The diachrony of Mistaken Belief markers in Ngumpin-Yapa languages (Pama-Nyungan, Australia)

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UNIVERSITY OF SURREY | smg | MONASH University
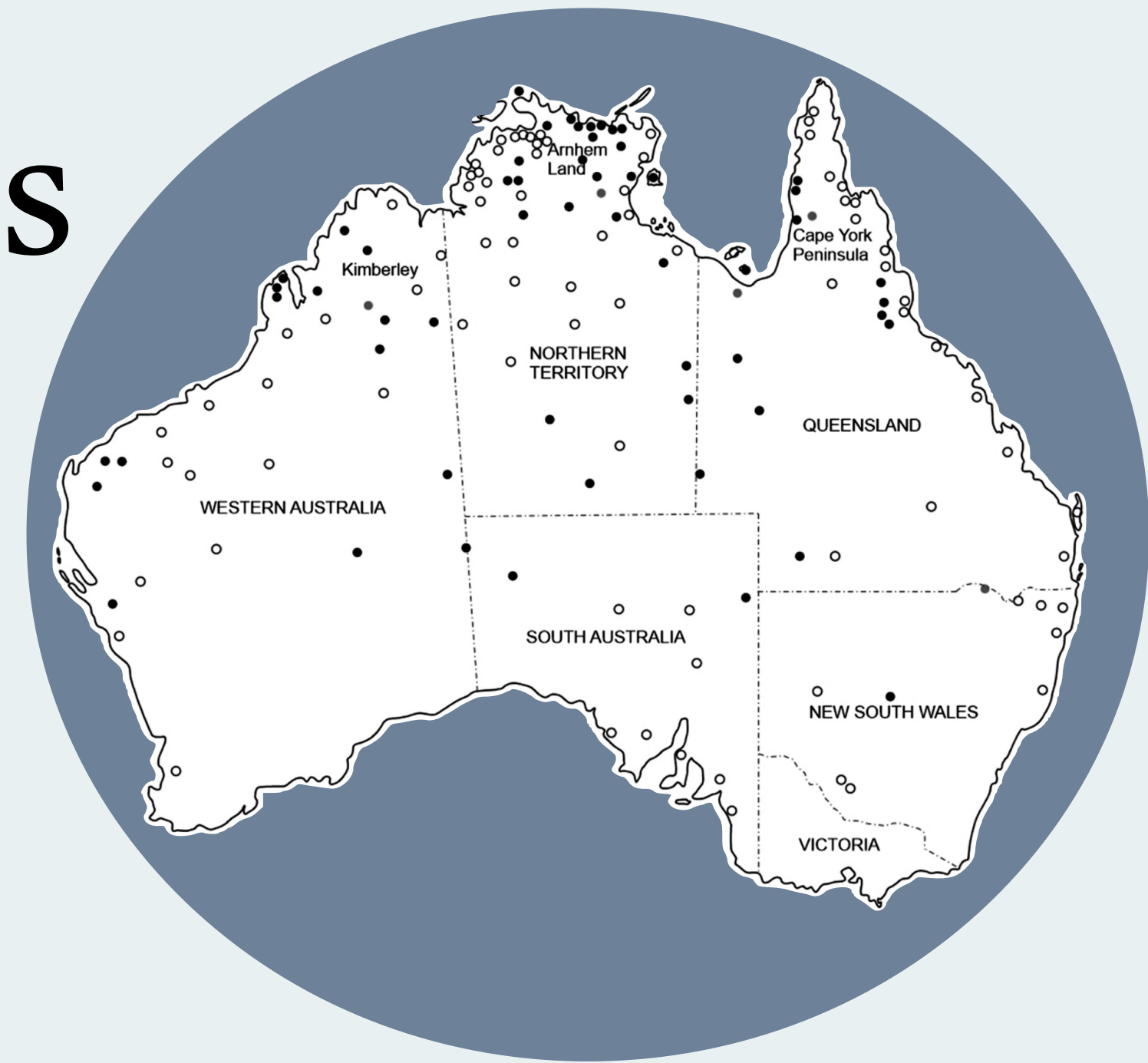
MB markers in Australian languages

Large-scale typological survey of Mistaken Belief (MB) in Australian languages (MᶜGREGOR 2024) found:

  i) Widespread uses of dedicated strategies across unrelated languages

  ii) Strategies beyond sentential complementation

Significance: Performance on false-belief tasks has been correlated with acquisition of linguistic structures (VILLIERS ET VILLIERS 2000, MATSUI ET AL. 2009)

In this talk: **diachrony** of these elements (under-investigated)

  > Data from one Pama-Nyungan subgroup point to an unidentified diachronic trajectory for MB markers

Expression of MB within Australia

- 40% of sampled Australian languages exhibit some means for expressing MB (McGregor 2024)

