

The synchrony and diachrony of lexical tone in  
Raja Ampat

Laura Arnold  
*University of Edinburgh*

2nd International Seminar on Language, Literature, Culture, and  
Education

Halu Oleo University, 17 November 2021



# The synchrony and diachrony of tone in Raja Ampat

1. Introduction
2. The synchrony of tone in Raja Ampat
3. The diachrony of tone in Raja Ampat
4. Discussion



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## What is lexical tone?

- ▶ Pitch in language

*“A language is a ‘tone language’ if the pitch of the word can change the meaning of the word. Not just its nuances, but its core meaning” (Yip 2002)*

*“A language with tone is one in which an indication of pitch enters into the lexical realization of at least some morphemes” (Hyman 2006)*

## Tone: Standard (Bangkok) Thai

IPA		Tone	Gloss
k <sup>h</sup> áː	🔊	High	‘to trade’
k <sup>h</sup> āː	🔊	Mid	‘to get stuck’
k <sup>h</sup> àː	🔊	Low	‘galangal’
k <sup>h</sup> âː	🔊	Falling	‘(polite particle)’
k <sup>h</sup> ǎː	🔊	Rising	‘leg’

## Tone: Standard (Bangkok) Thai

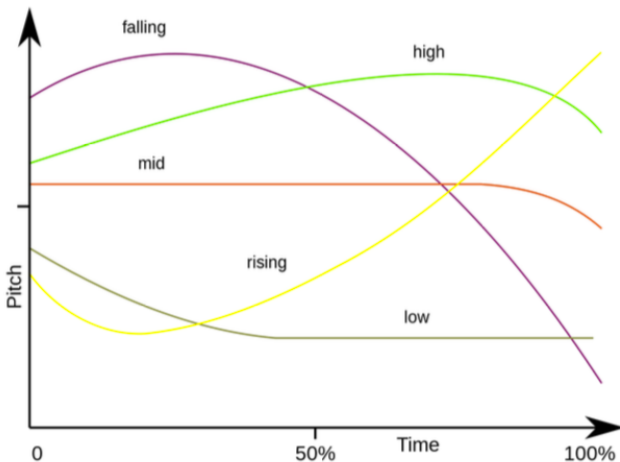


Figure 1: Thai tone curves



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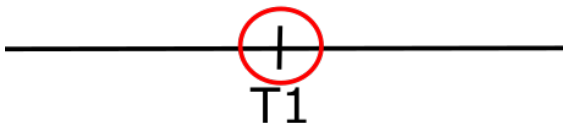
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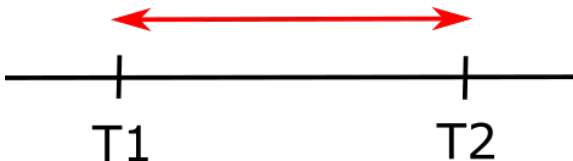


## Synchrony vs. diachrony

► Synchrony:



► Diachrony:



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## Introduction

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## Synchrony

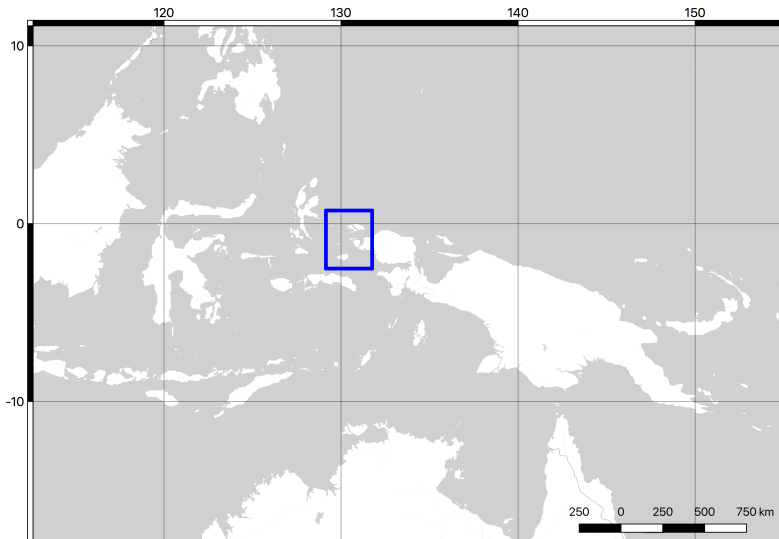
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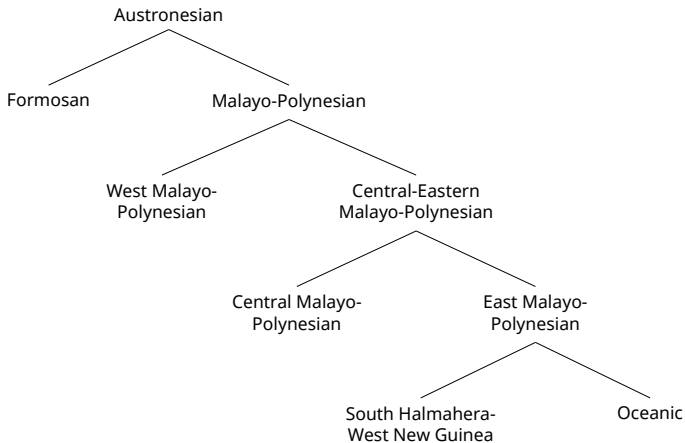
## Diachrony

