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THE DYNAMICS OF LANGUAGE

First Global Australian Languages Workshop (GALW1)

# Does Pintupi-Luritja *tjinguru* mean *maybe*? Maybe

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Thanks to all the Anangu tjuta I worked with for their time and generosity with their language; with these issues particularly Nantayah Nakamarra Tjonggarda, Makisha Anderson, and Matthew Brown. Thanks to Jane Simpson and Carmel O'Shannessy for discussion. Thanks to CoEDL and ANU for funding (Project ID: CE140100041, an Australian Government Research Training Program Scholarship, and HDR funding from SLLL)

# Two take-aways for today:

1. *Tjinguru* is a marker of epistemic uncertainty, however it is **not sensitive to modal strength or knowledge source**. It therefore covers more empirical ground than e.g. English *Maybe*
2. It has some uses that don't assume the speaker is ignorant:
  - ❖ One is similar to **conditionals**, like 'suppose' contexts, or hypotheticals
  - ❖ One is similar to **disjunction**
  - ❖ These non-ignorant uses **behave differently under negation** to ignorant uses



# A road map for today:

- ❖ Pintupi-Luritja
- ❖ Epistemic modality
- ❖ *Tjinguru* as ignorant epistemic marker
- ❖ Non-ignorant uses of *tjinguru*
- ❖ The interaction with negation

*This is a work in progress, so I'm looking forward to hearing feedback. I'm sure there are a number of quite comparable particles in many Australian languages so I would also be interested in hearing of comparisons!*



# Pintupi-Luritja

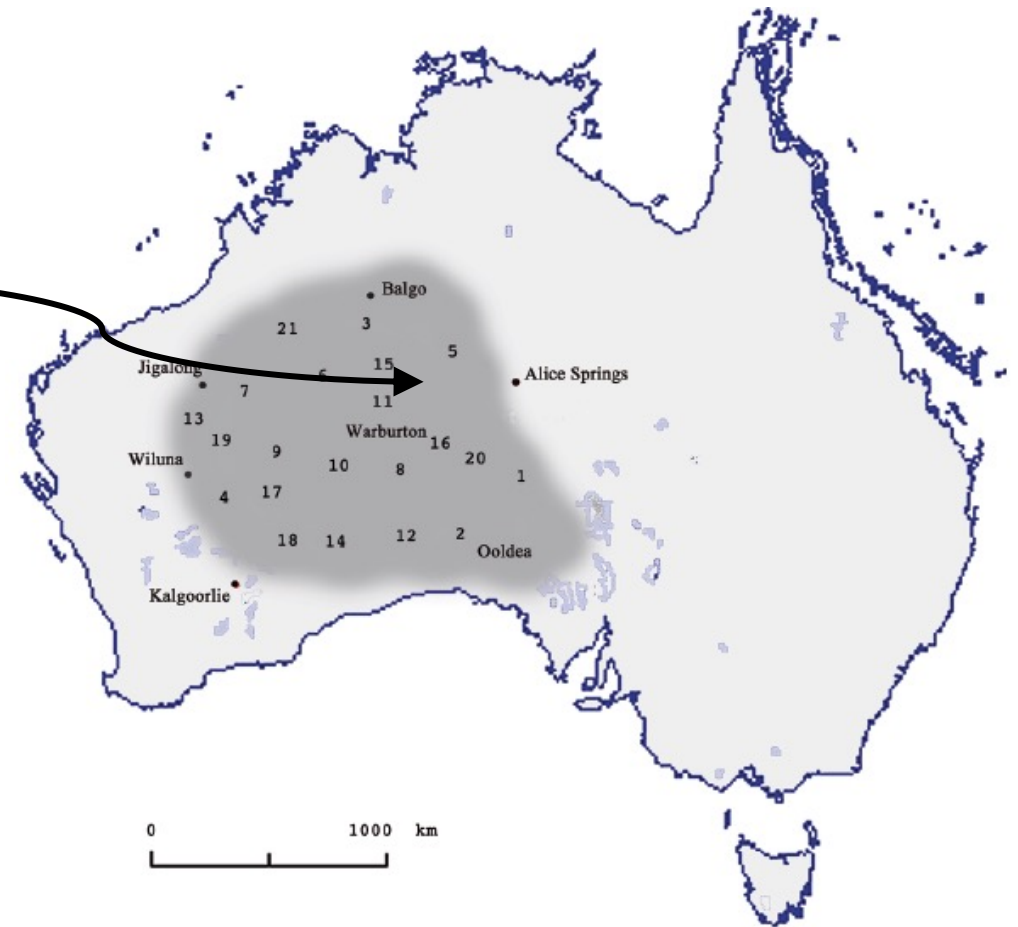
Pintupi-Luritja is a **Western Desert** language spoken in central Australia

