METATHESIS IN AUSTRONESIAN: RIRIO AND OTHER CASES

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Among Austronesian languages, a widespread form of metathesis involves reversing CV to VC — usually, but not always, the final CV. This type of metathesis is fairly common in language families other than AN when the consonant is a liquid, or when the vowel is high (and becomes a semivowel after metathesis); but all the examples involving other consonants and vowels given by Ultan (1978) come from AN languages. If we take this as a representative sample, we have a form of metathesis that is common in AN, but rare in other language families.

Evidence for the metathesis comes from cognate forms in other languages, or from reconstructed proto-forms; or else from unmetathesised forms in the same language, when the metathesised forms have a syntactic or stylistic function. Clear-cut examples of such metathesis are found from Timor (Timorese, reported also for Mambai and Helong) to Rotuma, with a number of 'metathesising languages' being found in the central and western Solomon Islands. Supporting data come from additional languages outside this area.

Some examples will show the type of metathesis involved:

Timorese (Middelkoop 1950)

a/o	falo	*'earring'*	faul
	kano	*'plait'*	kaun
	mafo	*'shade'*	mauf
a/u	mafu	*'drunk'*	mauf
e/a	lèkat	*'end'*	lèkte
e/i	napeni	*'he gets'*	napein, napen
e/o	mèto	(unglossed)	mèot, meot
e/u	tenu	*'three'*	teun
	ameput	*'worker'*	ameupte
i/o	simo	*'receive'*	sium
	timo	*'poteka'*	tium
i/u	hitu	*'seven'*	hiut
	nitu	*'guest'*	niut
	titu	*'watch'*	tiut
o/i	totis	*'attempt'*	toitse
u/i	buti	*'roll into a ball'*	buit
u/u	lulut	*'end'*	lulte

Amran Halim, Lois Carrington and S.A. Wurm, eds *Papers from the Third International Conference on Austronesian Linguistics,* vol.1: *Currents in Oceanic,* 269-281. *Pacific Linguistics,* C-74, 1982.

(The difference between the forms is syntactic, but Middelkoop provides no further information, or data. Note that forms originally ending in a consonant acquire an epenthetic -e, but do not otherwise seem to affect the metathesis.)

Kwara'ae, Malaita (Deck 1934, Fox 1950)

a/a	tala ana	talan
	fanga *'food'*	fang
a/e?	saema (? misprint for saena)	sean
a/i	aliali	ailail
	bania *'that one'*	bain
	karangia	kareng
	ofodangi	ofdaing
a/i, a/u	sasi akau	sasi ako
a/o	kafo	kaf
a/u	taifiliaku	taifilauk
	aabu	aub
	siramu	siraom
e/a	leka *'go'*	leak
	ta'ena	taen
i/a	Pita *'Peter'*	Piat
i/o	likotai	lioktai
u/i	buli	buil
	kusi 'NEG'	kuis
u/u	nau ku ... *'I* + PV'	nauk

(An undescribed register of Kwara'ae; both authors say only 'rapid speech'. Forms unglossed in sources; some glosses have been added from indications elsewhere in Deck ('PV' means 'preverbal marker'). Note apocope where $V_1=V_2$. Metathesis operates on roots rather than on suffixes (likotai), and prior to reduplication (aliali).)

Sissano, NW Papua New Guinea (Laycock 1976)

POC *manu(k)	main	*'bird'*
*ndanu(m)	rain	*'water'*
*kutu	te'uit	*'louse'*
*kani	'ain	*'eat'*
*ŋpoŋi	poin	*'night'*

(Metathesis of final /i/ only, after development of original *u to *i. Final alveolar consonants are non-phonemically palatalised; the sequence /ui/ is realised as [ü].)

Rowa, Banks Is (Fox 1950)

Mota liwo	*'tooth'*	liew
lito	*'firewood'*	liet
singa	*'shine'*	sieng
siwo	*'down'*	siew

(Described by Fox as "Mota transposed". Rowa is listed by Tryon (1972), but in his 1976 classification is equated with Lehalurup — which, for the first two of the above forms shows lowo-k *'my tooth'*, lew *'tusk'*, lyet *'firewood'*.)