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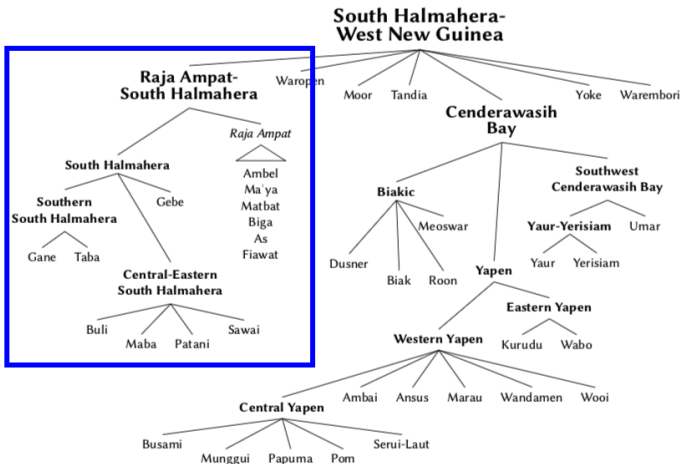
## Discussion

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After Blust (1978, 1983/84)





## Introduction

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## Synchrony

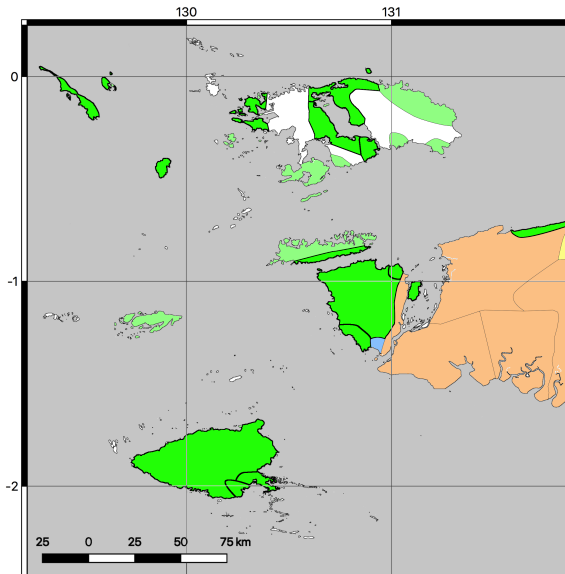
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## Diachrony

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## Discussion

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Introduction

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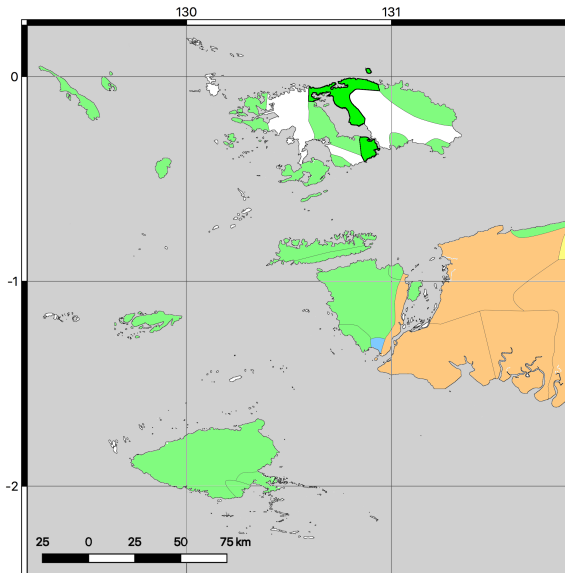
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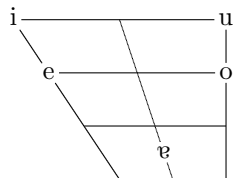






