

**Comparative Method - Polynesian Example**

	<i>Tongan</i>	<i>Samoaan</i>	<i>Rarotongan</i>	<i>Hawaiian</i>	
1.	tapu	tapu	tapu	kapu	‘forbidden’
2.	pito	pute	pito	piko	‘navel’
3.	puhi	feula	puʔi	puhi	‘blow’
4.	tafaʔaki	tafa	taʔa	kaha	‘side’
5.	taʔe	tae	tae	kae	‘feces’
6.	tanjata	tanjata	tanjata	kanaka	‘man’
7.	tahi	tai	tai	kai	‘sea’
8.	malohi	malosi	kaʔa	ʔaha	‘strong’
9.	kalo	ʔalo	karo	ʔalo	‘dodge’
10.	aka	aʔa	aka	aʔa	‘root’
11.	ʔahu	au	au	au	‘gall’
12.	ʔulu	ulu	uru	poʔo	‘head’
13.	ʔufi	ufi	uʔi	uhi	‘yam’
14.	afi	afi	aʔi	uhi	‘fire’
15.	faa	faa	ʔaa	haa	‘four’
16.	feke	feʔe	ʔeke	heʔe	‘octopus’
17.	ika	iʔa	ika	iʔa	‘fish’
18.	ihu	isu	putanjio	ihu	‘nose’
19.	hau	sau	ʔau	hau	‘dew’
20.	tafuafi	siʔa	ʔika	hiʔa	‘firemaking’
21.	hiku	siʔu	ʔiku	hiʔu	‘tail’
22.	hake	aʔe	ake	aʔe	‘up’
23.	huu	ulu	uru	komo	‘enter’
24.	maʔa	maʔa	maʔa	mana	‘branch’
25.	maʔu	mau	mau	mau	‘constant’
26.	maa	mala	mara	mala	‘fermented’
27.	naʔa	faʔaʔa	maninia	naa	‘quieten’
28.	nofo	nofo	noʔo	noho	‘sit’
29.	ʔalu	ʔalu	ʔaru	nalu	‘wave’
30.	ʔutu	ʔutu	ʔutu	nuku	‘mouth’
31.	vaka	vaʔa	vaka	waʔa	‘canoe’
32.	vaʔe	vae	vae	wae	‘leg’
33.	laho	laso	raʔo	laho	‘scrotum’
34.	lohu	lou	rou	lou	‘fruit picking pole’
35.	oʔo	loʔo	roʔo	lono	‘hear’
36.	ua	lua	rua	lua	‘two’

**Principles:**

1. Only compare cognates (similar form and meaning, not borrowings).
2. Identify sound correspondences.
3. Posit only plausible sound changes.
4. Posit the fewest number of sound changes.
5. Posit proto-phonemes that lead to symmetrical systems.
6. Posit proto-phonemes only when there is evidence for it in the daughter languages.
7. When two or more sound correspondences involve phonetically similar segments, look for complementary distribution.

**Method:**

- a. Weed out non-cognates (including borrowings).
- b. Match up sounds and tabulate correspondences.
- c. Group together correspondences that are phonetically similar.
- d. Collapse the correspondences that are in complementary distribution.
- e. Reconstruct a different proto-phoneme for each correspondence, using the following criteria:
  - i. Give primacy to identity correspondences – may lead to triangulation
  - ii. Minimize the number of sound changes (‘majority rules’).
  - iii. Posit plausible sound changes.
  - iv. Posit sound changes that result in symmetrical systems.

## 1. Tabulating Correspondences

### *Initial Tabulation:*

<b>T</b>	<b>S</b>	<b>R</b>	<b>H</b>	<i>examples</i>
p	p	p	p	1
p	—	p	p	2, 3
t	t	t	k	1, 4, 5, 6, 7, 30
t	—	t	k	2
k	ʔ	k	ʔ	9, 10, 16, 17, 21, 22, 31
—	ʔ	k	ʔ	20
—	—	k	ʔ	8
f	f	ʔ	h	4, 13, 14, 15, 16, 28
—	—	ʔ	h	8
h	s	ʔ	h	19, 21, 33
—	s	ʔ	h	20
h	—	ʔ	h	3
h	s	—	h	18
h	s	—	—	8
ʔ	∅	∅	∅	5, 11, 13, 25, 32
ʔ	∅	∅	—	12
ʔ	—	—	∅	27
h	∅	∅	∅	7, 11, 22, 34
h	∅	∅	—	23
l	l	r	l	9, 29, 33, 34
l	l	r	—	12
l	l	—	—	8
∅	l	r	l	26, 35, 36
∅	l	r	—	23
m	m	m	m	24, 25, 26
m	m	—	—	8
n	n	n	n	28
n	—	—	n	27
ŋ	ŋ	ŋ	n	6, 24, 29, 30, 35
v	v	v	w	31, 32

***Collapsing Incomplete Correspondences and note environments:***

<b>T</b>	<b>S</b>	<b>R</b>	<b>H</b>	<i>examples</i>
p	: p	: p	: p	1, (2, 3) V__V, #__V
t	: t	: t	: k	1, 4, 5, 6, 7, 30, (2) V__V, #__V
k	: ?	: k	: ?	9, 10, 16, 17, 21, 22, 31, (20, 8) V__V, #__V
f	: f	: ?	: h	4, 13, 14, 15, 16, 28 V__V, #__V
_	: _	: ?	: h	8 [might be collapsed with f:f?:h or h:s?:h] V__V
h	: s	: ?	: h	19, 21, 33, (20, 3, 18) V__V, #__V
?	: ∅	: ∅	: ∅	5, 11, 13, 25, 32, (12, 27) V__V, #__V
h	: ∅	: ∅	: ∅	7, 11, 22, 34, (23) V__V, #__V
l	: l	: r	: l	9, 29, 33, 34, (12, 8) V__V, #__V
∅	: l	: r	: l	26, 35, 36, (23) V__V, #__V
m	: m	: m	: m	24, 25, 26, (8) #__V
n	: n	: n	: n	28, (27) #__V
ŋ	: ŋ	: ŋ	: n	6, 24, 29, 30, 35 V__V, #__V
v	: v	: v	: w	31, 32 #__V