  - Across unrelated languages

  - In formally varied ways

MB expressions

- ● Attested
- ◐ Probable
- ○ Absent

(McGregor 2024: 105)
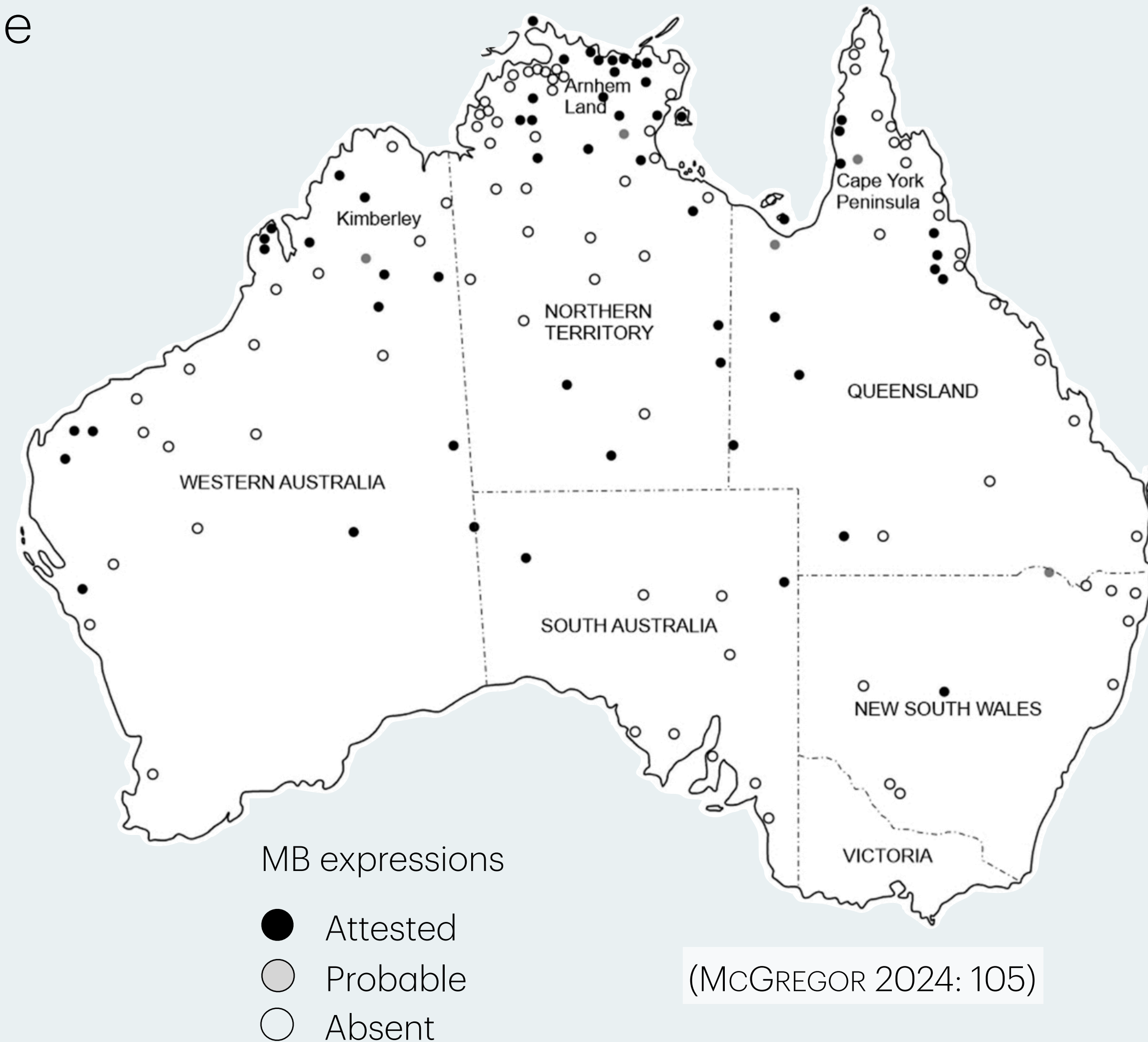
Expression of MB within Australia

- Where do these markers come from?

- How do they change over time?