## Ambel (Arnold 2018a,b)

	labial		coronal		velar		labial- velar
stops	p	b	t	d	k	g	
fricatives	f (> h)		s				
nasals	m		n				
liquids			l	r			
semivowels			j				w





## Ambel (Arnold 2018a,b)

### ► Metnyo Ambel:

High		Toneless	
tún	‘moon’	tun	‘thorn’
súp	‘bathe.1SG’	sup	‘repeat.1SG’
y-ún	‘1SG-pick.up’	y-un	‘1SG-know’

### ► Metsam Ambel:

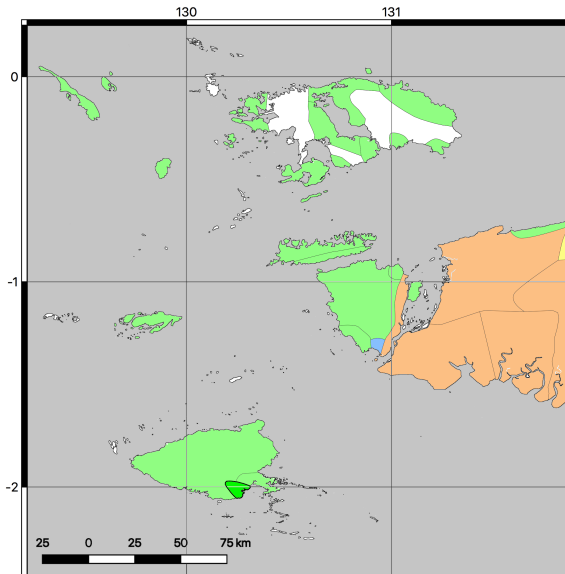
High	Rise	Toneless			
páy	‘heron’	běy	‘sago’	gey	‘betel nut’

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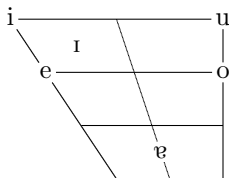






## Biga (own fieldnotes)

	labial		alveolar		palatal	velar		labial- velar	glottal
stops	p	b	t	d		k	g		
fricatives	f		s						
nasals		m		n					
liquids			l	r					
glides					j			w	



## Biga (own fieldnotes)

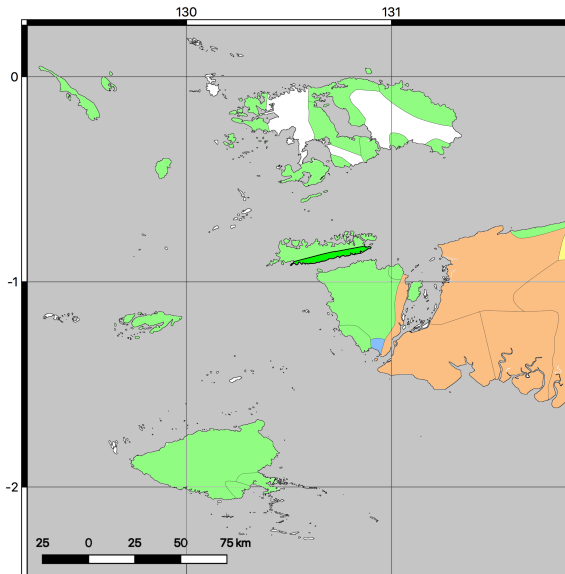
High		Extra-High		Toneless	
lú	‘sea’	🔊	lú	‘two’	🔊
íf	‘island’	🔊	ís	‘dog’	🔊
pít	‘moon’	🔊	út	‘louse’	🔊
				put	‘thorn’ 🔊

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Introduction

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Diachrony

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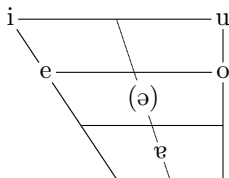
Discussion

