



Angus McIntosh Centre
for Historical Linguistics

Comparative
Historical Corpus
of the Southern Cone



Vowels in 19th and 20th-century Yahgan

Bridges across time and scripts



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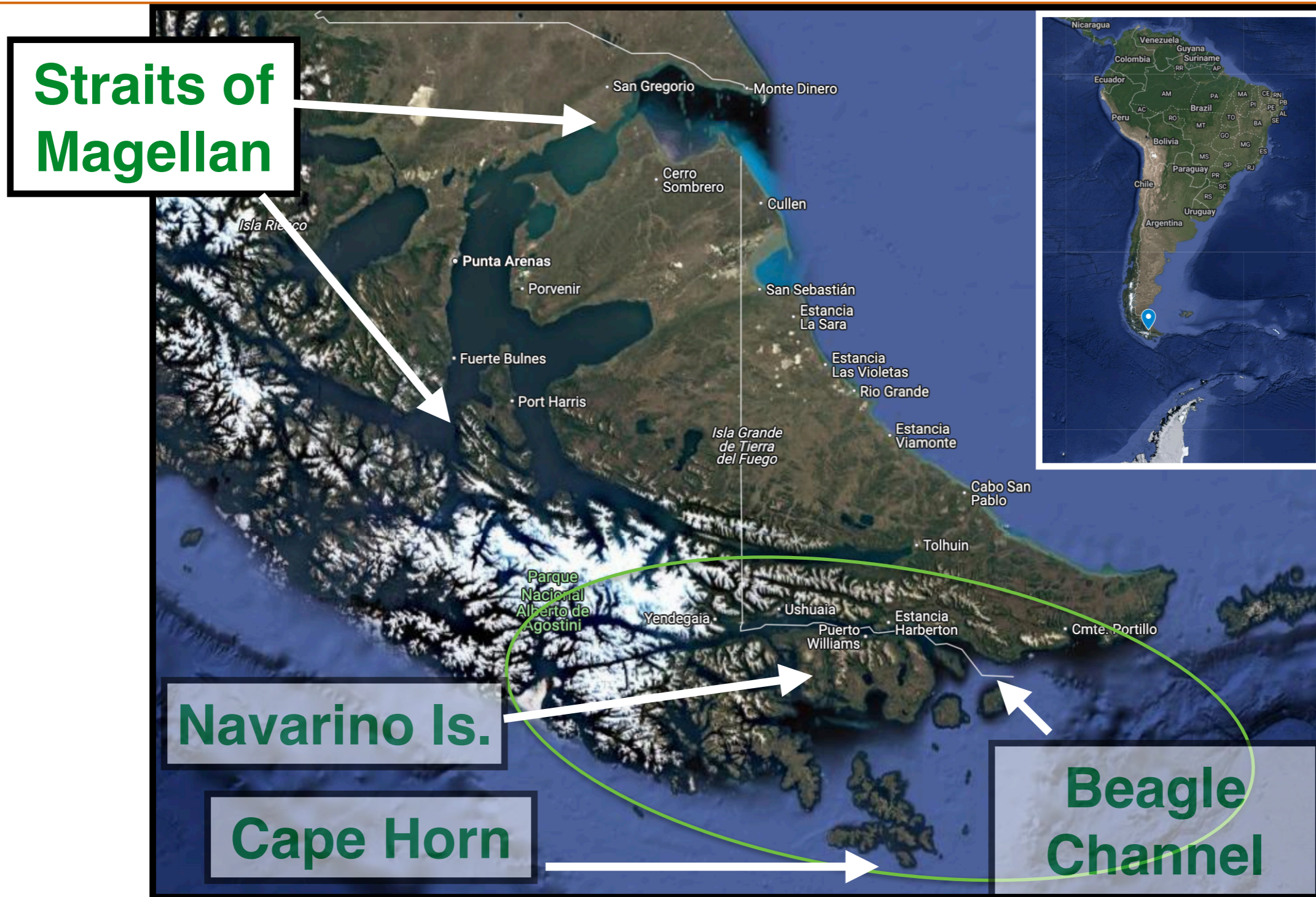


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Ports of call

- ◉ The Yahgan and their language
- ◉ Histories of contact, colonisation and documentation
- ◉ Yahgan vowels in the 20th century
- ◉ Yahgan vowels in the 19th century
- ◉ Getting at the data
- ◉ Changes, continuities and loss
- ◉ Conclusions