Lolsiwoi, Aoba, New Hebrides (Tryon 1976)

Ngwatua	ŋgweta	ŋgweat	*'taro'*
Lolomatui	mbaeko	mbaeak	*'breadfruit'*
Ngwatua	fula	vuol	*'moon'*
Ngwatua	uha	wuos	*'rain'*
Ngwatua	fila	viel	*'lightning'*
Ngwatua	fohe	voas	*'paddle'*
Ngwatua	fuhu	vus	*'bow'*
Wailengi	ŋgwaloana	ŋgwaloan	*'fight'*
Lolomatui	maeto	maeat	*'black'*
Lolomatui	manoka	manak	*'cooked'*
Lolomatui	mamaha	mamas	*'dry'*
Lolomatui	mava	mav	*'heavy'*
Ngwatua	ka-tolu	ke-tol	*'three'*
Ngwatua	ka-vati	ke-vet	*'four'*
Ngwatua	ka-lima	ka-lim	*'five'*
Ngwatua	ko-ono	ke-on	*'six'*
Ngwatua	ka-mbitu	ke-mbit	*'seven'*
Ngwatua	ka-kwalu	ke-kwol	*'eight'*
Ngwatua	ka-hikwa	ke-siok	*'nine'*
Ngwatua	haŋvulu	saŋvul	*'ten'*
Ngwatua	naŋahe	naŋes	*'when'*
Ngwatua	ka-viha	ke-vies	*'how many'*
Ngwatua	mavuka	mavok	*'tomorrow'*
Ngwatua	mboŋi	mboŋ	*'night'*
Ngwatua	niŋgo	niok	*'thou'*
Ngwatua	kita	kiet	*'we* (pl.incl)*'*
Ngwatua	mbete	mbet	*'give'*
Ngwatua	roŋo	roŋ	*'hear'*
Ngwatua	maraka	marak	*'stand'*
Ngwatua	maturu	matur	*'sleep'*

(A selection of examples showing both apocope and metathesis; cognate forms shown from various other languages of Aoba. Original data slightly modified for typographical convenience, by replacing β by v and lowering superscribed prenasalisation and labialisation. Scattered instances of similar metathesis occur in other languages of the New Hebrides.)

Nengone, Loyalty Is (Leenhardt 1946)

lae	ale
ni bua	uba in
yoselo	soyeol
niḍetilu ome ri	ḍine tuil moe ir
bua co kanon te jeu'ore koe ni retok	uba oc nakoned uejon uki in terok
lengelo'a thu dai co kodaru	ngeleolo'a uth adi oc dokaru
Menaku	Em'nanuk
Titi	Itit
Ro	Or

(Scattered examples, and village names, from examples in Nengone and Cara [čara], a secret language based partly on the chiefly language of Iwatenu (Iwateno). Only examples showing CV reversal have been selected; but it is clear that a more important mechanism is syllable-interchange, with occasional phonetic reversal and consonant transposition — see Laycock 1972 for an account of these mechanisms.)

Dehu, Loyalty Is (Leenhardt 1946)

lēpi loloðë the 'mi te kē	ēleip ololeëð eth iṭi 'me ēk
'out quickly - no slacking!'	
puaka *'pig'*	akaup

(A secret language similar to the preceding, based partly on the chiefly language of 'Umeng (Humeng). Most examples given show syllable-interchange, phonetic reversal, and consonant transposition — the only instances of CV metathesis appear to be those above.)

Rotuman (Churchward 1940; Biggs 1959, 1965; Haudricourt 1958a,b; Milner 1972)