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## Batta (own fieldnotes)

	labial	alveolar	palatal	velar	labial- velar	glottal
stops	p    b	t    d		k    g		
fricatives	f	s				h
nasals	<u>m</u> m	<u>n</u> n		(ŋ)		
liquids		l    r				
glides			j		w	



## Batta (own fieldnotes)

High	Rise	Low	Toneless
jín ‘fish’ 	lǐm ‘five’ 		
tál ‘banana’ 		tùl ‘three’ 	tol ‘egg’ 

Introduction

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Synchrony

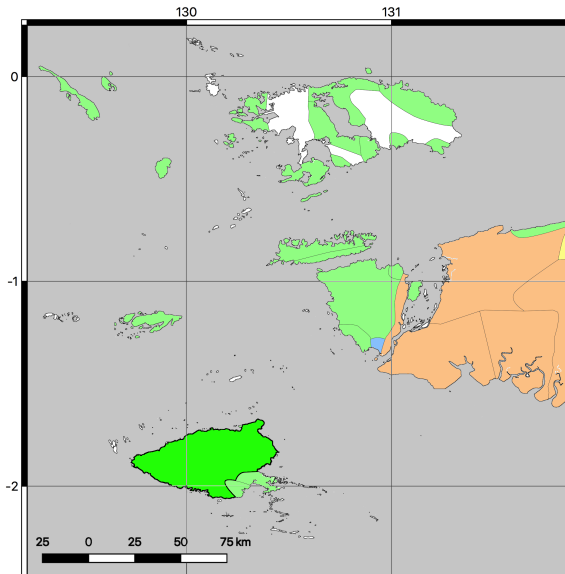
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Diachrony

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Discussion

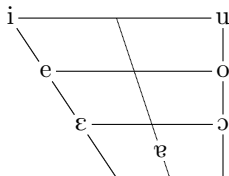
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## Matbat (Remijsen 2007)

	labial		coronal		velar		labial- velar
stops	p	b	t	d	k	g	
fricatives	f		s				
nasals		m		n		ŋ	
liquids			l	(r)			
semivowels				j			w



## Matbat (Remijsen 2007)

Low	/ <sup>1</sup> /	na <sup>1</sup> n ‘betel’	
High	/ <sup>3</sup> /		de <sup>3</sup> ‘house’
Extra-high Fall	/ <sup>41</sup> /		de <sup>41</sup> ‘1PL.I-go.down’
Low Fall	/ <sup>21</sup> /	na <sup>21</sup> n ‘name’	
Low Rise	/ <sup>12</sup> /	na <sup>12</sup> n ‘animal’	
Rise-Fall	/ <sup>121</sup> /		de <sup>121</sup> ‘sick’

Introduction

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Synchrony

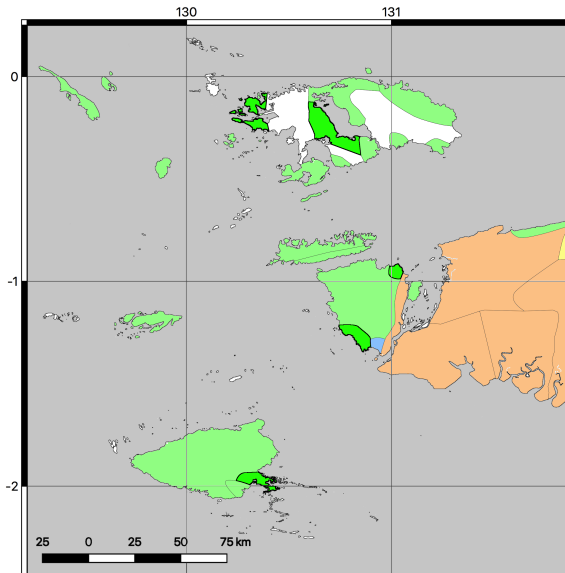
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Diachrony

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Discussion

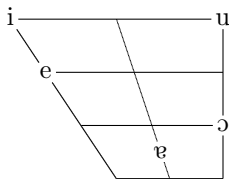
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# Ma'ya (Remijsen 2001)

	labial		coronal		velar		labial- velar	glottal
stops	p	b	t	d	k	g		(ʔ)
fricatives	f		s					
nasals		m		n				
liquids			l	r				
semivowels				j			w	



## Ma<sup>1</sup>ya (Remijsen 2001)

### ► Tone:

Rise/Low	/ <sup>12</sup> /	'sa <sup>12</sup>	'sweep'
High	/ <sup>3</sup> /	'sa <sup>3</sup>	'climb'
toneless		'sa	'one'