MB expressions

- ● Attested
- ● Probable
- ○ Absent

(MCGREGOR 2024: 105)
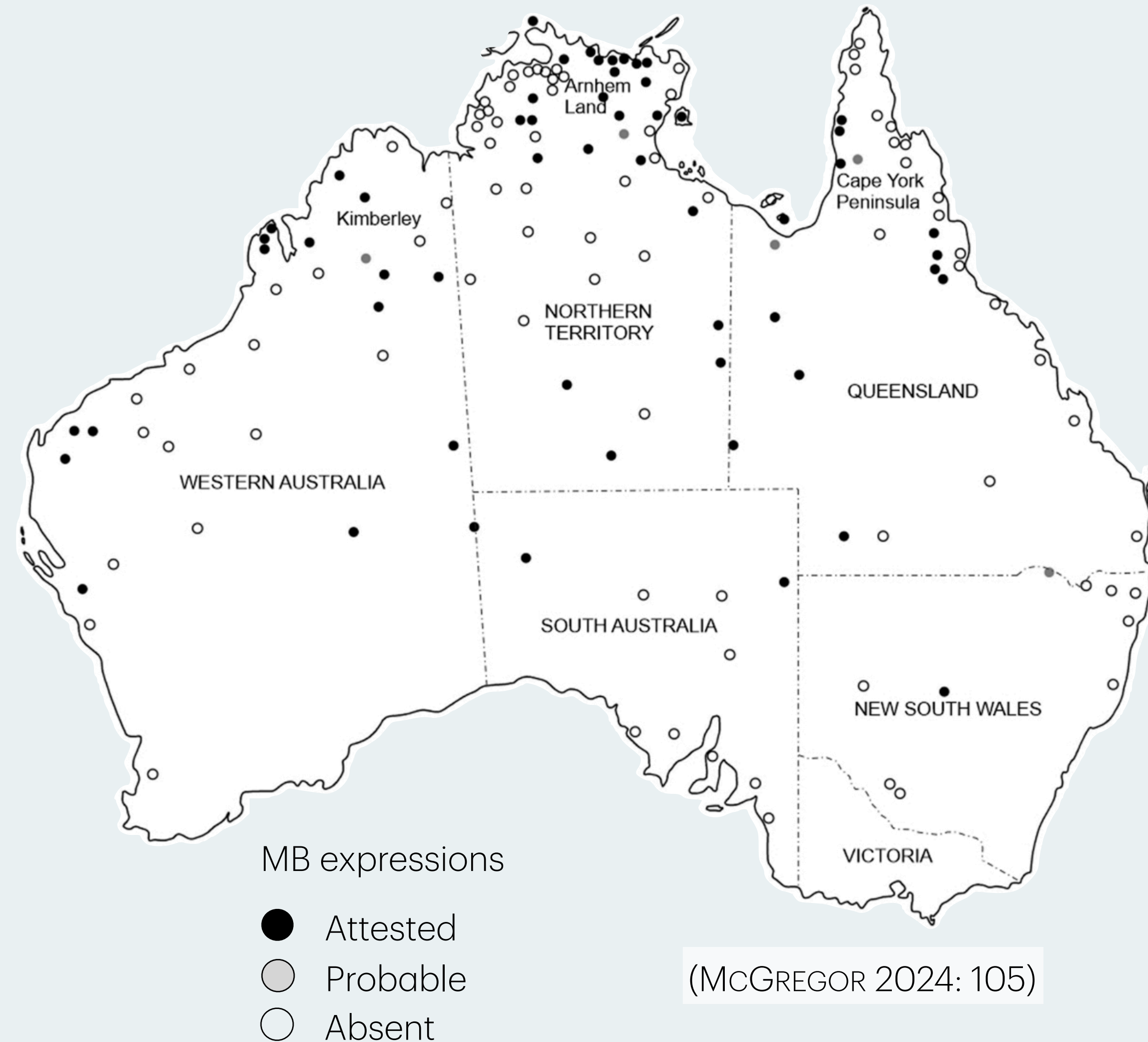
Diachrony of MB expressions in NGY

- In this talk:

  - MB within a single PN subgroup

  - Details of these markers

  - Reconstruction of these markers and a diachronic relationship with **modal negation**

  - Possible pathways for **functional reanalysis** of MB markers

Ngumpin-Yapa (NGY) subgroup

Gurindji
Wanyjirra Mudburra
Jaru
Walmajarri
Warlmanpa
Ngardi
Warlpiri

Pama-Nyungan family

https://commons.wikimedia.org/wiki/File:Macro-Pama-Nyungan_languages.png
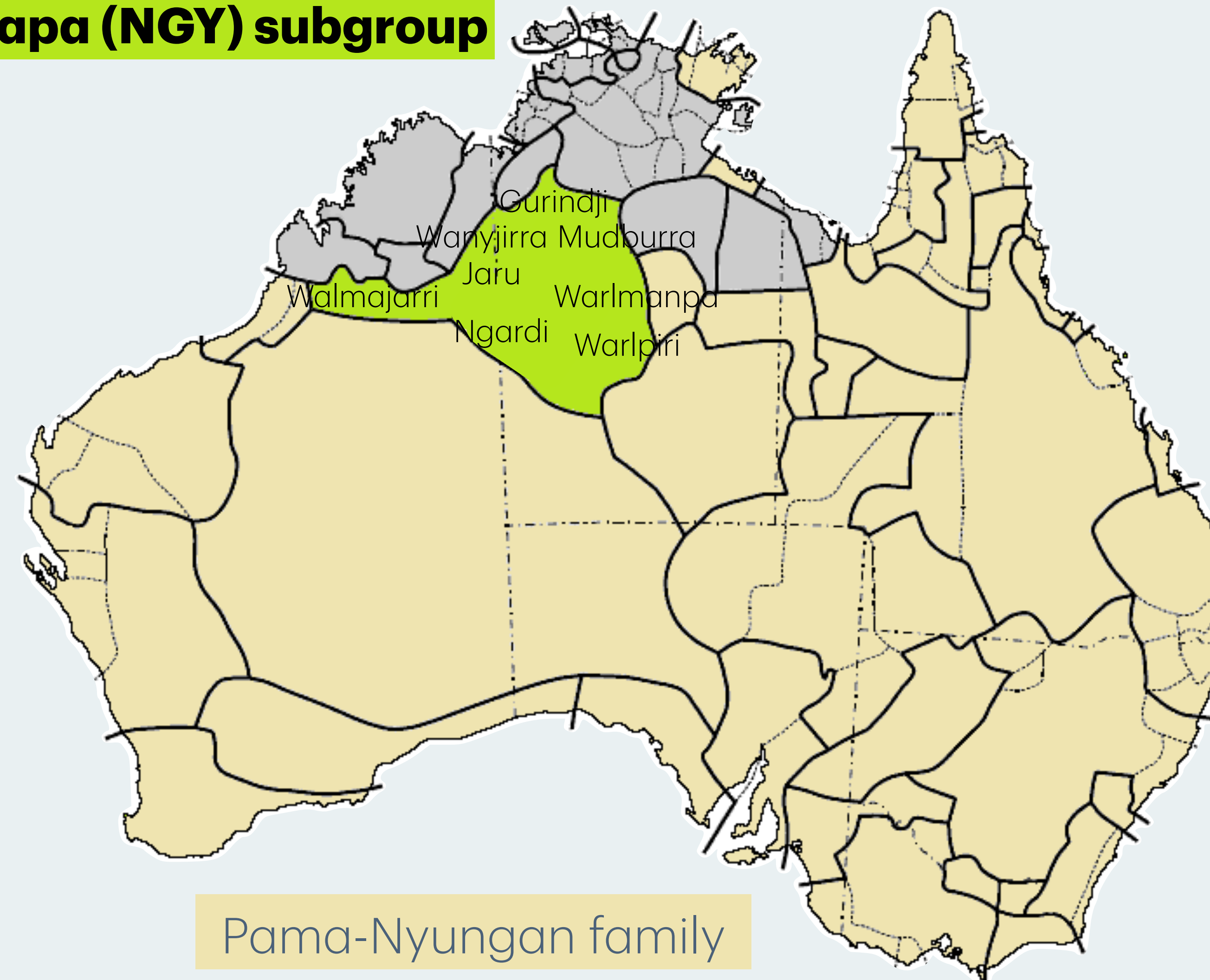
Data