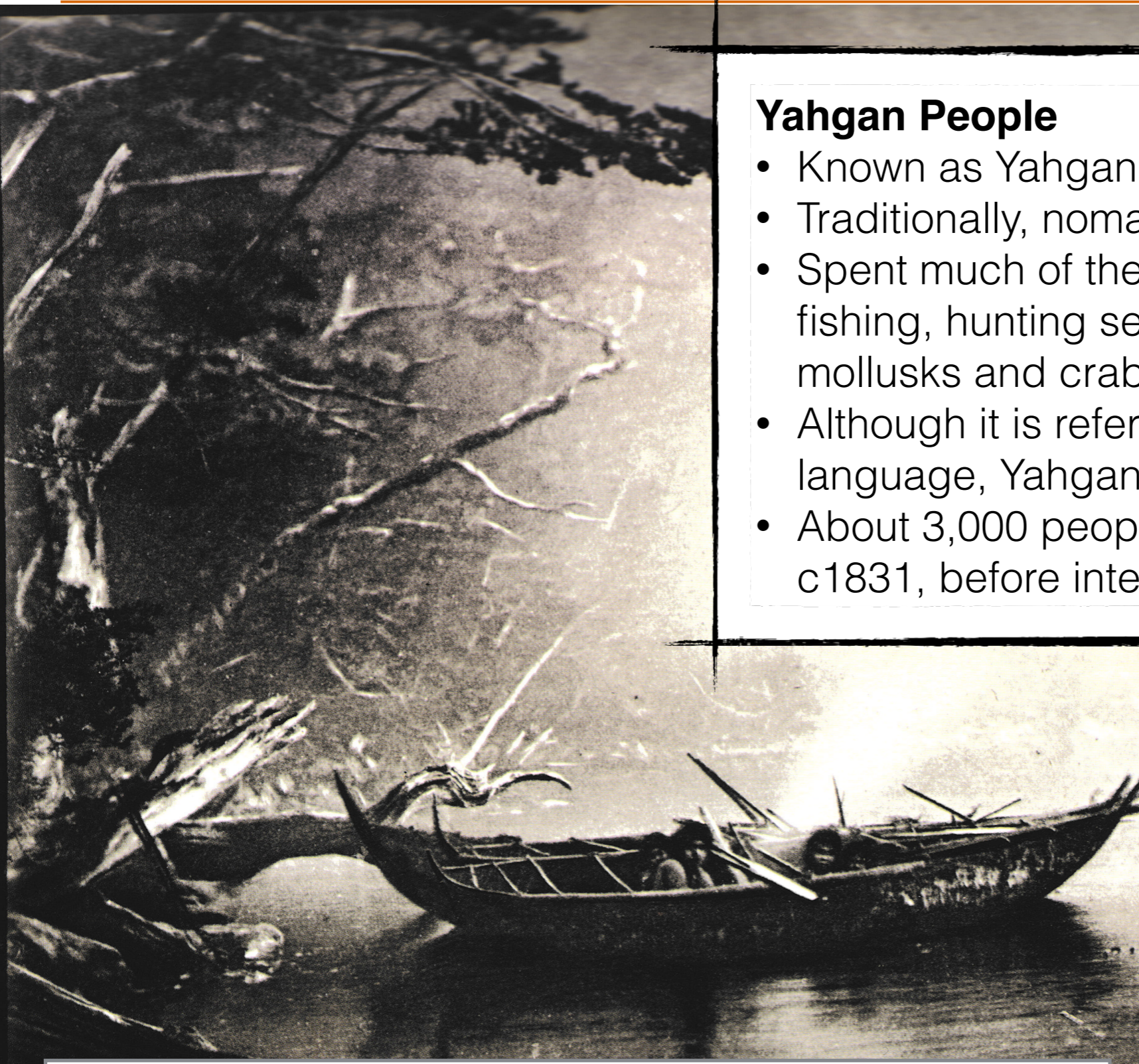
The Yahgan homeland



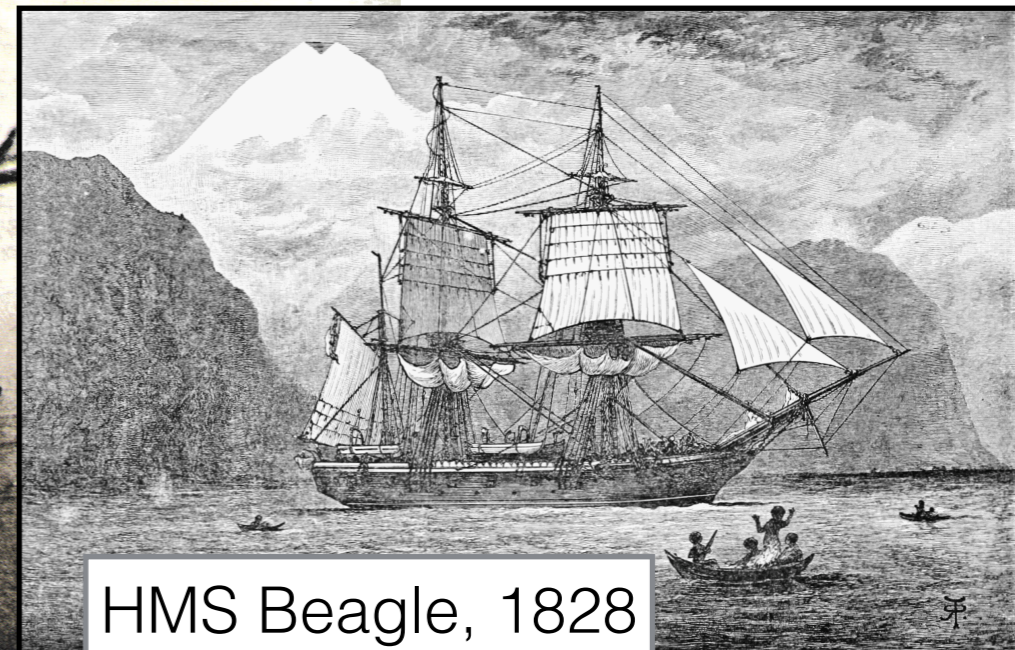
The Yahgan and their language

Yahgan People

- Known as Yahgan, Yagán, Yámana or Tekenica
- Traditionally, nomadic hunter-gatherers
- Spent much of their lives on bark canoes, fishing, hunting sea-lions and diving for mollusks and crabs
- Although it is referred to as a 'Fuegian' language, Yahgan is considered an isolate
- About 3,000 people estimated by Darwin c1831, before intense contact with outsiders



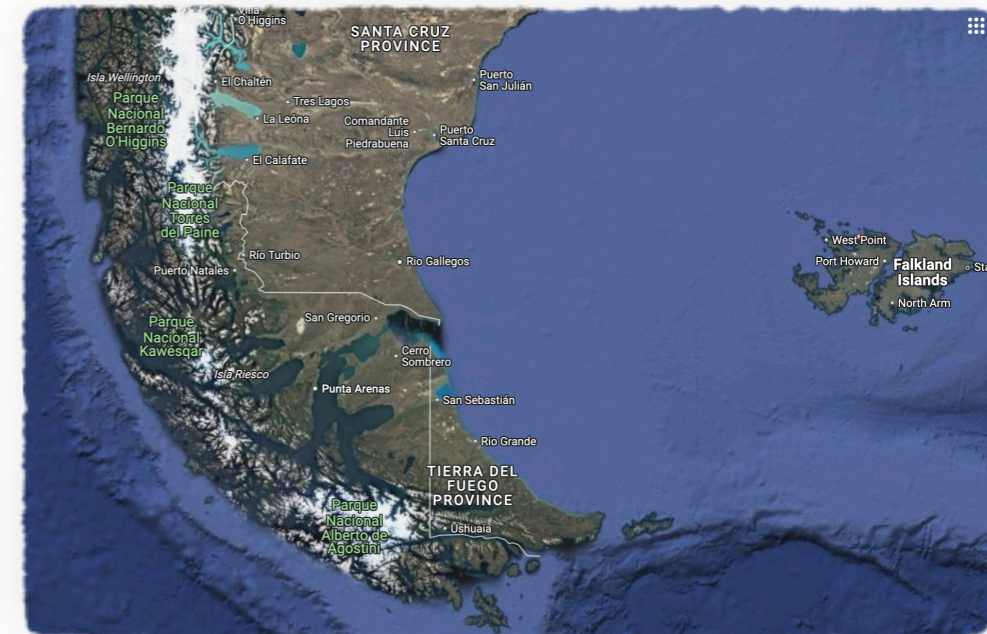
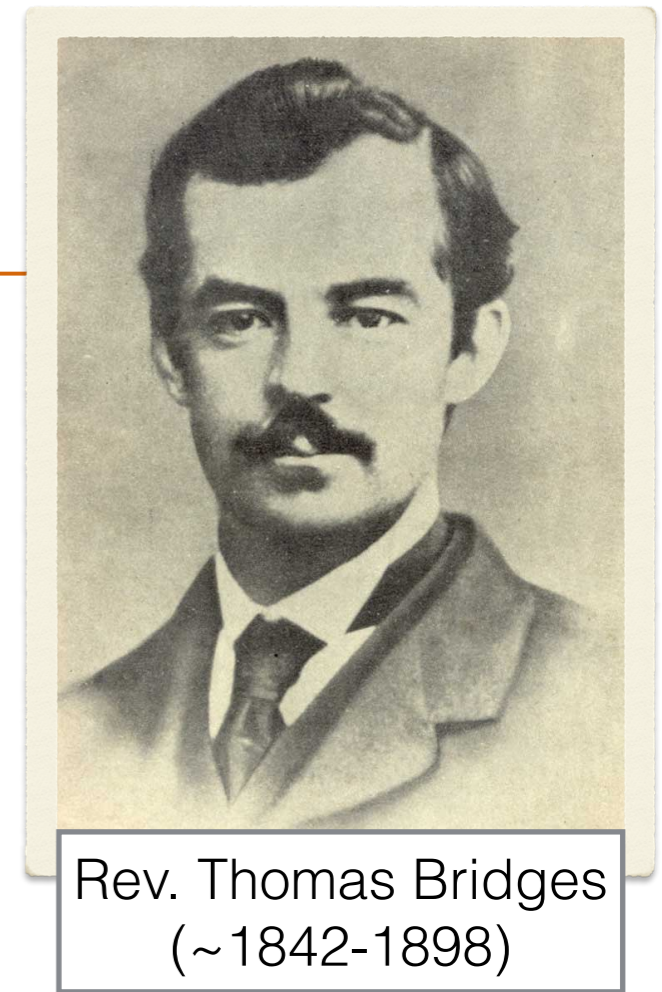
A Yahgan family in their canoe, Beagle Chanel c. 1890