It's spoken from roughly Papunya (Warumpi) and Haasts Bluff (Ikuntji) in the east, through to Kintore (Walungurru) in the west



As a rough indication, the 2016 census reports that 2155 people entered Pintupi or Luritja as a language spoken at home

(Although note for example that the name *Luritja* is also used for some other Western Desert varieties as well)



The geographic range of the Western Desert language; Pintupi and Luritja are listed individually as 15 and 5 respectively

Map from Dousset (2011)

# Epistemic modality

- Modality here regards ways of talking about the world not necessarily as it is, but how it *might* be, *should* be, *must* be, etc.
- This is expressed via a variety of ways cross-linguistically (with verbs like the English examples, but also via particles, inflectional marking, constructions, among others)

**Epistemic** modality concerns speaker judgement on the truth of a proposition according to their knowledge; this can be contrasted with e.g. *deontic modality*, which is evaluated according to a set of rules or norms:

(1) The keys aren't in the car- I *must* have left them at home

*epistemic*

(2) You *must* wash your hands before entering

*deontic*

# Epistemic modality

- We're also going to make a distinction in modal *strength*.

In epistemic terms, this is generally the difference in English between *might* and *must*

(3) We should consider a plan B for the party this weekend- it might rain.

Modal strength: **weak**

(4) Her car's not in the driveway- she must have already left

Modal strength: **strong**

A general intuition here involves the degree of commitment by the speaker to the truth of the proposition (something like "considers it possible" in (3) but "considers it very likely" in (4)), but there is more to it...

# Epistemic modality

Modal strength in the epistemic modal real cross-linguistically seems to be tightly connected to topics like evidentiality and information source (e.g. Matthewson et al 2007, Mandelkern 2018)



Taking English as an example, wild guesses tend to be represented with **weak** modal strength

- (5) [*A long lost friend hands you a nondescript box on your birthday and insists you guess*]  
It might be a chess set



**Strong** modals need more evidence, e.g. (in)direct evidence, deduction

- (6) [*Looking at old summer holiday photos where everyone is wearing jackets and beanies*]  
It must have been cold that year



The more concrete and direct the evidence, the less likely you are to use modalised language at all:

- (7) [*Opens the fridge and sees a half-full bottle of milk*]  
# We must still have some milk

—————> We still have some milk

# Epistemic modality

Not all languages encode modal strength, either in part of or all of their modal system

(e.g. Peterson 2010, Rullmann et al 2008, Vander Klok 2013...)

## **Spoiler:**

*Tjinguru* doesn't seem to be sensitive to distinctions in strength either. With it being the apparently only way to express epistemic modality, I'll draw the conclusion that modal strength doesn't play a role in epistemic modality in Pintupi-Luritja



# *Tjinguru* as an ignorant epistemic marker

## The take away:

*Tjinguru* marks ignorance of the speaker wrt the truth of the proposition, but it is apparently not sensitive to information source- that is, whether wild guesses, via indirect evidence or deduction.



This means that it covers epistemic ground that is split in English between *might* and *must*

# Weak epistemic modality

**Prompt:** *You will stay at a friend's house while they are away. You get to the house and realise they forgot to tell you where the key is. You don't know but guess and say: "The key might be under the flowerpot."*

Information source: Wild guess  
Presumed modal strength: **weak**

(8) Yaka,        kii    yaalytji? **Tjinguru**    ngaatja    yunngu    ngarri-nyi!  
Goodness key    where    **maybe**    DEM    inside    lie-PRS

Goodness where's the key? Maybe it's in here!