- Resources: published grammars and dictionaries

Western Ngumpin	Ngardi	ENNEVER (2021: 605–607); ENNEVER ET AL. (2025); CATALDI (2011)
	Walmajarri (W)	RICHARDS & HUDSON (2012); HUDSON & RICHARDS (1984)
	Walmajarri (E)	
	Jaru	TSUNODA (1981: 206, 209)
	Wanyjirra	SENGE (2015: 492–494)
Eastern Ngumpin	Bilinarra	MEAKINS & NORDLINGER (2014)
	Malngin	ISE (1999)
	Gurindji	MCCONVELL (1996: 96); MEAKINS & MCCONVELL (2021)
	Mudburra	OSGARBY (2018)
Yapa	Warlmanpa	BROWNE (2024: 332–335)
	Warlpiri	NASH (1986: 239); SIMPSON (1991), LAUGHREN ET AL. (2022)

- My own fieldwork: Ngardi, Eastern Walmajarri, Jaru

The expression of MB in Ngumpin-Yapa

- Two types of dedicated MB constructions in Australian languages:

    - I: Dedicated morpheme (bound or free)

    - II: A complement construction, typically with a special marker

The expression of MB in Ngumpin-Yapa

- Two types of dedicated MB constructions in Australian languages:

  - **I: Dedicated morpheme (bound or free)**

  - II: A complement construction, typically with a special marker

Wanyjirra (SENGE 2015: 493)

(1)   ***Gulangarra***   *ngu=yi*   *ba-rra*

     MB   REAL=1MIN.O   bite-IMP

     'I thought he would bite me (but he didn't').'

Properties of MB markers in Ngumpin-Yapa

- Characterised by considerable flexibility {**syntactic**, semantic}:

  - Preposed or post-posed to clause-expressing proposition (Warlpiri: LAUGHREN 1982)

Ngardi (Ennever 2021: 605)

(2) *"Mutika   yapartu-nganta!"*   ***Kulangarra***   *mutika, kala maeilplein ya-nani-nyirra.*
      vehicle   run-PRS   **MB**   vehicle   ASRT mail_plain go-IPFV-NARR
      '"A vehicle is coming!" (We) had thought it was a vehicle but it was (the) mail plane.'

Properties of MB markers in Ngumpin-Yapa

- Characterised by considerable flexibility {**syntactic**, semantic}:

  - Variable separation from phrasal rels over which they have scope (N.B. P2 clitic complex)

Jaru (Tsunoda 1981: 206)

(3) **Garaj**　　**gulanga**=rna　　　*lan-i*　　　　*ngandu ganyji.*
　　body　　MB=1SG.S　　　　stab-PST　　in_fact　leg

　　'I thought I was stabbing the body, but in fact I was stabbing the leg.'

Ngardi (Ennever et al. 2024: 221)

(4) **Kulanganta**=rna=ngku **jina**　　*pat-kanyi-rni*　　*kala　purnu.*
　　MB=1SG.S=2SG.O　　　　foot　　squash-crush-PST ASRT　tree

　　'I thought it was your foot I squashed, but it was the stick.'

Properties of MB markers in Ngumpin-Yapa

- Characterised by considerable flexibility {syntactic, **semantic**}:

  - Scopal flexibility: (mis-)categorization of an entity

Jaru (TSUNODA 1981: 206)

(3) **Garaj**   **gulanga**=*rna*   *lan-i*   *ngandu ganyji.*
body   **MB**=1SG.S   stab-PST   in_fact   leg

    'I thought I was stabbing the body, but in fact I was stabbing the leg.'

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(4) ***Kulanganta**=rna=ngku* **jina**   *pat-kanyi-rni*   *kala purnu.*
MB=1SG.S=2SG.O   **foot**   squash-crush-PST ASRT   tree

    'I thought it was your foot I squashed, but it was the stick.'