HMS Beagle, 1828

Contact and documentation

- A key figure was Thomas Bridges, the adoptive son of a family in the *South American Missionary Society*, a British Anglican group
- He was brought to the Falklands (Malvinas) in 1856 at 13, where he became a proficient speaker of Yahgan, living closely with community members taken to the island from Tierra del Fuego
- Following a failed attempt at establishing a mission on Navarino Island (the Wulaia Bay Massacre), in 1861, his family returned to England, but Bridges, age 18, remained
- Gradually he made inroads with the people and, in 1869, a first mission 'successful' was set up at Ushuaia



'Our unfortunate friends'

- Bridge's flock quickly dwindled
- The main cause were infectious diseases, alcoholism and exploitation
- By 1906, the Yahgan were about 170
- By the 1990s only a handful of speakers of the language remained, among them, sisters Úrsula and Cristina Calderón
- In 2022, Cristina Calderón died in Punta Arenas, Chile, aged 93
- She was the last first-language speaker of Yahgan



Bridges at Ushuaia, with Yahgan kids



Cristina

Úrsula

c. 1990

19th-century documentation

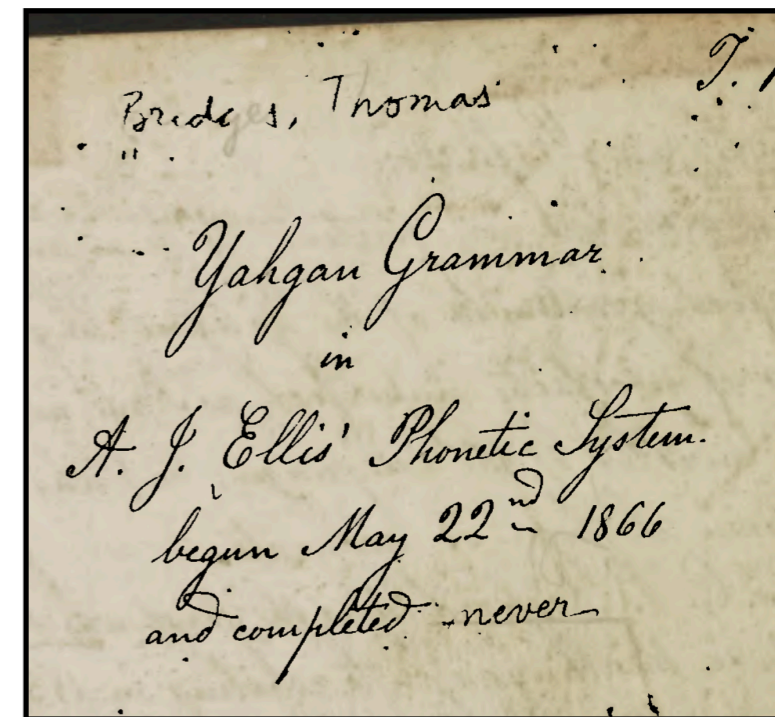
- Almost all early materials can be traced to Bridges
- Supported by the SAMS, he published translations from the New Testament
 - Gospel of St Luke (1881)
 - Acts of the Apostles (1883)
 - Gospel of St John (1886)
- In 1894 he published "A few notes on the structure of Yahgan".
- An unpublished grammar survives in the US Library of Congress
- A 32,000-entry Yahgan-English dictionary was published from his notes in 1933, but a more complete manuscript is kept at the British Library

GOSPL LUC ECAMANĀCI.

THE GOSPEL OF S. LUKE

TRANSLATED INTO THE

YAHGAN LANGUAGE.