JAG1-20200315\_ModalsMaNg; 36.28-36.40

Note: translations not specified for their origin are my own

# Weak epistemic modality

**Prompt:** *You say to Tjakamarra that you will meet at 8 in the morning, but he doesn't turn up. You say: "He might be still asleep."*

Information source: Wild guess  
Presumed modal strength: **weak**

(9) **Tjinguru** *paluru yanku ngarri-nyi.*  
**maybe** 3SG.NOM asleep lie-PRS

Maybe he's asleep.

JAG1-20200315\_ModalsMaNg; 37.29-37.32

Note too that *tjinguru* qualifies as expressing weak modality because sentences like  
(10) *It's possible that x, it's possible that not x*  
are possible; this should be a contradiction with stronger forms like *must*

(Rullmann et al 2008)  
I'll leave aside what  
apparently stronger modal  
readings mean for this

→ Examples to come!



# Strong epistemic modality

**Prompt:** *You are sleeping in bed, and wake up. You see your friend walk inside all wet. You say to yourself: "It must be raining."*

Information source: Reasoning through direct visual evidence  
Presumed modal strength: **strong**

(11) *Yaka,      ngaatja   nyuma!   **Tjinguru**   kapi-ngku   pu-nganyi.*  
goodness DEM   wet   **maybe**   rain-ERG   hit-PRS

Goodness, it's wet! Maybe it's raining.

# Strong epistemic modality

**Prompt:** *There's a football game between Papunya and Yuendumu in Papunya. You drive to Papunya from Alice Springs to see it, but you're just too late- it's just finished when you arrive. You don't know who won but you see all the Papunya people look happy and all the Yuendumu people look sad. You say: "Papunya must have won!"*

Information source: Reasoning through (?in)direct visual evidence  
Presumed modal strength: **strong**

(12) *Tjinguru=na kuli-nu **tjinguru** Pupanya wina-rri-ngu, tumatji Pupanyi ngurrara tjuta puku~~l~~pa nyina-ngu*  
maybe=1SG.Subj think-PST **maybe** Papunya win-INCH-PST because Papunya DENIZ many happy sit-PST

Maybe I think, maybe Papunya won, because all of the people from Papunya were happy.

# Strong epistemic modality

**Prompt:** *We have three cups on the ground in front of us. I put a ball under one of the cups and move them around. We look under the first, the ball is not there. We look under the second, the ball is not there either. So...*

Information source: Reasoning through deduction

Presumed modal strength: **strong**

- (13) *Ngaa-ngka wiya, ngaa-ngka wiya, **tjinguru** ngaa-ngka ngarri-nyi.*  
DEM-LOC NEG DEM-LOC NEG maybe DEM-LOC lie-PRS

(It's) not here, not here; maybe it's in this one.



# Some basic conclusions on *tjinguru* as an epistemic marker

- It expresses that the speaker is not sure of the truth of the proposition, but considers it (at least) possible
- It does not however seem to reflect how likely the speaker considers the proposition to be true
- It is also seemingly not influenced by information source; wild guesses, reasoning via (in)direct evidence, and deduction all seem to be covered by *tjinguru*.
- Therefore, (some degree of) speaker ignorance to the truth of the proposition is the only necessary condition on its use.



# Non-ignorant uses of *tjinguru*

## Type one: the conditional

Let's compare the previous examples with the following, from a Papunya newsletter:

- (14) ***Tjinguru*** *nyuntu ngurpa mutukayi palya-nytjaku nyuntu makanika kati nyuntu-lawana*  
**Maybe** 2SG.NOM ignorant car fix-PURP 2SG.ERG mechanic take.IMP 2SG-PERL

(Source translation): If you don't know how to check the car you should take a mechanic with you so he'll help you how to do it.

*Tjakulpa kuwarritja (December 1985, p.6)*

- This is a hypothetical situation, translated into English with a conditional
- The speaker is not really expressing their ignorance about the proposition, more inviting the addressee to imagine it were true for the sake of exploring what it would mean if it *were* true

Even though they might be ignorant!

