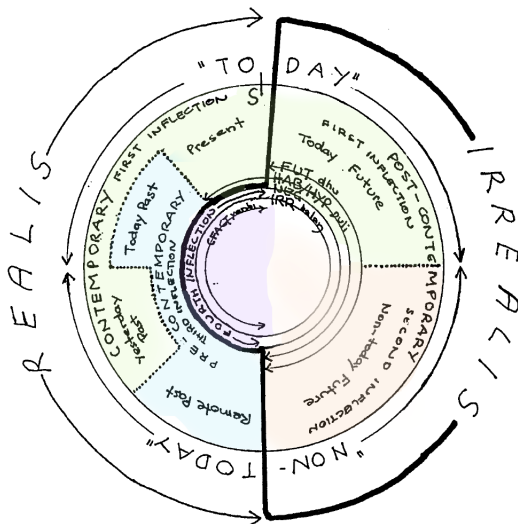
I PAST, PRESENT, FUTURE

II FUTURE, NON-PAST IRREALIS

III PAST

IV PAST IRREALIS, PAST HABITUAL

★ here we go…

(Wilkinson 1991: 362)

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Verbal inflection in Djambarrpuyŋu

Djambarrpuyŋu cyclic tense

▶ Tense morphology licensed by discontinuous intervals

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Verbal inflection in Djambarrpuyŋu

Djambarrpuyŋu cyclic tense

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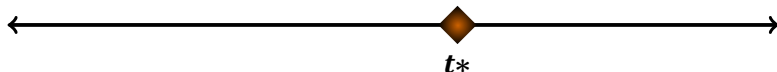
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Verbal inflection in Djambarrpuyŋu

Djambarrpuyŋu cyclic tense

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Verbal inflection in Djambarrpuyŋu

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Verbal inflection in Djambarrpuyŋu

Djambarrpuyŋu cyclic tense

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I

⌊*today*   *t∗*   *today*)
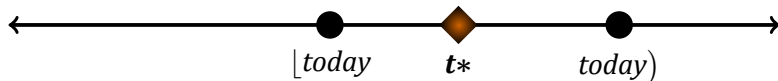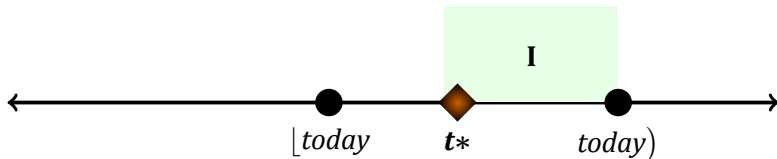
7 *ŋarra ga   **nhä-ma** mukulnha*
    1s   IPFV.**I** **see**.**I**   aunt.ACC

'I'm looking at aunty rn!'

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Verbal inflection in Djambarrpuyŋu

Djambarrpuyŋu cyclic tense

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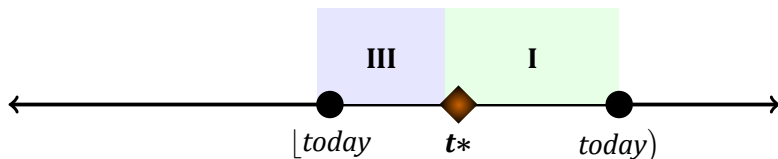
8 *ŋarra* **nhä-ŋal(a)** *mukulnha* *dhiyaŋ(u) bili*
1s **see**.**III** aunt.ACC PROX.ERG CPLV

'I saw my aunt just a sec ago'

Djambarrpuyŋu cyclic tense

▶ Tense morphology licensed by discontinuous intervals
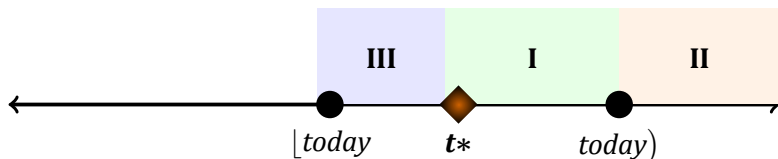
9 *ŋarra dhu* **nhä-ŋu** *mukulnha goḏarr*
   1s   FUT   **see.II**   aunt.ACC   yesterday