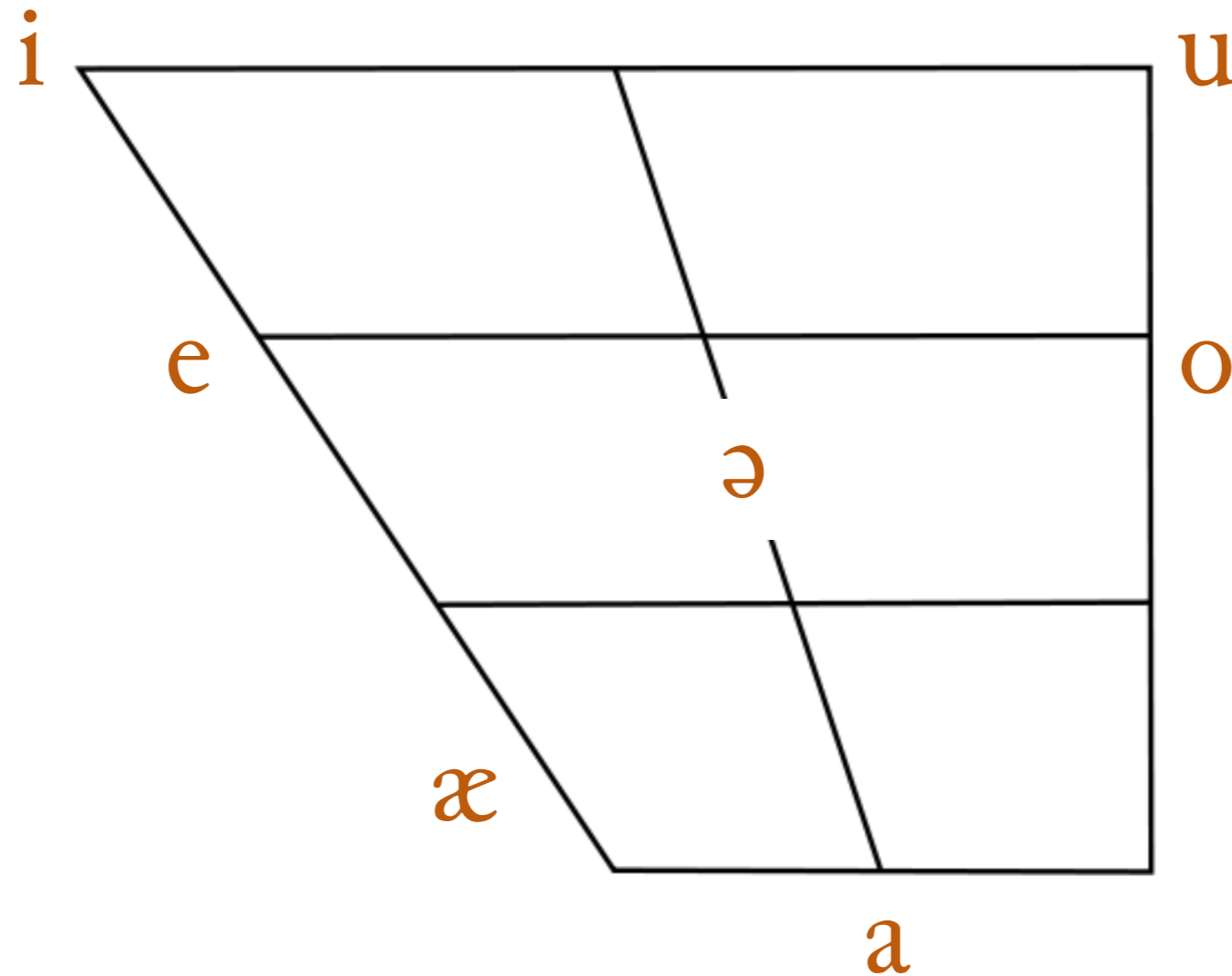
20th-century documentation

- Aguilera, Óscar (2000): "En torno a la estructura fonológica del yagán. Fonología de la palabra". *Onomazein*, Santiago, vol. 5, pp. 233–241.
- Golbert de Goodbar, Perla (1977): "Yagan I. Las partes de la oración". *Vicus*, Amsterdam, vol. 1, pp. 5–60. (1978): "Yagan II. Morfología nominal". *Vicus*, Amsterdam, vol. 2, pp. 87–101.
- Guerra Eissmann, Ana M. (1990): "Esbozo fonológico del yagán", en *Actas del Octavo Seminario Nacional de Investigación y Enseñanza de la Lingüística*. Santiago: U. de Chile y Sociedad Chilena de Lingüística, vol. V, pp. 88–93.
- Guerra Eissmann, Ana M. (1992): "Las fluctuaciones de fonemas en el yagán". *Revista de Lingüística Teórica y Aplicada*, 30, pp. 171–182.
- Salas, Adalberto, y Valencia, Alba (1990): "El fonetismo del yámana o yagán. Una nota en lingüística de salvataje". *Revista de Lingüística Teórica y Aplicada*, Concepción, vol. 28, pp. 147–169.
- Poblete, Ana María y Salas, Adalberto (1999) Fonemas yámana (yagán). Estructura fonológica de la palabra. *Revista de Lingüística Teórica y Aplicada* 37, pp.107-122.

Yahgan historical linguistics?

- Why attempt this at all?
 - Test the robustness of the field (and expand its empirical scope)
 - Validate the remaining community
 - Understand the prehistory of the Americas
- Problems of reliability
 - One (non-native) source for the documentation of 19c Yahgan
 - A small set of elderly consultants for the contemporary data
- Questions
 - What is the Yahgan vocalic system in each period?
 - Can evidence from English loanwords help elucidate the matter?

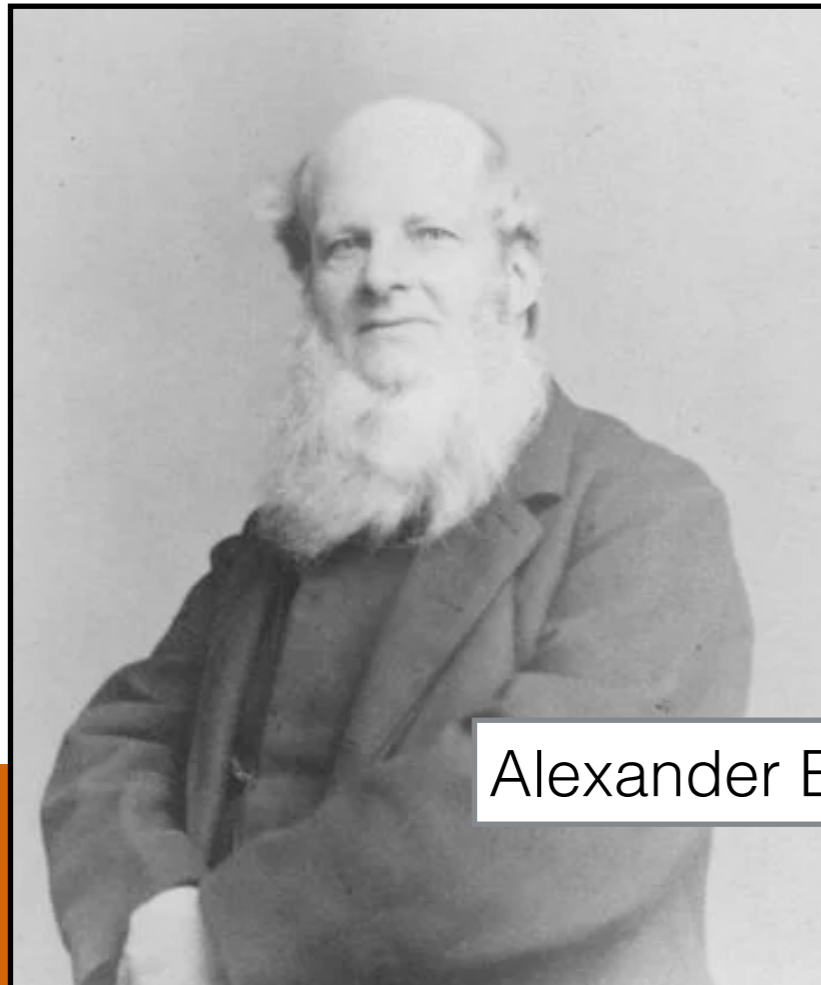
20th-century vowels (Salas & Valencia 1990; Poblete & Salas 1999)



- Traditional phonemic analysis. Data from Cristina and Úrsula Calderón
- Aguilera (2000) reaches the same conclusions after working with both women

Bridge's system

- Based on A. J. Ellis' 'Phonotypic Alphabet'
- Developed with Isaac Pitman for the teaching of English
- A precursor to the IPA
- Predates phonemic theory