No complementary distribution, hence, there needs to be a ***different*** proto-phoneme reconstructed for each correspondence set (except the \_\_:\_\_:?:h, which is a version of either f:f?:h or h:s?:h).

***Reconstructing the proto-phonemes:***

	<b>T</b>	<b>S</b>	<b>R</b>	<b>H</b>	
*p >	p	p	p	p	identity correspondence
*t >	t	t	t	k	majority rules
*k >	k	ʔ	k	ʔ	oral to glottal, avoid a gap in voiceless stop sequence
*ʔ >	ʔ	∅	∅	∅	only possibility; now there is a nice *p - *t - *k - *ʔ series of voiceless stops
*f >	f	f	ʔ	h	oral to glottal
*s >	h	s	ʔ	h	oral to glottal note: this over-rides 'majority rules'
*h >	h	∅	∅	∅	only possibility - nice *f - *s - *h voiceless fricative series, paralleling stops
*l >	l	l	r	l	majority rules; either *l > r or *r > l is a natural sound change
*r >	∅	l	r	l	only possibility, since *l is already reconstructed ('triagulation'); note reconstructing the other way around for *l and *r would be marginally more complex
*m >	m	m	m	m	identity correspondence
*n >	n	n	n	n	identity correspondence
*ŋ >	ŋ	ŋ	ŋ	n	only possibility - *n already reconstructed ('triagulation')
*v >	v	v	v	w	majority rules - leads to a skewed system; but *w would also result in an asymmetry. Both *v > w and *w > v are natural sound changes.

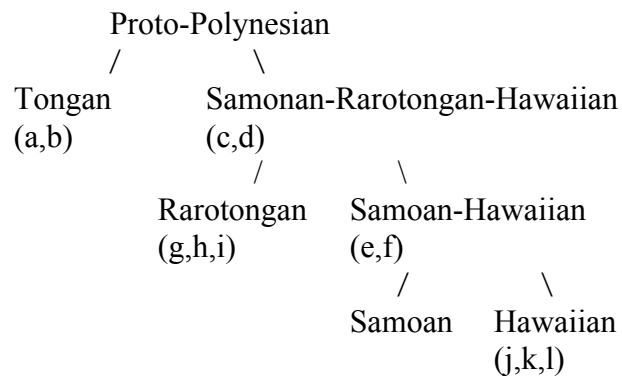
**Proto-Phonemes:**

*p	*t	*k	*ʔ	*i	*u
*f	*s		*h		
*v				*e	*o
*m	*n	*ŋ			
	*l			*a	
	*r				

**Sound Changes:**

	<i>Tongan</i>	<i>Samoaan</i>	<i>Rarotongan</i>	<i>Hawaiian</i>
a.	*s > h			
b.	*r > ∅			
c.		*ʔ > ∅	*ʔ > ∅	*ʔ > ∅
d.		*h > ∅	*h > ∅	*h > ∅
e.		*k > ʔ		*k > ʔ
f.		*r > l		*r > l
g.			*f > ʔ	
h.			*s > ʔ	
i.			*l > r	
j.				*f > h
k.				*s > h
l.				*v > w

Crucial orderings: Samoaan: (e) must follow (c); Rarotongan: (g) and (h) must follow (c); Hawaiian: (e) must follow (c), (j) and (k) must follow (d).



***Reconstructed Proto-Polynesian Vocabulary:***

1.	*tapu		‘forbidden’
2.	*pito		‘navel’
3.	*puʔi		‘blow’
4.	*tafa		‘side’
5.	*taʔe		‘feces’
6.	*taŋata		‘man’
7.	*tahi		‘sea’
8.	*malosi	or *kafa (or *kasa)	‘strong’
9.	*kalo		‘dodge’
10.	*aka		‘root’
11.	*ʔahu		‘gall’
12.	*ʔulu		‘head’
13.	*ʔufi		‘yam’
14.	*afi		‘fire’
15.	*faa		‘four’
16.	*feke		‘octopus’
17.	*ika		‘fish’
18.	*isu		‘nose’
19.	*sau		‘dew’
20.	*sika		‘firemaking’ <sup>1</sup>
21.	*siku		‘tail’
22.	*hake		‘up’
23.	*huu		‘enter’
24.	*maŋa		‘branch’
25.	*maʔu		‘constant’
26.	*mara		‘fermented’
27.	*naʔa		‘quieten’
28.	*nofo		‘sit’
29.	*ŋaru		‘wave’
30.	*ŋutu		‘mouth’
31.	*vaka		‘canoe’
32.	*vaʔe		‘leg’
33.	*laso		‘scrotum’
34.	*lohu		‘fruit picking pole’
35.	*roŋo		‘hear’
36.	*rua		‘two’

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<sup>1</sup> \*sika ‘firemaking’ and \*siku ‘tail’ are the only reconstructed words in this list that are different from all of the daughter languages.