   'I'll see my aunt tomorrow'

Djambarrpuyŋu cyclic tense

▶ Tense morphology licensed by discontinuous intervals
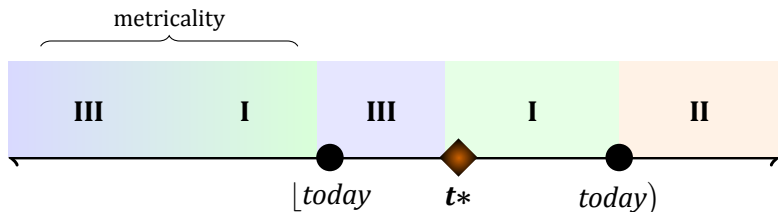
10   *ŋarra* **nhä-ma** *mukulnha barpuru*
     1s   **see**.**I**   aunt.ACC   yesterday

'I saw my aunt yesterday'

Djambarrpuyŋu cyclic tense

▶ Tense morphology licensed by discontinuous intervals
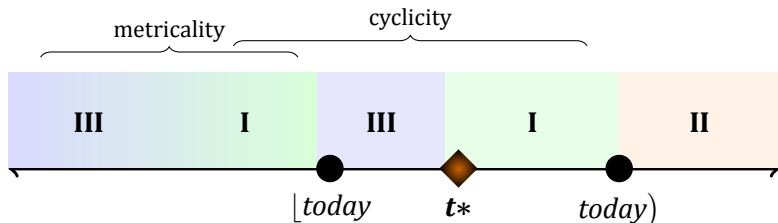
11	*ŋunhi*	*ŋarra*	*yothu*	*yän,*	*ŋarra*	**nhä-ŋal(a)**	*mukulnha*
	COMP	1s	kid	only	1s	**see**.**III**	aunt.ACC

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

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Verbal inflection in Djambarrpuyŋu

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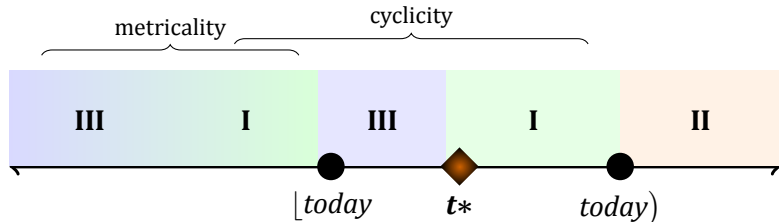
Licensing conditions

	$t_r \circ$ today	$t_r \prec$ 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

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
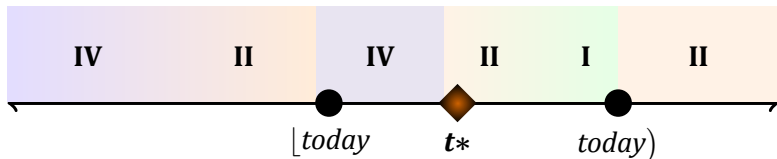
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The negative asymmetry

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

Asymmetric negation Djambarrpuyŋu

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

'I see my aunt (right now).'

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Asymmetric negation   Djambarrpuyŋu

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

   'I see my aunt (right now).'

8   *ŋarra* **nhäŋal** *mukulnha* *gäthur*   [**TODAY PST**]
    1s   **see**.**III**   aunt-ACC   today

   'I saw my aunt this morning.'

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Asymmetric negation   Djambarrpuyŋu

7   *ŋarra ga* **nhäma** *mukulnha*   [**PRESENT**]
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    'I see my aunt (right now).'