Properties of MB markers in Ngumpin-Yapa

- Characterised by considerable flexibility {**syntactic**, **semantic**}:

  - Scopal flexibility: (implicit) proposition encoded by **direct speech**

Ngardi (ENNEVER ET AL. 2024: 221)

(5)

Kartiya=lu	*nya-nganta*	*kulanganta,*	*kulanganta*	***"Oh***
white=3PL.S	see-PRS	MB	MB	**oh**
nice painting!"	*Wakurra=lu*	*purda-nya-nganta*	*that's*	*walya.*
nice_painting	NEG=3PL.S	listen-see-PRS	that's	country

'Whitefellas look at it, mistakenly thinking "Oh, nice painting!"
They don't understand that that is country (not 'just' a painting)."

Nakarra Nakarra
Artist: Napangardi Padoon (dec)
Warlayirti Artists (with permission)

Properties of MB markers in Ngumpin-Yapa

- Tendency to be paired with an additional clause expressing realis event:

Walmajarri (RICHARDS & HUDSON 2012)

(6) ***Kula**=n*   *kukulyujuwal*   ***minyakujala***   ***talyparrma-rnu-juwal***

    MB=2SG.S   quiet   **but**   **speak_angrily-NF-HABIT**

    'I thought you were a quiet person, **but you tell people off**.'

Ngardi (ENNEVER ET AL. 2024: 221)

(7) ***Kulanganta**=rna=ngku* *jina*   *pat-kanyi-rni*   ***kala purnu***.

    MB=1SG.S=2SG.O   foot   squash-crush-PST   **ASRT tree**

    'I thought it was your foot I squashed, **but it was the stick.**'

The expression of MB in Ngumpin-Yapa

		MB marker(s)	Gloss	Source
Western Ngumpin	Ngardi	*kulanga, kulangarra, kulanganta*	'counterfactual/ MB'	ENNEVER (2021: 605–607) ENNEVER ET AL. (2025)
	Walmajarri (W)	*kula, kularni*	'it seemed, contrary to fact', 'it seemed to be but wasn't'	RICHARDS & HUDSON (2012) HUDSON & RICHARDS (1984)
	Walmajarri (E)	*kulangarra*		
	Jaru	*gulanga (+…=rra)*	'as though, it looks'	TSUNODA (1981: 206, 209)
	Wanyjirra	*gulangarra*	'wrongly thought'	(SENGE 2015: 492–494)
Eastern Ngumpin	Bilinarra	—	—	MEAKINS & NORDLINGER (2014)
	Gurindji	*kata + (…=nga)*	'thought'	MCCONVELL (1996: 96); MEAKINS & MCCONVELL
	Mudburra	—	—	OSGARBY (2018)
Yapa	Warlmanpa	*kulanganta*	'denotic correction'	BROWNE (2024: 332–335)
	Warlpiri	*kulanganta*	'counterfactual'	NASH (1986: 239)

The expression of MB in Ngumpin-Yapa

		MB marker(s)	Gloss	Source
Western Ngumpin	Ngardi	*kula*nga, *kula*ngarra, *kula*nganta	'counterfactual/ MB'	ENNEVER (2021: 605–607) ENNEVER ET AL. (2025)
	Walmajarri (W)	**kula**, *kula*rni	'it seemed, contrary to fact', 'it seemed to be but wasn't'	RICHARDS & HUDSON (2012) HUDSON & RICHARDS (1984)
	Walmajarri (E)	*kula*ngarra		
	Jaru	*gula*nga (+…=rra)	'as though, it looks'	TSUNODA (1981: 206, 209)
	Wanyjirra	*gula*ngarra	'wrongly thought'	(SENGE 2015: 492–494)
Eastern Ngumpin	Bilinarra	—	—	MEAKINS & NORDLINGER (2014)
	Gurindji	*kata* + (…=nga)	'thought'	MCCONVELL (1996: 96); MEAKINS & MCCONVELL
	Mudburra	—	—	OSGARBY (2018)
Yapa	Warlmanpa	*kula*nganta	'denotic correction'	BROWNE (2024: 332–335)
	Warlpiri	*kula*nganta	'counterfactual'	NASH (1986: 239)

The diachrony of MB in Ngumpin-Yapa languages

- *__kula__ as a **representative innovation** of NGY (MᴄCᴏɴᴠᴇʟʟ & Lᴀᴜɢʜʀᴇɴ 2004: 163–165)

		Negation markers			MB markers
		Standard ɴᴇɢ	**Modal ɴᴇɢ**	**Nᴇɢ ᴘʀᴇᴅ/ᴇxɪsᴛ**	
Western Ngumpin	Walmaj (ᴡ)	*ngajirta*	*kayan*	*ngajirta*	*kula*
	Walmaj (ᴇ)	*ngajirta*	*kayan*	*ngajirta*	*kulangarra, kularni*
	Ngardi	*wakurra*	*wakurra*	*waku*	*kulanganta, kulangarra, kulanga*
	Jaru	*wagurra*	*gula*	*minyan*	*gulanga, gulanga+…-rra*
	Wanyjirra	*wagurra/gula*	*wagurra*	*minyarn*	*gulangarra*
Eastern Ngumpin	Bilinarra	*kula*	*kula*	*wagurni, lawara*	—
	Malngin	*kula*	?	?	?
	Gurindji	*kula*	*kula*	*lawara*	*kata + … -nga*
	Mudburra	*kula*	*kula*	*wakurni*	—
Yapa	Warlmanpa	*kula*	*kula*	*walku*	*kulanganta*
	Warlpiri	*kula*	*kula*	*lawa*	*kulanganta*

Kula as MB and NEG

- *kula* an MB marker in Western Walmajarri:

  (W) Walmajarri (Richard & Hudson 2012)

  (8) **Kula**   *wanjingarna*   *paparr-marn-i.*

      MB   alive   without_thought-speak-PST

      'I thought he was [still] alive (but he wasn't), I said (that) without thinking.'