Cf. "Maybe you don't know how to fix a car..."

# Non-ignorant uses of *tjinguru*

## Type one: the conditional

Another example:

- (15) ***Tjinguru*** *nyuntu yunytju-rri-nganyi yara waka-ntjaku piipa ngaa-ku yini yalatji Tjakulpa Kuwarri-tja.*

**Maybe** 2SG.NOM desire-INCH-PRS story write-PURP paper DEM-DAT name thus news now-NMLZ

(lit.) Maybe you want to write a story for this paper, Tjakulpa Kuwarritja.

(Source translation): If you would like to write a story, go and see. . .

Tjakulpa kuwarritja (August/September 1982 p.30)

The speaker may or may not know whether it's true, but evaluating its truth isn't really the purpose of these constructions.

If anyone knows any literature on the role of ignorance in these constructions I'd love to hear about it!



# Non-ignorant uses of *tjinguru*

## Type two: disjunction

The use of ignorance or dubitative particles is a not uncommon strategy to express disjunctive meanings cross-linguistically (Mauri 2008)

- (16) *Kuwarri ngayulu wati Yatimatja-nya **tjinguru** wati Titjikatja-nya, nyuntu-lakutu wantirriya-lku.*  
soon 1SG.ERG man Artemas-ACC maybe man Tychicus-ACC 2SG-ALL send.out-FUT

(Source translation): When I send Artemas to you, or Tychicus, do your best to come to me at Nicopolis, for I have decided to spend the winter there.

Titus 3:12

There are some obvious connections between disjunction and epistemic modal particles, as speaker ignorance is involved in both cases (when unembedded), and it states that both options are possible (a modal element to disjunction generally has been defended by e.g. Geurts 2005)

(17) *They left on Monday or Tuesday* →

Speaker doesn't know which alternative is true

# Non-ignorant uses of *tjinguru*

## Type two: disjunction

There are some cases where *tjinguru* evens functions more like conjunction; but this is probably better seen as involving the conditional reading plus disjunction to arrive at a kind of conjunction

- (18) "Puḷi-ngka    nyurrangarri    runka-ra    mirrinta-nkunyṭjaku,  
stone-INSTR    2PL.ERG    pelt-MV    kill-PURP
- puluka, **tjinguru**    papa    yaṇangu-ṭarra    puḷi    Tjaniya-la    kaḷpa-nyingka."  
cow    maybe    dog    person-also    hill    ?Sinai-LOC    climb-PRS.REAS

By throwing stones you all must kill cows, or dogs, people also, who climb Mt. Sinai.  
(Source translation): "If even an animal touches the mountain, it must be stoned to death."

Yipuru wangkapayiku/Hebrews 12:20

= "Simplification of Disjunctive Antecedents"

If you see a cow or a dog, stone them —————> If you see a cow, stone them AND if you see a dog, stone them

# Non-ignorant uses of *tjinguru*

There are some other uses that I won't be so concerned about that are still maybe worth mentioning, like lessening illocutionary force (19) and some types of rumination (20)

(19) *Tjinguru nyuntu nganana-nya aalpa-mila-lku?*

maybe 2SG.ERG 1PL-ACC help-LOAN-FUT

Maybe you will help us?

Nyinytjirri Tjampita Tjarrpangu (Nangala, 1999)

(20) *Ula paluru kuli-nu, "Tjinguru ngayulu turaaka turaaka palya-lku!"*

boy 3SG.NOM think-PST maybe 1SG.ERG truck truck make-FUT

(Source translation): (One day) a boy thought to himself, "I think I'll make a 'truck truck'."