Alexander Ellis

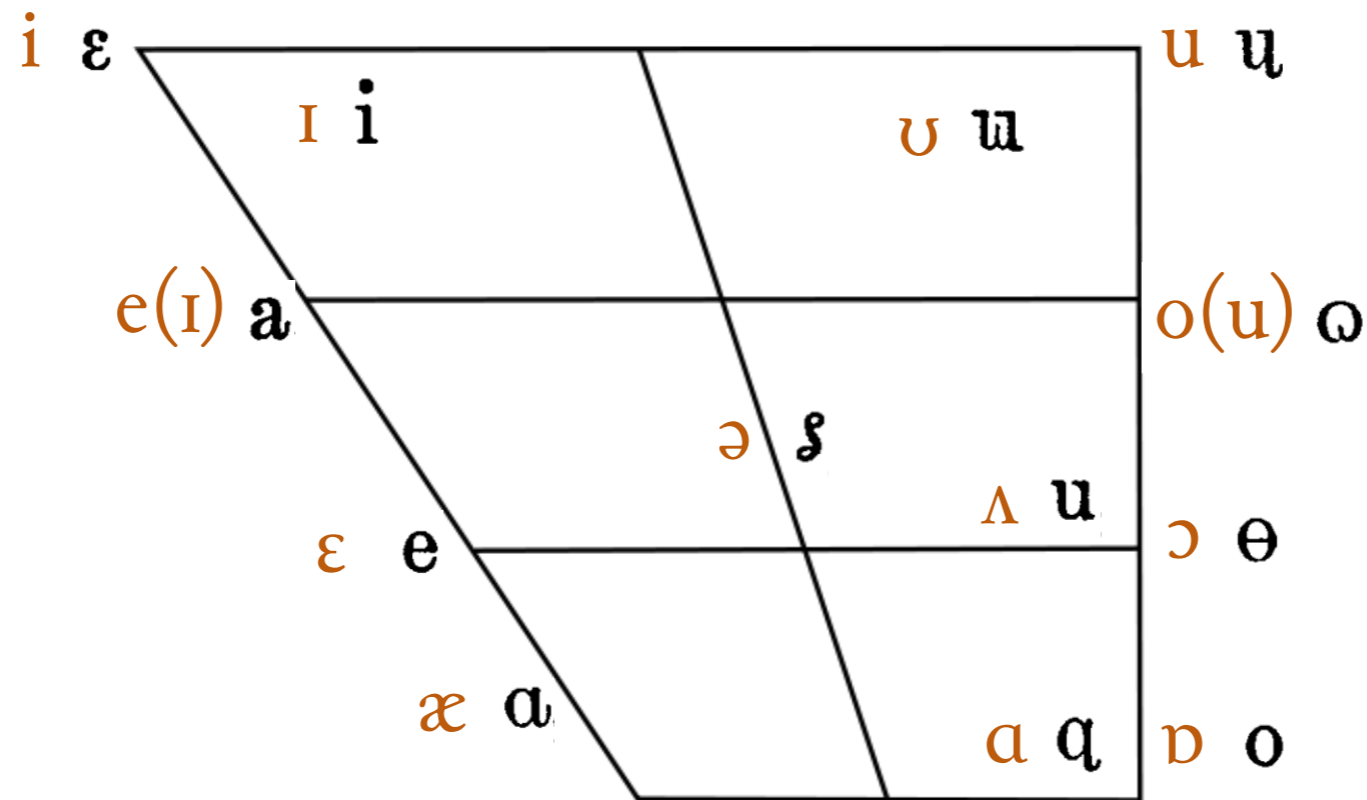
The Yahnghan Phonetic Alphabet.

The letter is always			The letter is always			The letter is always		
written	printed	sounded as	written	printed	sounded as	written	printed	sounded as
A a	A a	a in at	O o	O o	oa in oat	th d	th d	th in thine
A a	A a	a - alms.	S s	S s	ur - fur.	S s	S s	s in so
O o	O o	a - all.	<u>Consonants.</u>			Z z	Z z	s - is
O o	O o	o - olive	C c	C c	e in cot	f f	f f	sh - show
U u	U u	oo - foot	G g	G g	g - go	z z	z z	s - pleasure
U u	U u	oo - food	T t	T t	t - to	L l	L l	l - low
I i	I i	i - ill	D d	D d	d - do	L l	L l	ll - ulsh
E e	E e	ee - eel	P p	P p	p - put	M m	M m	M - me
E e	E e	e - ell.	B b	B b	b - but	N n	N n	n - no
A a	A a	ai - aim.	F f	F f	f - foe	N n	N n	hn - alman.
I i	I i	i - isle	V v	V v	v - vase	W w	W w	wy - wing
O o	O o	oi - oil	C c	C c	ch - chin	R r	R r	r - row
U u	U u	u - us.	J j	J j	j - jade	R r	R r	hr - welsh
O o	O o	ow - owl.	T t	T t	th - thin	K k	K k	ch - german.

Beside the above letters there are these three vowel marks, ' = h, ` = y, r - = w only found over vowels, hence their name. These marks are often found united over vowels, thus uâ = uhwa sij. ashes; uâ = wuhya sij. a door; uâ = wuhwa sij. tinder of birds' down. The effect of these marks always precedes the vowels over, which they are found.

Bridge's vowel system (rough IPA in orange)

'Long and short vowels':



'Diphthongs':

ai ĭ ɔɪ ɚ au ɝ

soljs

tɜs

anjɪ

Gəð

A a, a in <i>haze</i> .	E e, e in <i>men</i> .	Ǝ ε, ea in <i>each</i> .	I i, i in <i>ill</i> .
ʌ ɒ, a in <i>flask</i> .	A`a, a in <i>at</i> .	θ θ, a in <i>all</i> .	O o, o in <i>ox</i> .
U u, oo in <i>food</i> .	W w, oo in <i>foot</i> .	Ɔ ɔ, oi in <i>oil</i> .	ƥ ĭ, i in <i>isle</i> .
Q o, oe in <i>hoe</i> .	U u, u in <i>us</i> .	ɝ ɜ, ou in <i>our</i> .	S s, er in <i>herd</i> .

Getting at the data

Élona. i. a To build, to make a wigwam, or house.

Dictionary

29 scja acimus gesa satumuaçua ácupj ácan; sina
cloc s̄inatamus cutupj sa bav meàmèa sina cot
ácan.

Gospel of St Luke

Luke Chap. 6: *And unto him that smiteth thee on the one cheek offer also the other; and him that taketh away thy **cloak** forbid not to take thy **coat** also.*

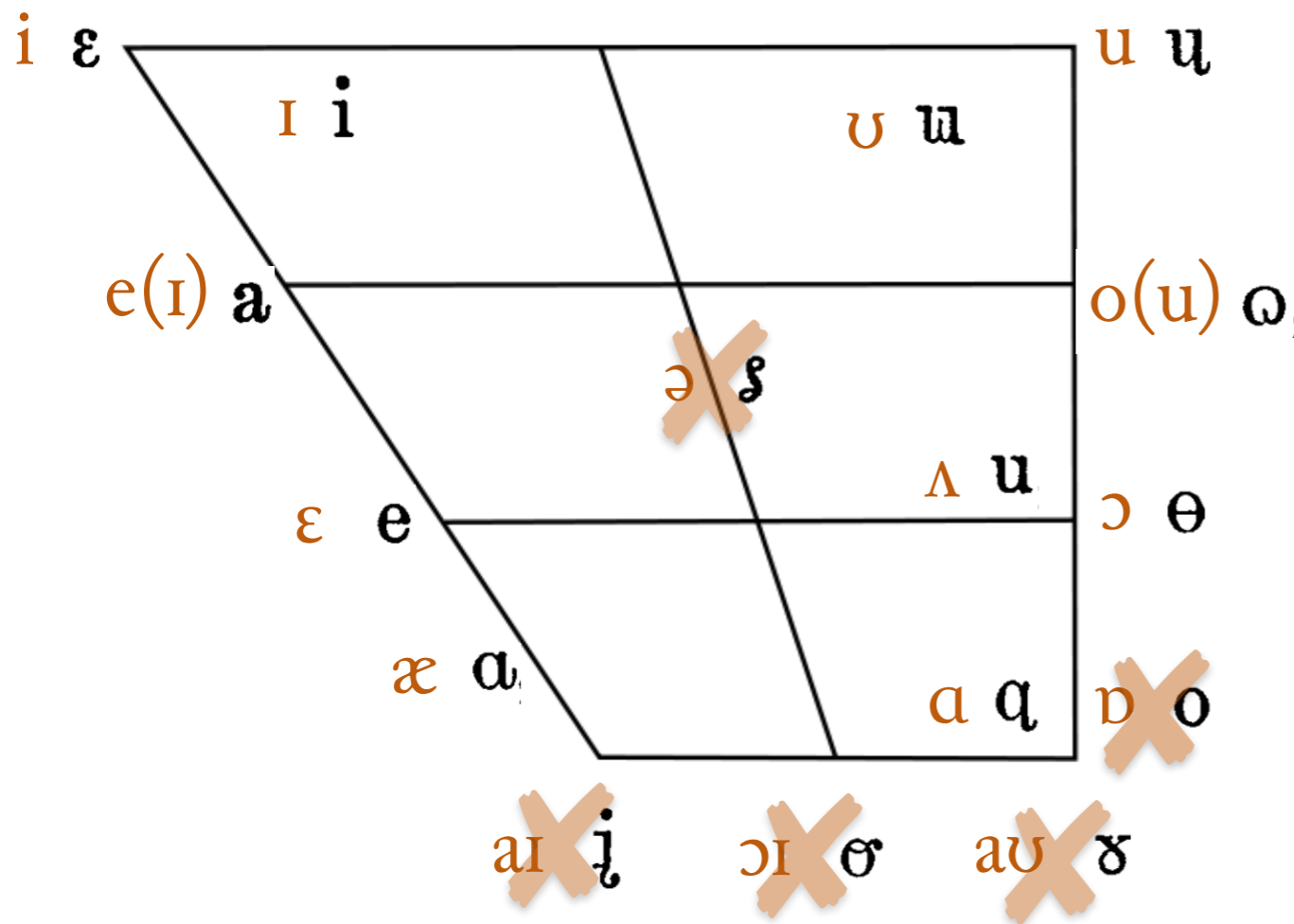
- There is no Unicode for Ellis' Phonotypic Alphabet
- Traditional OCR fails
- Trained a model using 'dingbats' in Transkribus
- Works for print text, but not so well for handwritten text (yet!)