- Restricted to word-final syllables

### ► Stress:

- Primary correlate = length
- Penultimate and final syllables

e.g. ma<sup>1</sup>na<sup>3</sup> 'grease' vs. 'mana<sup>3</sup> 'light'



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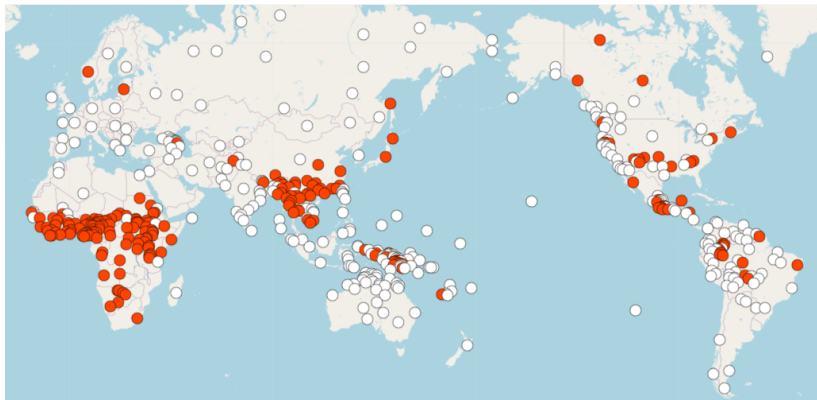
4. Discussion

## Similarities between languages

- ▶ Coincidence?
- ▶ Inheritance from an ancestral language?
- ▶ Contact with other languages?

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# Coincidence?









Source: Maddieson (2013)

## Coincidence?

► BUT...

- If a language has developed a feature independently, we should see evidence for the origin within the language.

Stage I	Stage II	Stage III
pá 	pá 	pá 
bá 	bă 	pă 

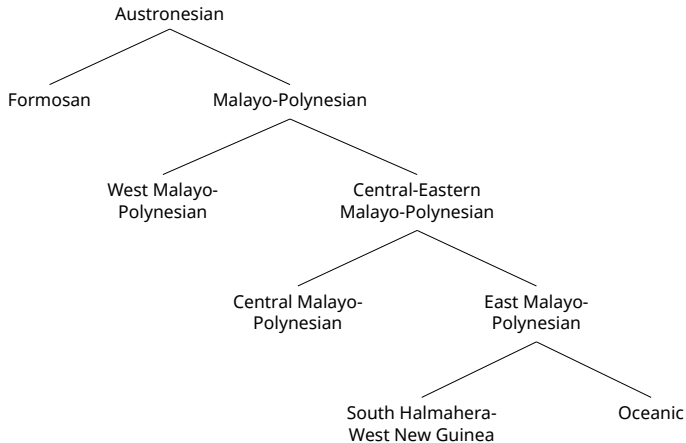
Kirby (2014: 196), after Hyman (1976)

## Coincidence?

### ▶ BUT...

- ▶ Arnold (2018c: 23): “There are no obvious segmental predictors of tone” in Ambel
- ▶ Kamholz (2014: 97): “There are no very convincing segmental predictors of tone” in Ma'ya
- ▶ Arnold (2018c: 31): There is a “lack of evidence pointing to spontaneous language-internal innovation” in Raja Ampat