- Compare *kula* as marker of SN in Eastern Ngumpin languages:

  Malngin (Ise 1999: 69)

  (9) **Kula**=*rna*   *karri-nya*   *marru-ngka*   *minyan.*

      NEG=1SG.S   be-PST   house-LOC   nothing

      I didn't live in a house.'

Kula as MB and NEG

- *kula* an MB marker in Western Walmajarri:

  (W) Walmajarri (RICHARD & HUDSON 2012)

  (8) ***Kula***   *wanjingarna*   *paparr-marn-i.*

       MB   alive   without_thought-speak-PST

      'I thought he was [still] alive (but he wasn't), I said (that) without thinking.'

- Compare *kula* as a marker of modal negation (incapacity) in Jaru:

  Jaru (TSUNODA 1981: 204)

  (10) ***Gula=n***   *bard-gang-gu.*

       CANNOT=2SG.S fly-carry-PURP/POT

       'You cannot fly.'

kula as NGY innovation

- No other **Western Pama-Nyungan** languages share such a form:meaning pairing

  - No reflexes in Marrngu (to the west) nor Western Desert (to the south)

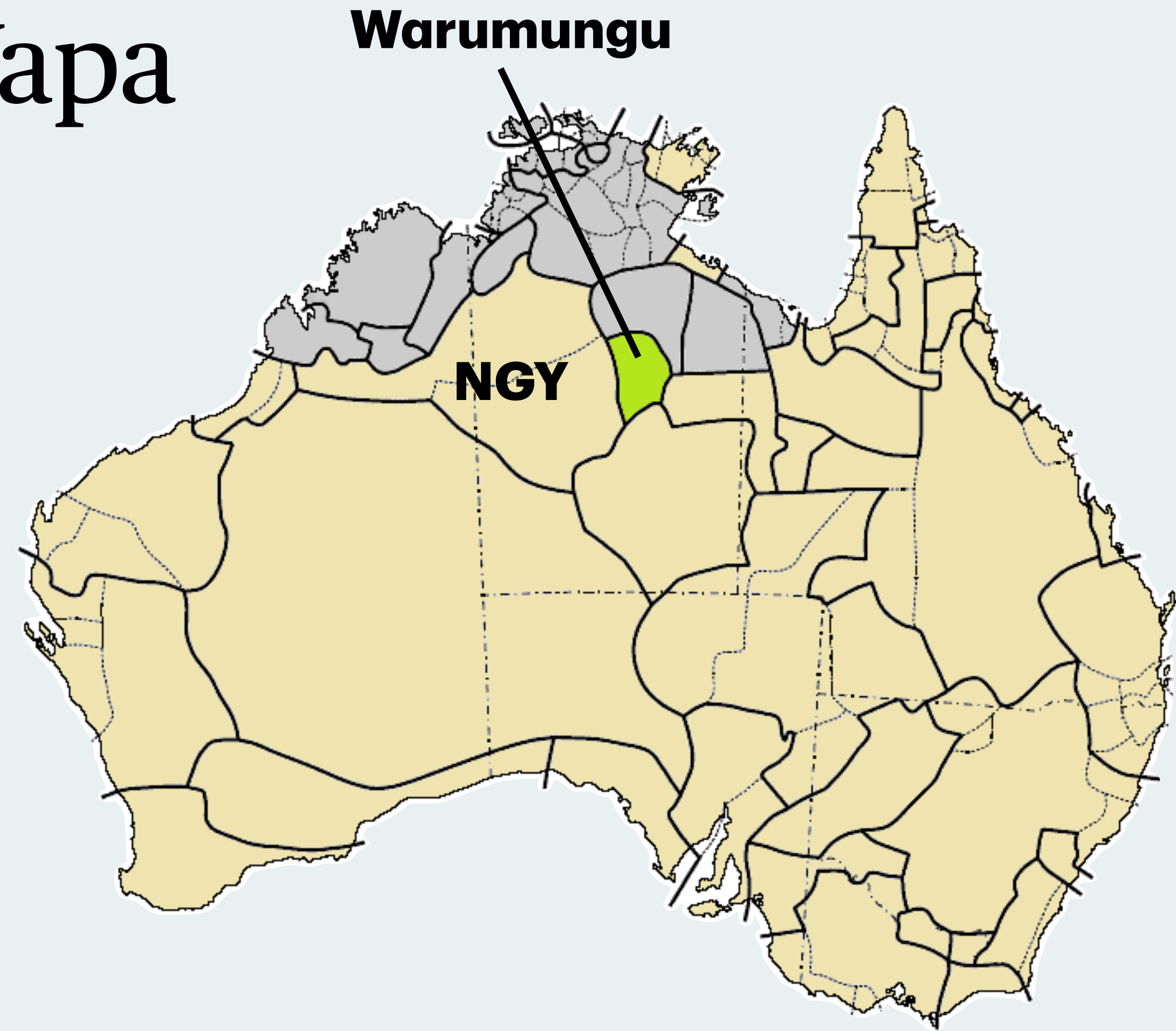- ...but what meaning to reconstruct?

kula beyond Ngumpin-Yapa

- MB *Kuluma?*

Warumungu (SIMPSON 2002: 124)

(11) **Kuluma   arnangkku** *Ngampula   nyanyi.*

    MB   **1-YOU1**   Ngampula   see-PST

    'I thought you were Ngampula (but in fact you're not).'