a/a	haga [haga]	*'feed'*	hag [hag]
a/e	laje [lɛje]	*'coral'*	laej [lɛj]
a/i	kami [kɔmi]	*'dog'*	kaim [kæm]
a/o	rako [rako]	*'learn'*	raok [rak]
	maho [mɑho]	*'get cold'*	maoh [mɑh]
a/u	hagu [hɔgu]	*'wake'*	hag [hɔg]
e/a	seseva	*'erroneous'*	seseav
e/e	efe	*'coconut pulp'*	ef
e/i	tepi [tẹpi]	*'slow'*	teip [tẹp]
e/o	(sources say -eCo > -eC, but no examples given)		
e/u	hefu [hẹfu]	*'star'*	heuf [hẹf]
i/a	lima	*'five'*	liam
i/e	(sources say -iCe > -ieC, but no examples given)		
i/i	tokiri	*'roll'*	tokir
i/o	tiko	*'flesh'*	tiok
i/u	timu	*'heavy rain'*	tim
o/a	hosa	*'flower'*	hoas
o/e	mose	*'sleep'*	moes [mœs]
o/i	hoti	*'embark'*	hoit [høt]
o/o	hoto	*'jump'*	hot
o/u	fo'u [fọ'u]		fo' [fọ']
u/a	Rotuma	*'Rotɯma'*	Rotuam
u/e	pure	*'rule'*	puer
u/i	futi	*'pull'*	fuit fyt
u/o	(sources say -uCo > -uoC, but no examples given)		
u/u	tuturu	*'post'*	tutur

(Rotuman is the classic citation for AN metathesis. Difference between forms is syntactic — 'indefinite' versus 'definite', or list forms versus phrasal forms. Examples taken from all sources — but I follow Haudricourt for the phonetics, and Milner for the phonemic respelling. Note that reduplication operates after metathesis (roromi *'rush'* > röröm) and that the umlauting effect may extend to other vowels in the word (furfuruki *'pimple'* > fürfürük), causing a problem for Milner's phonemicised orthography — given the fact that vowel sequences ai, oi and ui occur in the language with normal (un-umlauted) values. Biggs regards sequences ea, io,

oa and ue as reducing to /ya/, /yo/, /wa/, /we/; if this extends throughout the series, there would be homophony between metathesised forms of oa/ua and ia/ea. In the Haudricourt analysis homophony is found only in the metathesised forms of -iCi/-iCu and -eCe/-eCo — but -eCo perhaps does not occur.)

The case of Ririo

Ririo, a dying language of Choiseul in the western Solomon Islands, differs from all preceding instances (except perhaps that of Rowa and/or Lolosiwoi) in that there is no alternation between metathesised and unmetathesised forms within the language. To find unmetathesised forms, one has to turn to the closely-related language of Babatana, or, occasionally, to other languages of Choiseul. (For this paper, it has proved necessary only to use Sengga; forms in the left column are therefore always Babatana, unless otherwise specified. The forms in the right-hand column are Ririo.)

When I carried out fieldwork in Susuka village on Choiseul in 1978, there were only eighteen surviving native speakers of Ririo — sixteen of whom were then resident in Susuka. All Ririo speakers used Babatana as their normal language of daily intercourse, and their children and other family members spoke only Babatana. The full history of Ririo speakers has not been established, but it seems that they sought refuge among Babatana speakers some time toward the end of the nineteenth century, after their population had been reduced by headhunting raids from Vella Lavella; they returned to their original villages in the 1920s or 1930s, but again sought refuge with Babatana speakers during World War II. This close interaction has led speakers of both Babatana and Ririo to regard Ririo as a kind of 'funny Babatana'.

Babatana has an established orthography based on Roviana (in turn based upon Fijian); the Ririo orthography in turn I based on Babatana, in consultation with informants, and is the same as that of Babatana with the addition of two vowels and two consonants. In this account, the few examples cited from Sengga are written in the same orthography.

Ririo orthography (with phonetic values)

p [p]	t [t]	c [ts]	k [k]	' [ʔ]
b [^{m}b]	d [^{n}d]]	j [^{n}dz]	q [^{ŋ}g]	
v [v,β]	r [r]	z [z,z^{y}]	g [ɣ]	
m [m]	n [n]		ñ [ŋ]	
	l [l]	s [s]		

i [i]		u [u]
e e	ü [ø]	o [o]
è [ɛ]	ö [œ]	ò [ɔ]
	a [a]	

Among the consonants, Babatana lacks /c/ and /'/, and in earlier versions of the orthography /j/ was often written nz. Babatana /ü/ (nowadays more usually written /ö/) represents both [ø] and [œ] (or [ɨ], according to Whaley (1962)). Ririo has in addition the two lowered vowels /è/ and /ò/, which arise principally from metathesis. Whaley also claims contrastive vowel length for Babatana, but I am not entirely sure that this is not a function of stress and/or open versus closed syllables.