# Inheritance from an ancestral language?



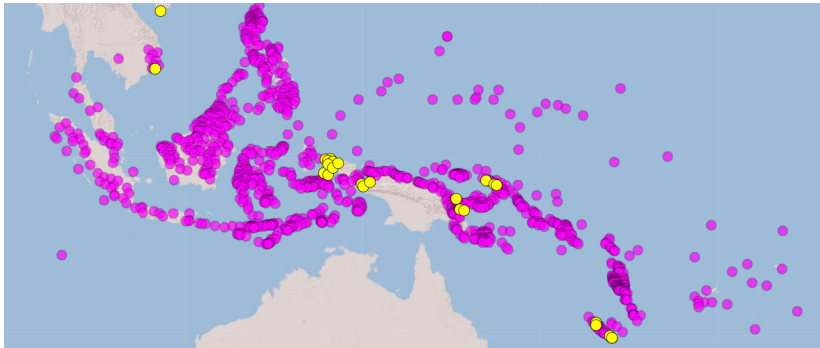


## Inheritance from an ancestral language?

	‘one’	‘two’	‘three’	‘four’	‘five’
Paiwan	ita	dusa	tjelu	sepatj	lima
Cebuano	usá	duhá	tulú	upát	limá
Indonesian	satu	dua	tiga	empat	lima
Javanese	siji	loro	telu	papat	lima
Malagasy	isa	roa	telo	efatra	dimy
Batta	sa	luw	tul	fat	lim
Arosi	e-ta’i	e-rua	e-oru	e-hai	e-rima
Hawaiian	e-kahi	e-lua	e-kolu	e-hā	e-lima

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# Inheritance from an ancestral language?



Adapted from Hammarström et al. (2021)

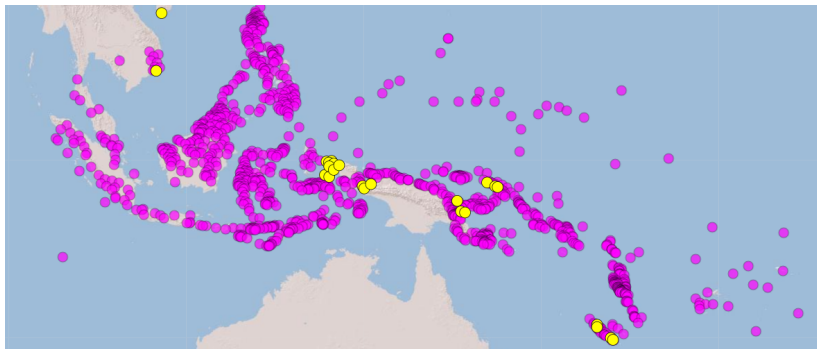
## Inheritance from an ancestral language?

### ▶ BUT...

- ▶ We would expect to see similarities between the different tone systems
- ▶ Arnold (2018c: 31): “Ambel... did not inherit its tone system from a common ancestor with Ma'ya and Matbat”
- ▶ Arnold (2018c: 18): The tone systems of Ma'ya and Matbat “have been inherited from a common source”
  - ▶ But where did tone originally come from in proto-Ma'ya-Matbat?

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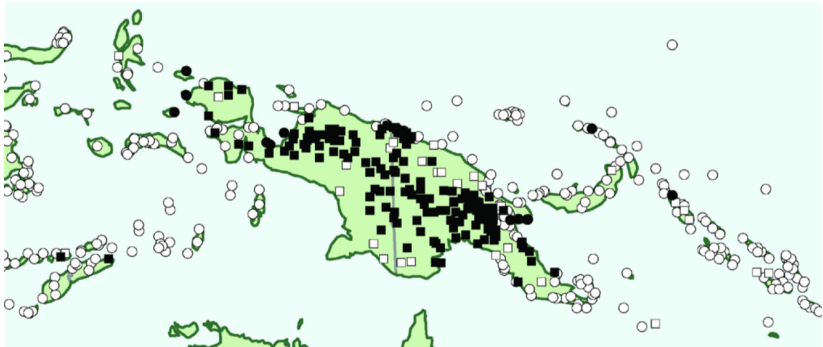
## Contact with other languages?



Adapted from Hammarström et al. (2021)



## Contact with other languages?



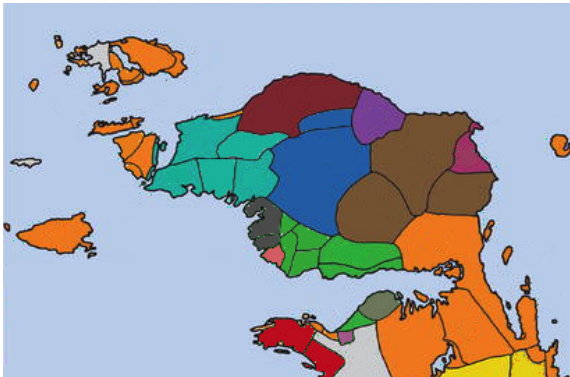
Source: Schapper (2020)



## Contact with other languages?

- ▶ Nearby Papuan (non-Austronesian) languages with tone:
  - ▶ Mpur (Odé 2002)
  - ▶ Abun (Berry and Berry 1999)
  - ▶ Sougb (Reesink 2002)
  - ▶ Meyah (Gravelle 2011)
  - ▶ Moskona (Gravelle 2010)

## Contact with other languages?



Adapted from Gasser (2019)

## Contact with other languages?

- ▶ BUT...
  - ▶ No Papuan languages with tone are spoken in Raja Ampat
  - ▶ Speakers of Raja Ampat languages are not currently in close contact with speakers of Papuan languages
  - ▶ We can infer that Papuan languages with tone used to be spoken in Raja Ampat...
  - ▶ ...but that these languages are now extinct.