Warumungu

NGY

https://commons.wikimedia.org/wiki/File:Macro-Pama-Nyungan_languages.png

kula beyond Ngumpin-Yapa

- Wakaya *kile/kel/kal* (dialect variants):

Wakaya (BREEN & SIMPSON 1985: 131)

(12) **Kilemanth**-*arn*   *wutha-rliy*

    MB-1SG.S   eat-IRR

    'I thought I was going to eat (it)
    (but I didn't because the dog stole it)'

Wakaya (BREEN 2000: CH8. #20)

(13) **Kal***-*arn-bulu*   *yuk ewe-rniy*

    NEG-1SG.S   eat-IRR
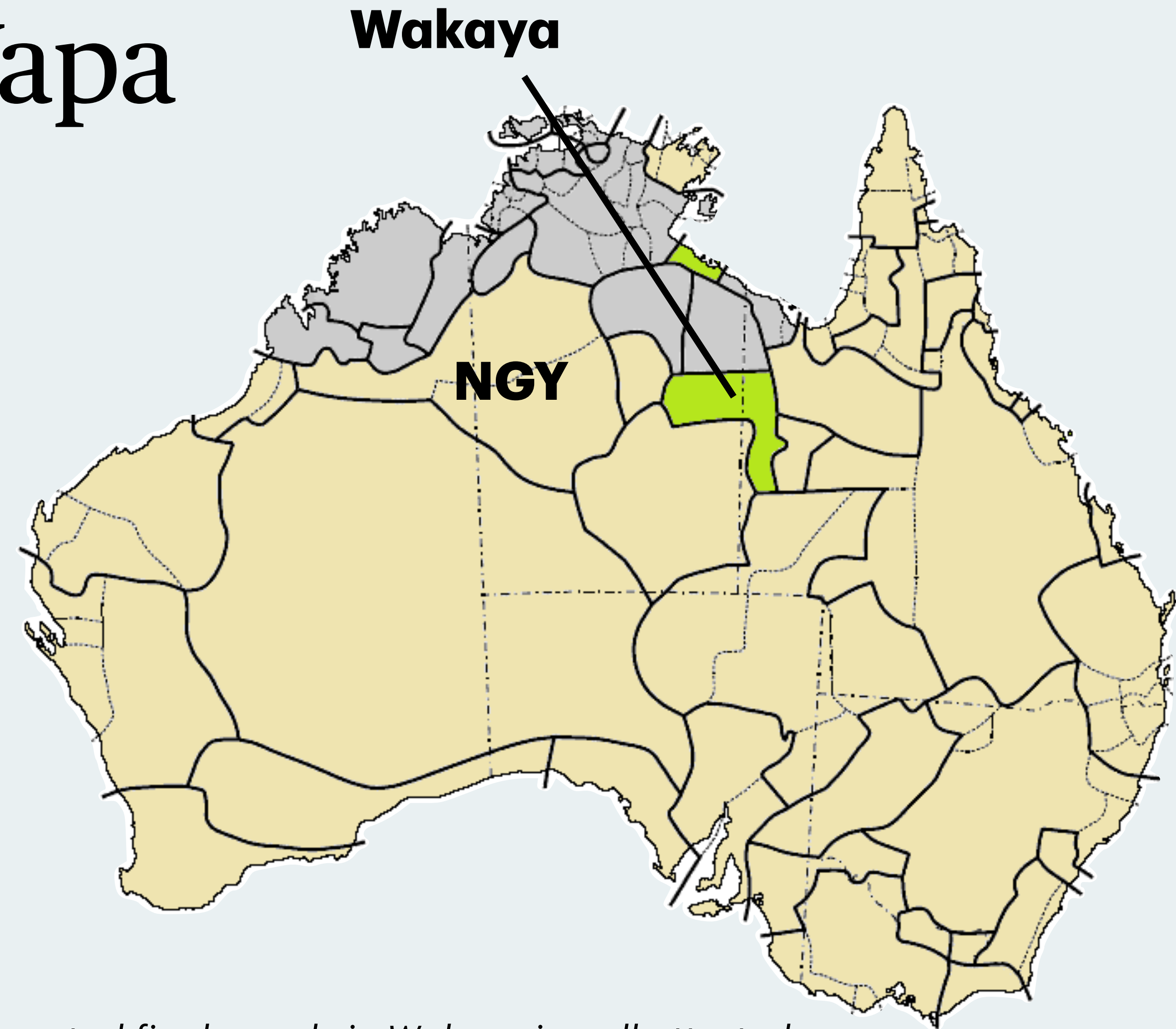
    benke-rn-ande-bulu   *yuwu-werl*

    go-PST-HITH-that.M   3SG.M-COM

    'I didn't call that fellow'