Many Babatana words have cognates in Ririo that show a metathesis of root-final

CV; other words are identical in the two languages, but those that should have metathesised, according to the table below, are regarded as borrowings from Babatana. Even without the metathesis, the languages differ considerably in lexicon and syntax, so that Ririo is not just a 'metathesised Babatana'.

Because of the metathesis, many Ririo words end, in their basic form, in a consonant; all consonants except /v/ may occur finally, but final /k/ arising from metathesis (but not always apocope) becomes /'/. All words ending in a consonant have a form with an optional echo-vowel; this echo-vowel is frequent in fluent spoken Ririo, but at the suggestion of informants is not written. Similar echo-vowels occur in roots which end in a consonant, and are deleted when a suffix beginning with a vowel is added; the echo-vowels are also not written in this instance. (Examples: kapt [ka·pat] *'skin'*, kapte [kapte] *'his skin'*; körs [kærœs] *'hand'*, körse [kœrse] *'his hand'*.) This causes no ambiguity, as no consonant clusters can occur within the syllable in Ririo.

Most, but not all, instances of /c/ are before high vowels /i/ and /u/, and are pronounced by some older Ririo speakers as /t/ in some instances (except where there are minimal pair contrasts between /c/ and /t/: tin *'give'*, cin *'say'*); this might suggest that it is a recent development in Ririo, but this appears contradicted by some of the metathesised examples (see below).

In the following table, examples of metathesis involving all the five basic vowels /a e i o u/ of Babatana are given; a few instances are given involving Babatana /ü/, but no rules can be given for these, as the vowel is of rare occurrence in Babatana, and is rarely followed by any vowel other than itself. (In Babatana many occurrences of /ü/ appear to arise from an umlauting of (backed) /a/ before high vowels; the Methodist Bible translation in Babatana writes qözö (qüzü) for *'tree'* and töbö (tübü) for *'forbidden'*; but my Babatana lists have qazu and tabu — with which last compare Ririo tòb.)

Babatana and Ririo forms compared:

a/a	madaka	*'blood'*	madak
a/e	pade	*'house'*	pèd
a/i	saqi	*'bear young'*	sèq
a/o	vato	*'manner'*	vòt
a/u	kasu	*'areca nut'*	kòs
e/a	qela	*'cry'*	qial
e/e	seqe	*'wash'*	seq
e/i	(no instances; probably no metathesis, or apocope)		
e/o	neqo	*'fifty'*	nioq
e/u	(no instances; I predict no metathesis)		
i/a	niqa	*'egg'*	niqa
i/e	sire	*'housefly'*	sire
i/i	viri	*'tobacco'*	vir
i/o	pito	*'black'*	pito
i/u	piru	*'wild'*	piur
o/a	rota	*'vein'*	ruat
o/e	bose	*'man'*	bues
o/i	(no instances; I predict no metathesis)		

o/o	boko	*'pig'*	bo'
o/u	lotu	*'church'*	lut (only instance)
u/a	rupa	*'darkness'*	rupa
u/e	kule	*'frog'*	kule
u/i	vumi	*'beard'*	vuim
u/o	(no instances; I predict no metathesis)		
u/u	susu	*'breast'*	sus
ü/e	küke	*'one'*	kik
ü/i	güki	*'eat'*	gek
ü/ü	külü	*'call'*	kül

Some additional subrules for metathesis also need to be given.