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## Austronesian-Papuan contact in Raja Ampat

- ▶ Other (indirect) evidence for contact:
  - ▶ Many words in the RA languages do not have an Austronesian source (Remijsen 2001)
  - ▶ Ambel stories about *kábyo* and *orang gi*

## Austronesian-Papuan contact in Papua Barat

- ▶ Austronesian > Papuan:
  1. Inclusive/exclusive pronouns
  2. Word order: Subject - Verb - Object (SVO)
  
- ▶ Papuan > Austronesian:
  1. 'Alienability' distinction in possessive constructions
  2. Sentence-final negation

Klamer et al. (2008)

## Austronesian-Papuan contact in Papua Barat

► Inclusive/exclusive pronouns:

Ambel	(Austronesian)	isne	‘kita’	
		amne	‘kami’	(Arnold 2018a)
Meyah	(Papuan)	mimif	‘kita’	
		memef	‘kami’	(Gravelle 2004)

## Austronesian-Papuan contact in Papua Barat

► Word order: Subject - Verb - Object (SVO)

(1) Wamesa (Austronesian; Gasser 2014):

yau            i-rora        kamumi=pa-i  
saya            1SG-pukul nyamuk=DET-SG  
**[subject] [verb] [object]**

‘Saya memukul nyamuk itu.’

(2) Maybrat (Papuan; Dol 1999):

ku            kiniah    m-ai        mtah        ro-Petrus  
anak        small    3U-pukul anjing      POS-Petrus  
**[subject            ] [verb] [object            ]**

‘Anak kecil itu memukul anjing Petrus.’

## Austronesian-Papuan contact in Papua Barat

- ▶ ‘Alienability’ distinction in possessive constructions:

(3) Woi (Austronesian; Sawaki 2017):

- ne-mu humbe  
POS-2SG parang  
‘parang kamu’
- tama-mu-i  
bapak-POS.2SG-SG  
‘bapak kamu’

## Austronesian-Papuan contact in Papua Barat

- ▶ ‘Alienability’ distinction in possessive constructions:

(4) Abun (Papuan; Berry and Berry 1999):

- a. Nyarwon bi nu  
Nyarwon POSS rumah

‘rumah Nyarwon’

- b. Sepenyel gwes  
Sepenyel kaki

‘kaki Sepenyel’

## Austronesian-Papuan contact in Papua Barat

► Sentence-final negation:

- (5) Biak (Austronesian; van den Heuvel 2006):

k<y>er          dyapan **va**  
<3SG>tanam keladi **NEG**

‘Dia tidak menanam keladi.’

- (6) Hatam (Papuan; Reesink 1999):

di-bui          napia bi-mai **big**  
1SG-pukul babi PUR-mati **NEG**

‘Saya tidak membunuh babi itu.’



## Austronesian-Papuan contact in Papua Barat

### ► Summary:

	Papua Barat		Typically	
	Austronesian	Papuan	Austronesian	Papuan
Inclusive/exclusive	✓✓✓	✓✓	✓✓✓	✗
SVO	✓✓✓	✓✓	✓✓	✗
Alienability	✓✓✓	✓✓✓	✗	✓
Final negation	✓✓✓	✓✓✓	✗	✓✓
Tone	✓	✓	✗	✓✓



# Language endangerment

- ▶ All of the RA languages are endangered
  - ▶ Ambel: 1,600 speakers, age 30+
  - ▶ Batta: 150 speakers, age 40+
  - ▶ As: 6 speakers, all elderly



# Language endangerment



# Language endangerment

- ▶ We need to work with communities to document, describe, and promote their languages!
- ▶ Center for Endangered Languages Documentation, Manokwari:  
<http://celd.uni-koeln.de/>

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Introduction

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Synchrony

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Diachrony

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Discussion

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Thank you!