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      1s   **see**.**III**   aunt-ACC   today

    'I saw my aunt this morning.'

9   *ŋarra dhu* **nhäŋu** *mukulnha*   [**FUTURE**]
      1s   FUT **see**.**II**   aunt.ACC

    'I'll see my aunt (tomorrow).'

Asymmetric negation   Djambarrpuyŋu

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

'I see my aunt (right now).'

8   *ŋarra* **nhäŋal** *mukulnha gäthur*   [**TODAY PST**]
     1s   **see**.**III**   aunt-ACC   today

'I saw my aunt this morning.'

9   *ŋarra dhu* **nhäŋu** *mukulnha*   [**FUTURE**]
     1s   FUT   **see**.**II**   aunt.ACC

'I'll see my aunt (tomorrow).'

10   *ŋarra* **nhäma** *mukulnha barpuru*   [**REC PST**]
     1s   **see**.**I**   aunt-ACC   yesterday

'I saw my aunt yesterday.'

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Asymmetric negation   Djambarrpuyŋu

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

    'I don't see my aunt (right now).'

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

    'I didn't see my aunt this morning.'

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

    'I won't see my aunt (tomorrow)'

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

    'I didn't see my aunt yesterday.'

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Negative asymmetry

INFLECTION

IN DJAMBARRPUYŊU
Negative REALIS and IRREALIS
predications are inflected
identically

−NEG	+NEG
I II	II
III IV	IV

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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   **II** and **IV** as IRR

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11   *Barpuru goḏarr   ŋarra* **dhu** *nhä-***ŋu**   [FUTURE]
     funeral   tomorrow   1s   **FUT**   see.**II**

    'I'll see the funeral tomorrow'

Negative asymmetry   **II** and **IV** as IRR

▶ So **II** and **IV** turn up as the counterparts of **I** and **III** in
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     funeral   tomorrow 1s   **FUT** see.**II**

   'I'll see the funeral tomorrow'

12 *nhä-**ŋu** nhanŋu dhurrwara!*   [IMPERATIVE]
     look.**II**   2s.DAT   door

   'Look at her mouth!'

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Negative asymmetry **II** and **IV** as IRR

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    look.**II**   2s.DAT   door

    'Look at her mouth!'

13 *ŋayi bala   **balaŋu** bakthu-**rru***   [CIRC]
    3s   MVTAWY **MOD**   break.**II**

    'It [the recorder] might break.'

Negative asymmetry **II** and **IV** as IRR

14   *waṯuy*   **balaŋu** *ḻuka-***nha** *chocolate*   [CIRC]
     dog.ERG   MOD   eat-**IV**   chocolate

     'The dog may/must have eaten the chocolate.'

15   *ŋarra* **ŋuli** *baman' ḻupḻupthu-***na** *dhiyal*   [PST HAB]
     1s   **HAB**   prior   swim-**IV**   PROX.LOC

     'I used to swim there.'

16   *ŋäthil*   *ŋarra* **ŋuli balaŋ** *ḻiya-ŋamaŋamayunmi-***nya** [COND]
     earlier 1sg   **MOD MOD**   head-make.**I**.REFL-**IV**

       bala ŋarra **balaŋ** *waŋa-***nha**-*n*
       then   1s   **MOD**   speak-**IV**-SEQ

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

Negative asymmetry　　　　　　　　　　**II** and **IV** as IRR

- **II** and **IV** co-occcur with :
    - **future** marking
    - **modals** (nonepistemic)
    - **negation**
- Formal treatments of the future predict a range of modal uses of future morphemes
- Compare En. *will* 'FUT': *that'll be the postman*
    - (∀-quantification over different "conversational bkgrds")
- **Can all this data be unified?**
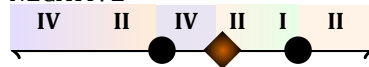
RECAP   THE PARADIGMS

Wägilak
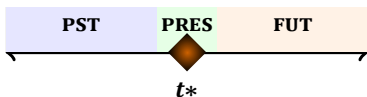
Western Dhuwal(a)

POSITIVE

NEGATIVE

Negation as a modal operator

▶ Building on a symbolic-logical tradition that conceives of
negation as a modal operator
Negation as a (species of) alethic impossiblity (cf Wansing
2001):

$$\mathcal{M}, w \vDash \sim A \iff \forall u.w\mathbb{C}u \rightarrow \mathcal{M}, u \nvDash A$$

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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.)