1) In roots of more than two syllables, where the final vowels of the Babatana word are identical, the metathesis affects the first two non-identical vowels:

	komala	*'village'*	kuamal
(Sengga)	saruku	*'morning'*	sòrk
	kasuku	*'fog'*	kòsk
	naboko	*'widow'*	nòbk

2) Reduplication and pronominal affixation is usually subsequent to metathesis:

(Sengga)	saruku	*'morning'*	sòrsòrk *'early morning'*
	sosole	*'naked'*	susuel
	vali-o	*'kill you'*	vèl-o

3) With the suffixed pronominal possessors -uq *'my'*, -um *'your'*, (Babatana -qu, -mu), however, the suffixes may metathesise first:

mataqu	*'my eye'*	matòq
matarami	*'our eyes'*	matarèm

4) The affrication of /t/ to /c/ before high vowels usually precedes the metathesis, but in the final instance below must have developed after it:

natu	*'Burckella tree'*	nòc
vutu	*'louse'*	vuc
vitu	*'seven'*	ziuc
vati	*'four'*	vèc
masi	*'sea, salt'*	mèc (? earlier *mati)
(contrast: vakasi	*'canoe'*	vakès)
(Sengga) tona	*'bow'*	cuan

5) Final /k/ resulting from metathesis usually becomes /'/ but remains /k/ after apocope of all final vowels except /o/); final /v/ is lost after metathesis, but changes the sequence -ava to -ò:

toka	*'adze'*	tua'
roroko	*'bird'*	roro'
puka	*'go up'*	pua'
ñava	*'leg'*	ñò
tava	*'day'*	tò
kave	*'spider'*	kè
leke	*'person'*	lek

(Note that -uCa metathesises only when the C is k.)

The following additional examples of irregular metathesis would seem to show that Ririo metathesis is not operating directly on Babatana, but on a form of language ancestral to both:

nupi	*'grasshopper'*	nip
baku	*'fruit bat'*	bük
vutini	*'know'*	vesn
nanana	*'love* (intr)*'* }	non
nüni	*'love* (trs)*'* }	
karakone	*'sand'*	karkuin
moro	*'sick'*	muar
vui	*'hit'*	vi
jope	*'mouth'*	juap
sükü	*'want'*	siò' (? earlier *siaku)
kañaso	*'thirsty'*	kóñs

Explanations for metathesis

In looking for explanations for these widespread instances of metathesis, it is first necessary to ask whether we are dealing with one phenomenon, or many. There are clearly some similarities between the metathesis rules of one language and those of another; nevertheless, there are striking dissimilarities. If the Ririo and Rotuman systems are compared with each other (Table I), there are probably more dissimilarities than similarities, even though a simple inspection of the metathesised forms makes the two languages look remarkably similar:

Table I

	Ririo					Rotuman				
Second vowel →	a	e	i	o	u	a	e	i	o	u
First vowel ↓										
a	A	Mr	Mr	Mr	Mr	A	Mr	Mr	Mr	Mr
e	Mw	A	X?	Mw	X?	M	A	Mr	A?	A
i	X	X	A	X	M	M	M	A	M	A
o	Mw	Mw	X?	A	M	M	Mr	Mr	A	M
u	X	X	M	X?	A	M	M	Mr	M	A

(X = no metathesis; A = apocope (deletion of final vowel); M = metathesis; Mr = metathesis with reduction of the resulting cluster - including Rotuman examples where the resulting vowel differs from that produced by apocope); Mw - raising of a mid-vowel to the corresponding high vowel or semivowel; resulting homphonous forms boxed.)

It will be readily seen that on this analysis Ririo and Rotuman are similar only in their treatment of /a/, and in the apocope of final echo-vowels. The treatment of /i/ and /u/ is almost diametrically opposed in the two languages. The similarities are slightly increased if Biggs' (1965) view of the semivowel development of /i e o u/ before lower vowels in Rotuman is correct; but this would seem to give rise to two more homophonous forms (collapsing /ea/ and /ia/, and /oa/ and /ua/) for which there is no evidence in Churchward's (1940) account. The Kwara'ae system may turn out to be similar to that of the Ririo one, but data is incomplete. Very little

can be said of the Timorese sytem, but in the raising of /o/ following /a/ and /i/ it does not closely resemble either Ririo or Rotuman. Nothing much can be said of the other systems cited, but it seems that apocope of final echo-vowels is widespread.