Attestations of Bridges' vowels

Ellis	IPA	Native Vocab	English Vocab
a	e(i)	me ei ækλnætikæ 'fear not'; we ei 'may/can'	a ngel, Ga br i el
ε	i	ikæmænæ 'draw/write'; kitu 'self'	Jude a , prie st
ι	ai	ka ai jide 'swiftly bring'; ha ai 'I'	Christ, fi ve
ω	o(u)	jo ou idag 'strong'; mo ou λnna 'repent'	Clo o k, Jo o seph
υ	u	lut si 'valley'; ulapæ 'bad'	L u ke, Ju de a
α	æ	il æ 'outside'; æt sjæ w æ i æ 'spirit/life'	Z a ch., Naz a reth
e	ε	t ε ki- 'see'; maust ε ka 'care for'	Jeru s alem, Ma r y
i	i	it sjæ 'bear fruit'; kλsp i x 'spirit'	I srael, ci ty
o	ɒ	—	Jo h n, Prop h et
υ	λ	λt sj i 'foreign'; λ σε k λ s 'sunlight'	Theophil u s
α	α	ba υ 'none'; ja υ sjæ 'loud'	Isra e l, Pass o ver
θ	ɔ	ɔ æ lai æ læ 'barren'; mɔ æ læ 'day'	Go d , alt a r, la w
σ	ɔi	(lɔ i mæz 'in order')	—
ϝ	au	ha υ æn 'this'; a υ wλn 'true'	ho u r, to w er
ω	υ	hæk υ n 'also'; ut sj ikænæ 'urge'	bo o k
ς	ə	—	chapt e r, sold i er

Re-analysis of Bridges' vowels



$\dot{\imath}$ = [ha-ɪ] = 1S-NOM

δa = [ha-uæ] = 1S-POSS

$\dot{\epsilon}ca$ = [jikæ] 'small'

\acute{a} = [jæ] 'it is'

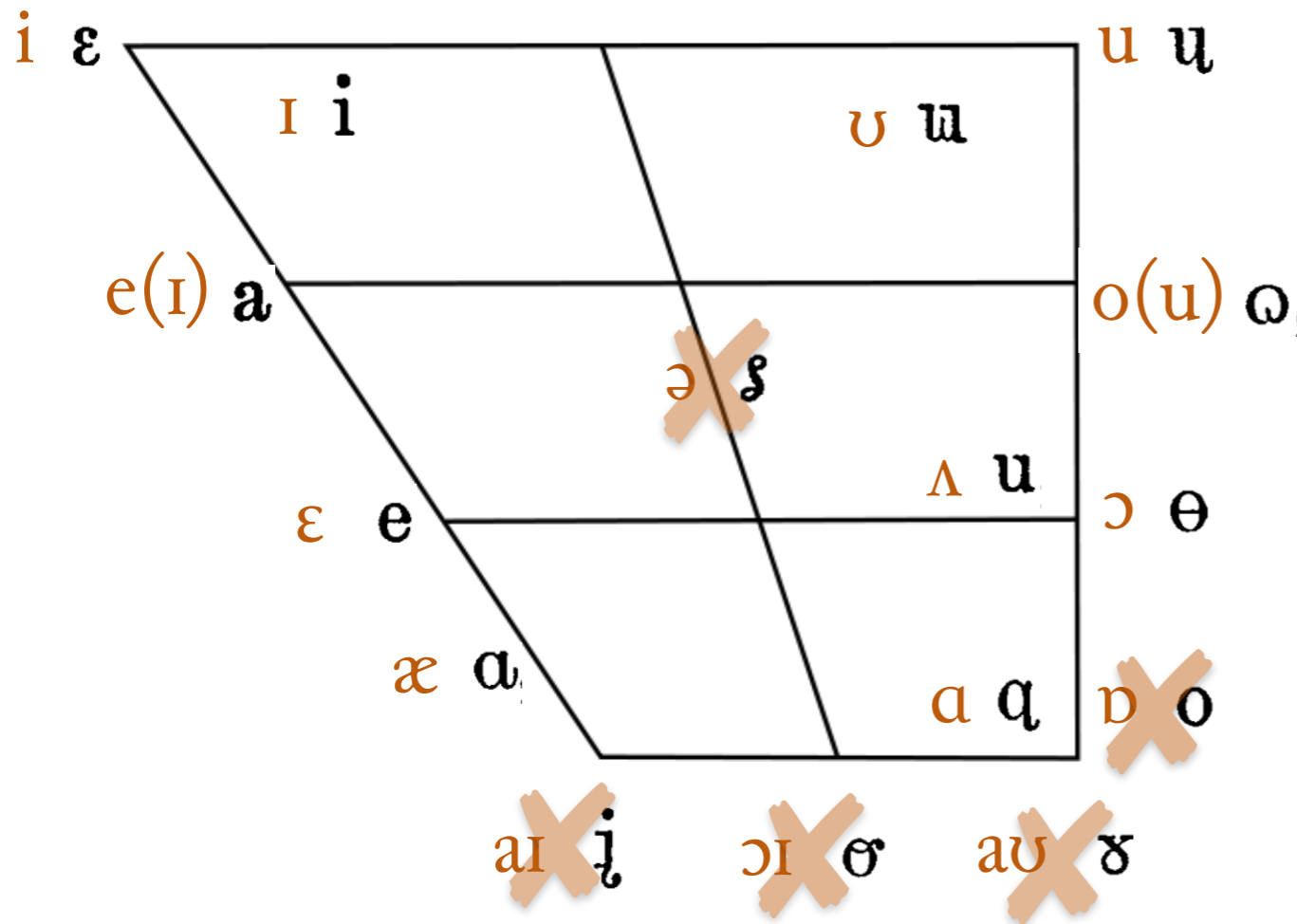
$\acute{\epsilon}cja$ = [jikaɪæ] 'it is small'

- Diphthongs can have elements belonging to separate morphemes
- As such, the remaining diphthongs must be considered composite elements

Poblete & Salas 1997: 6

In careful or deliberate pronunciation, each vowel is a syllable nucleus. Two or more contiguous vowels form separate syllables, as in [sæ.ɪ.pa.ɪm] 'coyapu' or [i.la.o.é.a] 'vulture'.