Turaaka turaaka palyaningi (Nelson Tjakamarra, 1987)

# The interaction with negation

*Interesting things happen when negation gets involved*

- When used as an ignorant epistemic marker, negation cannot scope over *tjinguru*
- When used non-ignorantly, negation readily (?only) scopes over *tjinguru*



# The interaction with negation

Negation (apparently) always scopes under epistemic readings of *tjinguru*:

**Epistemic:**  $\Diamond\neg P$  'It's possible that not P'

**Prompt:** *You're walking down the street and think you see your friend up ahead, but you're not sure because you can't see their face. You're not sure if you should call out to them, and think: "It might not be them."*

(21) *Tjinguru palatja paluru* or ***tjinguru*** *palatja paluru* ***wiya.***  
maybe DEM 3SG.NOM or **maybe** DEM 3SG.NOM **NEG**

Maybe it's them or maybe it's not them.

# The interaction with negation

Negation (apparently) always scopes under epistemic readings of *tjinguru*:

**Epistemic:**  $\Diamond \neg P$  'It's possible that not P'

An example from the Bible.

- (22) *Tjintu-ngka tjinguru mangarri ngayu-ku ngarri-ku, tjinguru wiya*  
day-LOC maybe food 1SG-DAT lie-FUT maybe NEG

Maybe I will have food tomorrow, maybe not.

(Original wording): So do not worry about tomorrow, for tomorrow will bring worries of its own. Today's trouble is enough for today.

Maatjuwukunu/Matthew 6:34

# The interaction with negation

Negation (apparently) always scopes under epistemic readings of *tjinguru*:

**Epistemic:**  $\Diamond \neg P$  'It's possible that not P'

Another example from the Bible, this time at the beginning of the sentence:

(23) *Ngayu-ku mayutju yirriti ngalya ya-namara.*  
1SG-DAT boss already hither come-COUNTERF

***Tjinguru wiya*** *ngalya ya-nanyi, tjinguru kutu kutju ya-nu.*  
**maybe NEG** hither come-PRS maybe continually alone go-PST

My boss should have already come. Maybe he's not coming, maybe we went on alone.  
(Original wording): But if that wicked slave says to himself, 'My master is delayed,'...

Maatjuwukunu/Matthew 24:48-49

# The interaction with negation

Looking at these examples, you might be thinking that the epistemic reading is scoping above negation because *tjinguru* always **linearly precedes** negation- is this just a syntactic thing?

**In any case**, what we want to do then is look for examples where negation linearly precedes *tjinguru*, in order to see what effect that has on scope.

Using the Luritja Bible as a corpus we find...

# The interaction with negation

Only about **two** good examples of *wiya* linearly preceeding *tjinguru* within a sentence.  
Let's have a look at them:

- (24) **Wiya** *paluru puluka-ku* **tjinguru** *nanikuta-ku* *ngurrka-tjarra tjarrpa-ngu*.  
**NEG** 3SG.NOM COW-ASSOC **maybe** goat-ASSOC blood-COMIT enter-PST

He did not enter with the blood of a cow or a goat.

(Source wording): . . . he entered once for all into the Holy Place, not with the blood of goats and calves, but with his own blood, thus obtaining eternal redemption.

Yipuru wangkapayiku/Hebrews 9:12



# The interaction with negation

Only about **two** good examples of *wiya* linearly preceeding *tjinguru* within a sentence.  
Let's have a look at them:

- (25) **Wiya** katja **tjinguru** yuntalpa-ngku yalatji kuli-ntjaku, ...  
**NEG** son **maybe** daughter-ERG thus think-PURP

No son or daughter is to think thusly, ...

(Source wording): Whoever loves father or mother more than me is not worthy of me; and whoever loves son or daughter more than me is not worthy of me; ...

Maatjuwukunu/Matthew 10:37

# The interaction with negation

What's immediately clear from these examples is that they are not ignorant epistemic uses of *tjinguru*! These are both functioning as **disjunctions**

What's more, they function *exactly as we would expect disjunction to behave under negation*

## De Morgan's Law:

$\neg(a \vee b)$  is equivalent to  $(\neg a \wedge \neg b)$

i.e. Negation over disjunction is equivalent to negating both elements of conjunction;  
"I don't eat garlic or ginger" is the same as "I don't eat garlic AND I don't eat ginger"

# The interaction with negation

I think it's clear that in (24) he entered *without the blood of a cow* **and** *without the blood of a goat*, and that in (25), *sons should not think thusly* **and** *daughters should not think thusly*.