* Loss of ancestral final vowels in Wakaya is well attested

Wakaya

NGY

https://commons.wikimedia.org/wiki/File:Macro-Pama-Nyungan_languages.png

The diachrony of *kula

- Majority of MB markers in Ngumpin-Yapa involve a compound **kula** + {**nganta**, **ngarra**, =**nga**}

		Negation markers			
		Standard NEG	**Modal NEG**	**NEG PRED/EXIST**	**MB**
Western Ngumpin	Walmaj (W)	*ngajirta*	*ngajirta, kayan*		*kula*
	Walmaj (E)	*ngajirta*	*ngajirta, kayan*		*kulangarra, kularni*
	Ngardi	*wakurra*	*wakurra*	*waku*	*kulanganta, kulangarra,*
	Jaru	*wagurra*	*kula*	*minyan*	*gulanga, gulanga+…-rra*
	Wanyjirra	*wagurra/gula*	*wagurra*	*minyarn*	*gulangarra*
Eastern Ngumpin	Bilinarra	*kula*			—
	Malngin	*kula*	?	?	?
	Gurindji	*kula*	*kula*		*kata + … -nga*
	Mudburra	*kula*	*kula*	*wakurni*	—
Yapa	Warlmanpa	*kula*	*kula*	*walku*	*kulanganta*
	Warlpiri	*kula*			*kulanganta*

The diachrony of *kula

- For most NGY languages MB markers are a fused form *kula* + {*nganta, ngarra, =rra*}

  - **nganta** is attested with an evidential/perspectival meaning *supposedly x*,

    - "fails to assert a proposition as true from personal knowledge" (Warlpiri, LAUGHREN 1982)

  - **ngarra** (and **nga**) in Ngumpin lgs is attested with epistemic meaning *supposedly x*:

    - Further engendering an apprehensive reading "*might* x"/*lest x* (Ngumpin), or

- Synchronically, MB compound forms are non-decomposable (Senge 2015: 492; Laughren 1982; Browne 2024: 333)

Composite (but non-fused) MB

- 'Composite' MB markers are not uncommon in Australia (MCGREGOR 2024):

  - MB **in Gurindji** 'commonly occurs with dubitative =*nga*' (MEAKINS & MCCONNELL 2021: 550)

  - MB **in Jaru**: 'with =*rra*'. OR =*rra* 'to a word in the clause with *gulanga* [MB]' (Tsunoda 1981: 209)

Gurindji MEAKINS & MCCONNELL 2021: 149

(14) ***Kata=*yin*=nga***   *ma-rni*   *ngajik-ku*   *ya-nu-wu*

　　MB=2SG.S>1SG.NS**=DUB** say-PST   long_time-DAT   go-INF-DAT

　　kayi=n   *ya-na-na*   *wart-pa-rnirni*   *wajija=rni*

　　surp=2SG.S   go-IPFV-PRS   return-ep=ONLY   quickly=ONLY

　　'I thought you told me you would be here for a long time,
　　but here you are coming back quickly.'

A plausible path?

- *kula* had an ancestral MB meaning in isolation (like modern W. Walmajarri)

  - OR: a restricted type of negative modal meaning (like Jaru)

- Recall MB markers have a dual function:

  - I) Ascribe (false belief) of P, and

  - II) Assert reality: ¬P is the case

- Weakening of (I) leaves only polarity function:

  - Remaining function competes with other older negators and (may) replace them (Eastern Ngumpin *kula*)

    - Or be lost entirely (e.g. Mudburra)

A plausible path?

- Before shift to SN meaning, MB meanings were being expressed in composite constructions (well-attested): *kula* MB + epistemic/evidential marker that later:

  - Remained 'constructionalised' (Jaru, (cf. Gurindji))

  - Fused into single 'particles' (Western Ngumpin + Yapa)

A final wrinkle: Warlmanpa *kulanganta*

- *kulanganta* 'ᴅᴇᴏɴᴛɪᴄ ᴄᴏʀʀᴇᴄᴛɪᴏɴ'... indicates that an event "**should** have occurred (but it didn't), based on evidence gained after the situation"

Warlmanpa (Bʀᴏᴡɴᴇ 2024: 333)

(15) ***Ngayu**=ma=rna   pa-na-ngu kakarra,   **kulanganta**=rna pa-nkarla-rra   kurlarra-purta*

     ᴍʙ=1ꜱɢ.ꜱ=2ꜱɢ.ᴏ   go-ᴘꜱᴛ   east   **ᴄᴏʀʀᴇᴄᴛ**=1ꜱɢ.ꜱ   go-ꜱᴜʙᴊ-ɪᴍᴘꜰ   south-ᴡᴀʀᴅꜱ

     'I went east, not south like I should have.'

- Shares with ᴍʙ: Asserts: ¬P is the case

- Differs from ᴍʙ: No assertion of prior belief in marked proposition **but** is now (at speech time) part of a positive deontic(?) assessment in the proposition

- Further evidence that the corrective flavor is subject to change diachronically

Conclusion

- Within a closely related subgroup, MB markers show a complex historical development, distinct from:

  - Similatives

  - Reported thought constructions

- A close but complex relationship with the marking of **negation**, epistemic **modals**, other **proposition-modifying** elements

- A variety of developmental outcomes

- NGY languages (like many PN languages) have quite rich repertoires of proposition-modifying particles that are under-described

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