Re-analysis of Bridges' vowels



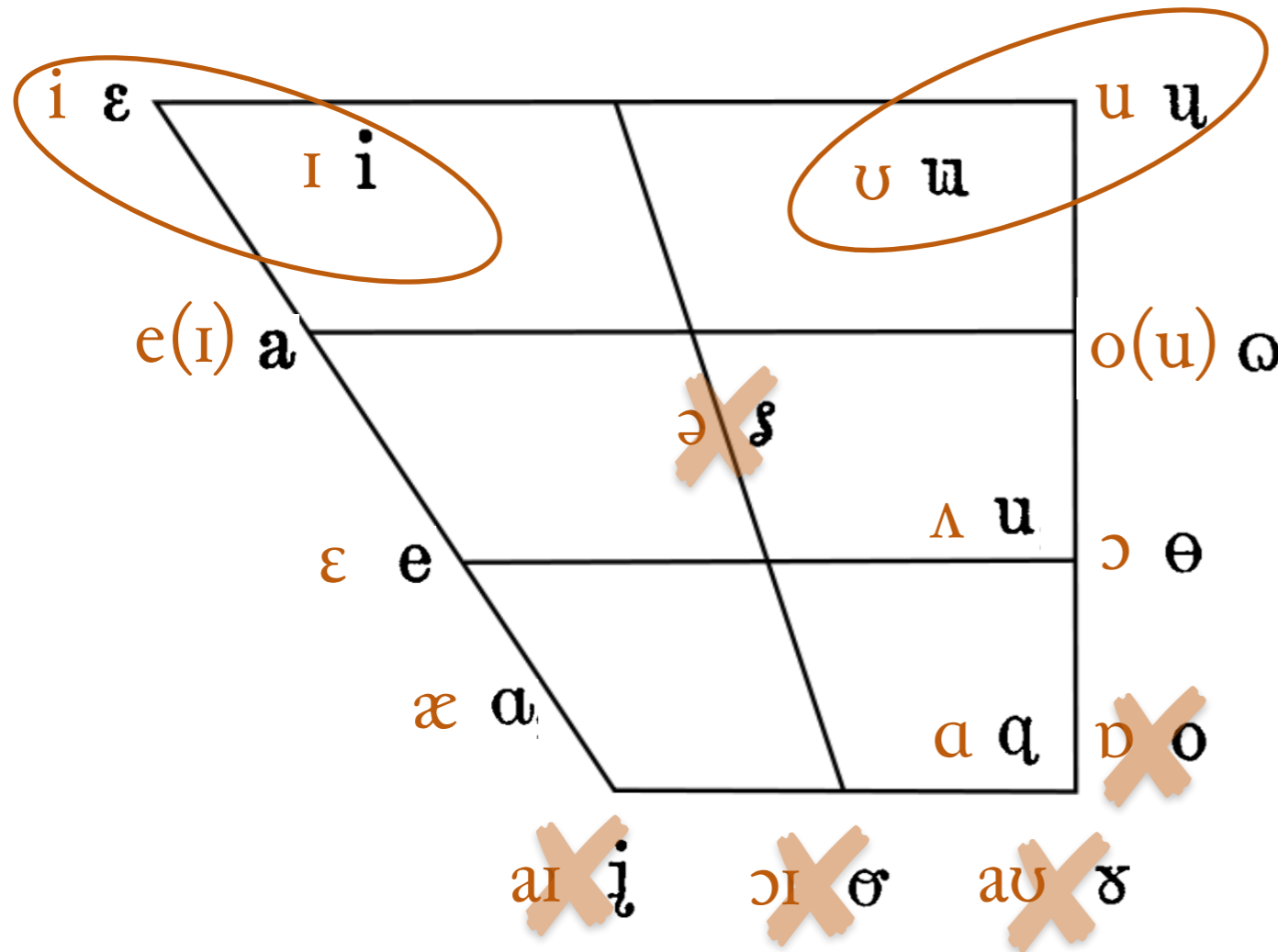
i = [ɪ] rarely appears in initial syllables

22 cunjin mānqtsicunjin cumunida cutqūa cundjananima, cundjan eqnisqnada cunjina ueqn matstujəalenata, ùsqatupan dagia euçə̀gjidā cundjananima.

ε = [i] is mostly initial

63 c̄j̄ida ɛcamana tɛcamandeca. cɛcamandecuda,

Re-analysis of Bridges' vowels



ʉ = [ʊ] rarely appears in initial syllables

35 *śacandʒlɪm caʃqnaɔda*, 'śan śa maɔuɔn maɔuɔruɔ, san āla maɔfateɔa cunɟima.

u = [u] is mostly initial

'ɟ cunśan uɔɔpɔɔɟi cunɔɔɟɔɟatacun ?

- Bridge's four high vowels may reflect sub-phonemic differences
- While stress is not marked, it is reported to be word initial
- Alternations appear to be governed by stress position (i.e. it's allophonic)

English loans in the Calderón sister's speech

- These were related to cultural objects, practices and ideas

náif	dʒam	fáta	láina	pæki	kúkana
'knife'	'jam'	'fat'	'line'	'pack'	'cook'

"I When they did not realise something was an anglicism (as in **[tæɪ]** 'tail' or **[hɔːn]** 'horn') they answered by shrugging: 'well, that's how we learned it ourselves,... it's just how things used to be ... all in English: the services, the classes...everything...' (**Salas & Valencia 1990:166**)

e(I) a

wéitana	leisiá	pléitʃ
'wait'	'lazy'	'plate'