- (24) **Wiya** paluru puluka-kunu **tjinguru** nanikuta-kunu ngurrka-tjarra tjarrpa-ngu.  
**NEG** 3SG.NOM cow-ASSOC **maybe** goat-ASSOC blood-COMIT enter-PST

He did not enter with the blood of a cow or a goat.

(Source wording): . . . he entered once for all into the Holy Place, not with the blood of goats and calves, but with his own blood, thus obtaining eternal redemption.

Yipuru wangkapayiku/Hebrews 9:12

- (25) **Wiya** katja **tjinguru** yuntalpa-ngku yalatji kuli-ntjaku, ...  
**NEG** son **maybe** daughter-ERG thus think-PURP

No son or daughter is to think thusly, . . .

(Source wording): Whoever loves father or mother more than me is not worthy of me; and whoever loves son or daughter more than me is not worthy of me; . . .

Maatjuwukunu/Matthew 10:37

Interesting side note: there is another modal reading here, a deontic reading contributed by the purposive (see Gray 2021 for details!), and it scopes above everything: "It should be that neither son nor daughter..."

## (A brief aside...)

Something like disjunction via *maybe* is also marginally possible in English, e.g.

(26) *Hey I recognise that couple! There's a salad on the menu that they always order when they come here... Maybe a Waldorf, maybe a Nicoise... I can't quite remember..*

However, when we add negation into the mix, *to the extent that it's possible at all*, I think that the reading is disjunction outscoping negation, unlike the Pintupi-Luritja examples we've seen here:

(27) *They've got some allergies I believe.. I think they don't eat... Maybe nuts, maybe shellfish... I can't quite remember...*

I.e. this means something more like "It is either nuts or shellfish that they don't eat", rather than "They eat neither."

$V > \neg$   
'It's a or b that not..'

Which is what you'd get with 'or':  
*I don't think they eat nuts or shellfish"*

Although there is so much going on here, including intonation and the question of ignorance; I'd love to get into this but it's more than a brief aside

# The interaction with negation

Although I can't go into it in detail, the same thing seems to happen with the suffix *-paka*, presumably borrowed from Arrernte (*a*)*peke* (see Wilkins 1989:361f), which in Pintupi-Luritja seems to only have these non-ignorant epistemic readings, including like disjunction:

- (28) *Katutja-lu wiya kuli-nu kutjupa-ngku puluka tjiipi-paka pu-ngkula ngurrka palu-lawana yinti-ntjaku.*  
God-ERG **NEG** think-PST other-ERG cow sheep-**perhaps** strike-MV blood 3SG.PERL pour-PURP

God didn't think that others must pour the blood of sacrificed cows or sheep.

(Source wording): Thus it was necessary for the sketches of the heavenly things to be purified with these rites, but the heavenly things themselves need better sacrifices than these.

Yipuru wangkapayiku/Hebrews 9:23

= Neither cows *nor* sheep, ( $\neg\text{cows} \wedge \neg\text{sheep}$ )



# The interaction with negation

These examples with negation show how the different uses of *tjinguru* (ignorant and non-ignorant uses) have differing behaviour wrt scope possibilities with negation.

- ✳ Ignorant uses cannot scope under negation
- ✳ Non-ignorant uses (at least disjunction) can scope under negation, and then you get what you'd expect when putting e.g. disjunction under negation

# What does all this mean?

- Epistemic modality seems to be exclusively expressed by means of *tjinguru*, which is not sensitive to factors that we associate with epistemic modal strength elsewhere; I suggest then that modal strength isn't relevant in the Pintupi-Luritja epistemic modal system
- Since the only examples of negation linearly preceeding *tjinguru* were non-epistemic, it looks like the relative scope of those elements is at least partially determined by linear precedence, which suggests a syntactic explanation for how things like negation take scope. This is not how the relative scope of negation and *deontic* modals appears to be determined (a final plug for my recent paper in *Languages*!), but it's too early (for me) to know in detail about how negation takes scope generally



# Thank you!

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