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

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*

Negation as a modal operator

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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*

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

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Modal particles

▶ This treatment allows us to posit a natural class with the other licensing environments for **II** and **IV**.

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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
    - ▶ $\underset{\text{def}}{=} \exists w'[w' \in \mathbb{M} \land w' \in \neg p]$
      (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

II and **IV** as IRREALIS mood

▶ suggests a treatment of WD inflections as verbal mood

II and **IV** as IRREALIS mood

▶ suggests a treatment of WD inflections as verbal mood
▶ super dissimilar to the IND-SBJV distinction in European

II and **IV** as IRREALIS mood

- ▶ suggests a treatment of WD inflections as verbal mood
- ▶ super dissimilar to the IND-SBJV distinction in European
  - ▶ NOT licensed by subordinating preds

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II and **IV** as IRREALIS mood

- ▶ suggests a treatment of WD inflections as verbal mood
- ▶ super dissimilar to the IND-SBJV distinction in European
  - ▶ NOT licensed by subordinating preds
  - ▶ Also not licensed by **epistemic modals**
- ▶ Paradigm realises a systematic REALIS-IRREALIS distinction
  - ▶ this notion is both much-used and much-maligned in the typological literature
  - ▶ Krifka, von Prince *et al.* have formal proposals in N/C-vanuatuan langs

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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▶ "PRECONTEMPORANEITY"
(NONFINAL INSTANTIATION)

$$\exists j[j \underset{\text{FINAL}}{\sqsubseteq} i \land \text{NfInst}(P, i, j)] \quad \text{(C\&D '15)}$$

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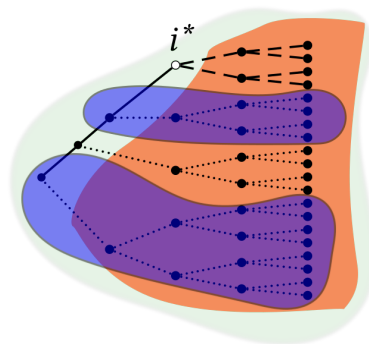$$\exists j[j \underset{\text{FINAL}}{\sqsubseteq} i \land \text{NFInst}(P, i, j)] \quad \text{(C\&D '15)}$$

I   **II**   **III**   **IV**

Proposal for the WD paradigm

	−NONVER	+NONVER
−PRECON	I	II
+PRECON	III	IV

I   II   III   IV

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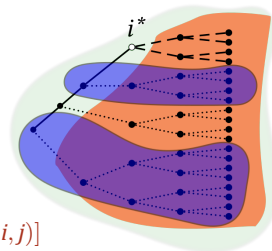An irrealis semantics
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Proposal for the WD paradigm

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

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

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

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

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Conclusions

► We've seen a treatmenet of negative operators that places them in a class of modals

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Conclusions

▶ We've seen a treatmenet of negative operators that places them in a class of modals

▶ We've seen how the interaction of two properties— NONVERIDICALITY and PRECONTEMPORANEITY —get us a principled analysis of WD inflectional semantics (**I**, **II**, **III**, **IV**)

▶ (see dissertation for intricacies & semantic composition)