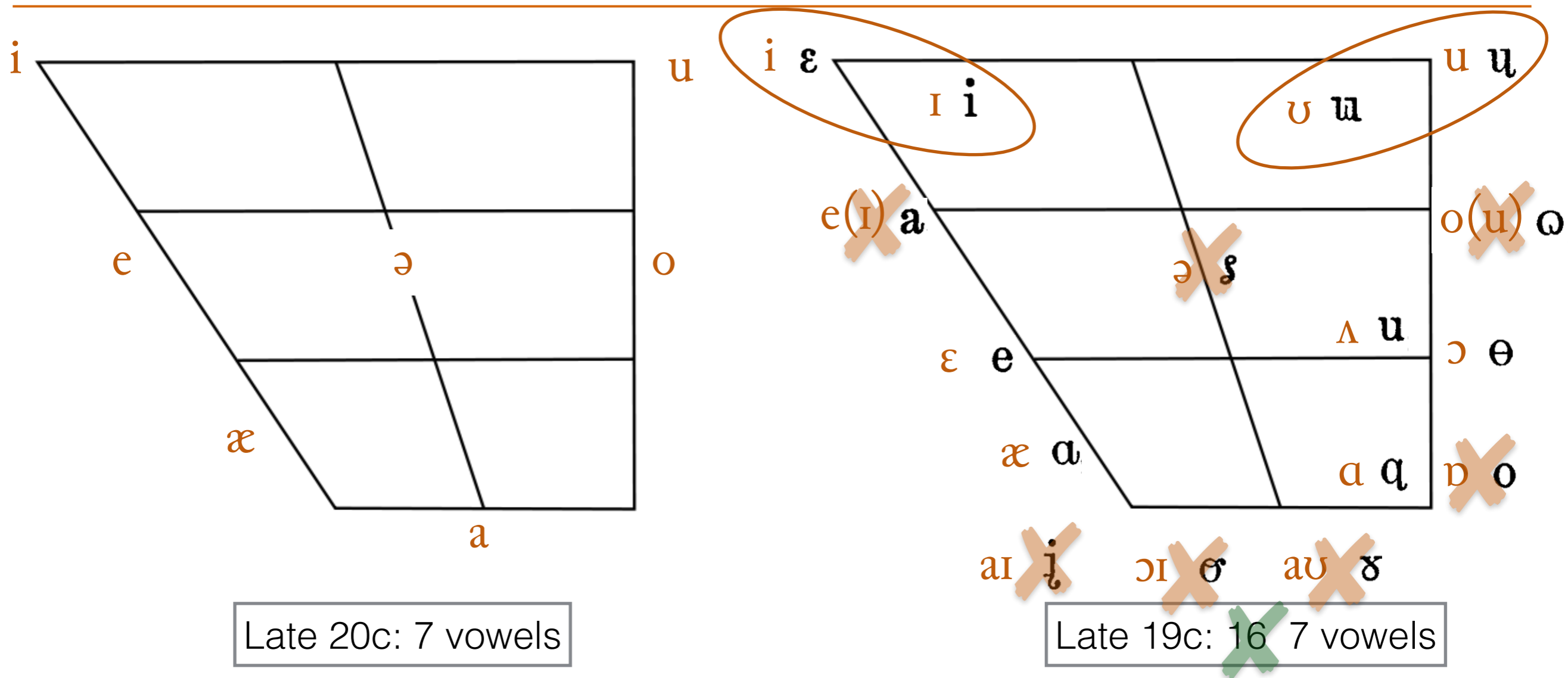
pret~præt	pensil
'bread'	'pencil'

o(u) ɔ

pówt
'boat'

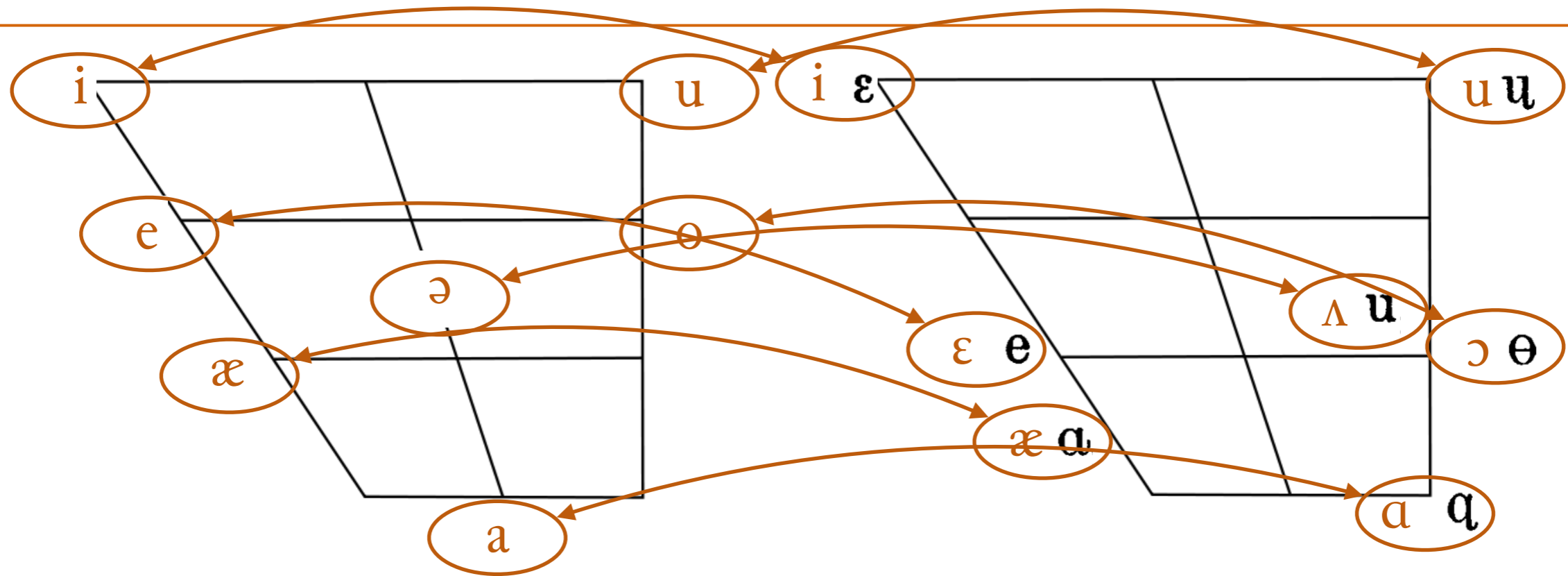
só:spi	rótena
'saucepan'	'rotten'

Descriptive differences:



- If we treat diphthongs as strings of vowels and assume stress-based allophony, Bridge's vowel system begins to look a lot like the late 20c data

Lexical correspondences:



Gloss	Vowel	Salas & Valencia	Bridges
'woman'	i/i (ε)	[k i pa]	Сера,
'see'	e/ε (e)	[t e ki]	teci.
'river'	æ/æ (a)	[w æ en]	Wæu.
'arm'	a/a (a)	[k a mein]	С а м я н .
'one'	o/c (θ)	[ok o le]	uθeali
'big'	u/u (u)	[h u lua]	úlu
'louse'	ə/Λ	[w ə n]	Wum.

Explaining the differences

- Descriptive shortcomings
 - Bridges, despite acquiring the language quite young, was a biased observer
 - The phonotypic alphabet also created biases towards English-like vowels
 - Vowel alternations between high vowels were likely sub-phonemic, but it is unclear if they are a carryover of Bridges L1 or part of 19c Yahgan phonology
- Community multilingualism and language loss likely play a role in irregularity of loanword adaptation and contemporary reports of phonological systems

Some conclusions and further work

- The documentary materials for 19th century Yahgan are a rich treasure-trove of linguistic data
 - However, these cannot be approached without careful contextualisation, both on the state of linguistic analysis of the period, and on the cultural and colonial underpinnings they represent
- Once issues documentary are discounted, we see the vocalic system of Yahgan underwent fairly minimal changes in the last 150 years
 - More clarity on the interaction of phonological structure and morphology is still needed, however
- A more detailed transcription and tagging of the available materials should allow these and other questions to be more clearly settled
 - An upcoming project to build a Comparative-Historical Corpus of the Southern Cone (CHiCo-SC) will be key to this process



Hala yella!

(goodbye, I leave you)

Cristina Calderón 1928-2022