Selected References

Bhat (1999) *Prominence of Tense, Mood & Aspect* • **Boneh** (2016) On becoming a tense prominent system. *FoDS1* • **Bowern** (2009) Conjugation class stability. *ICHL19* • **Bybee, Perkins & Pacuglia** (1991) *Evolution of Grammar* • **Comrie** (1985) *Tense* • **Condoravdi** (2002) Temporal Interpretation of Modals • **Condoravdi & Deo** (2014) Aspect shifts in Indo-Aryan and trajectories of semantic change • **Copley** (2009) *The semantics of the Future* • **Giannikidou** (2016). Evaluative subjunctive and nonveridicality • **de Haan** (2012) Irrealis: fact or fiction? *Lang. Sci. 34* • **Heath** (1981) *Ritharrŋu* • **Kaufmann** (2005) Conditional truth and future reference • **—, Condoravdi & Harizanov** (2006) Formal approaches to modality • **Krazer** (1989) Lumps of thought *L&P* • **Krifka** (2016) Realis & nonrealis modalities in Daakie. *SALT26* • **Lowe** (n.d.) *Grammar lessons in Gupapuyŋu* • **Matthewson** (2010) Cross-linguistic variation in modality systems: The role of mood. *S&P* • **Miestamo** (2005) *Standard negation* • **von Prince** (2019) Counterfactuality and past. *L&P* • **Ripley** (2009) *Negation in natural language* • **Thomason** (1970) Indeterminist time and truth-value gaps • **Waters** (1989) *Djinang & Djinba* • **Wansing** (2001) Negation. *Blackwell Phil. Logic* • **Wilkinson** (1991) *Djambarrpuyŋu*.
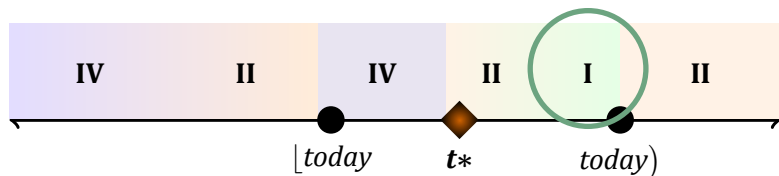
Appendix A   The **I** same-day future

III   **I**   **III**   **I**   **II**

⌊*today*   ***t****   *today*⌋
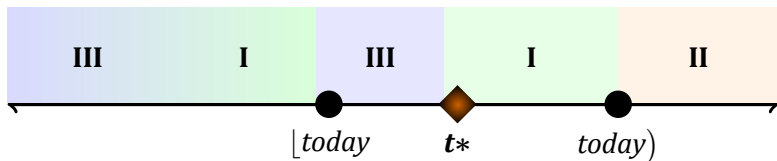
Appendix A   The **I** same-day future

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

17   *(bäyŋu) ŋarra dhu ga   ŋhä**ma** 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 *ŋarra 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 maximially 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 maximially underspecified, and is outcompeted by the
  other inflections (MAXPRESUPP)

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
- ▶ Bowern (2009) proposes a 6-way inflected Proto-Yolŋu paradigm. The West Arnhem Sprachbund features are not reconstructed.

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Wägilak

Appendix D   Inflection in Wägilak

1 *goḏarr   ŋarra **nhäŋu** mukulnha*   **[FUTURE]**
    tomorrow 1s   see.**II**   aunt.ACC

    'I will see my aunt tomorrow.'

2 ***nhäma** rra yakuthi mukulnha*   **[PRESENT]**
    see.**I** 1s now   aunt.ACC

    'I'm looking at my aunt currently.'

3 *gätha ŋarra **nhäwala** mukulnha*   **[PAST]**
    today 1s   see.**III**   aunt.ACC

    'I saw my aunt this morning.'

Appendix D   Inflection in Wägilak

1   *goḏarr   ŋarra nhäŋu-'ma' mukulnha*   **[FUTURE]**
    tomorrow 1s   see.**II**-**NEG**   aunt.ACC

    'I won't see my aunt tomorrow.'

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

    'I'm (not) looking at my aunt currently.'

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

    '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'