If the systems of metathesis are not the same, it does not seem entirely reasonable to search for a single explanation to account for them — apart from the fact that it is *a priori* unlikely that a single explanation could account for languages so distant from each other, both in geography and subgrouping. For Rotuman, the suggestion has been made by Churchward (1953), and again by Haudricourt (1958a,b) that the metathesis may have its basis in something like the stress-shifting rule in Tongan, where the stress shifts to the final vowel in definite forms of nouns (corresponding to the unmetathesised forms in Rotuman) (see also Thompson 1969). But no explanation of this type will work for Ririo, which has essentially the same stress patterns as Babatana.

There may be a clue in the Kwara'ae 'rapid speech' metathesis. In rapid speech, anticipations of later segments is common, resulting in umlauting (a special case of CV metathesis: note Gothic gastins, OHG gesti, perhaps from an earlier *gaisti; NHG Gäste *'guests'*), and metathesis with echo-vowels (which may then be deleted under the echo-vowel deletion rule; thus Babatana ziru *'they two'*, Ririo ziur, perhaps from an earlier *ziuru, Rotuman puer < *puere < pure).

But in such cases we might also expect umlauting in the unmetathesised forms in Rotuman - [høti] for hoti, and [mæse] for mose. Also, in Ririo, the final optional echo-vowels which are current in the language are the modified vowels, not the original vowels — though this could be accounted for by postulating a later sound-change of progressive assimilation:

Babatana pade *'house'* > *paede > Ririo pèdè, pèd
(perhaps: pade > *paede > *pède > pèdè, pèd)

There is some difficulty in assumptions of regular sound-change in the treatment of loanwords in Ririo and Rotuman. The loanwords from English (or Fijian, in one Ririo instance) can hardly be older than about a hundred years, and yet they show the metathesis. Either the metathesis is quite recent (perhaps even a matter of living memory), or the loanwords have been artificially modified, by analogy with existing metathesised forms. Note:

Rotuman jạku [jɔku] *'jug'*
jạku [jɔku] *'chalk'*
uaj *'watch'* (unmetathesised form uja)

Ririo kias *'cash'* (Babatana kesa)
lut *'church'* (Babatana lotu)
manob *'papaya'* (Babatana manepo < *maniapa < *mamiapa *'mammee apple'* — irregular metathesis)

In Rotuman, where the metathesis is still productive, it is not unreasonable for loanwords to participate in both directions in the metathesising process — though it is not at all clear why *'jug'* should have been borrowed with a mid back vowel (if the borrowing does not antedate the raising of /a/). This may however reflect a borrowing from a particular dialect of British English.

In Ririo, however, if the loans entered the language after the metathesis, there is no reason why they should not have been borrowed in unmetathesised forms; unmetathesised -eCa and -oCu occur, often as (probably recent) loans from Babatana. It is possible that the loanwords were metathesised by analogy with similar words which were perceived to be metathesised between Babatana and Ririo, which would argue for a certain amount of deliberateness in the metathesis in at least this instance.

Is there then a case for 'deliberate' metathesising - that is, a form of play-language of the 'pig-latin' type — in any of the languages with CV reversal? It is certainly a tempting explanation, and has been invoked more than once, both for the languages under discussion (e.g. K.J. Hollyman in the discussion of Biggs 1959), and to account for other forms of metathesis in AN languages (e.g. Fox 1950, Schuhmacher 1972). But the authors of these remarks do not make it clear what kind of metathesis they are discussing. The documented AN 'play-languages', or secret languages, or special registers, usually make use of interchange of adjacent syllables, or asymmetric transposition of syllables, or word-reversal by syllable, or interchange of successive (rarely non-successive) consonants, or word-reversal by phonemes (predominantly written) — plus some other non-metathesising forms, often involving arbitrary suffixation, or devices based on written forms of the language. (For explanation of these mechanisms, and examples from Javanese, Tagalog, Malay, Marquesan, Manam, Nengone, and Dehu, see Laycock 1972, and also Ultan (1978) for Toba, von den Steinen (1905) for Marquesan, and Schultz (1905) for Samoan. D.J. Prentice has supplied me with an additional example for Murut. Examples could be multiplied; but such forms of play-language have no bearing on the CV metathesis described here, and seem to have little effect on the regular languages — though this would need to be examined further. There is certainly no instance of an AN language which has a consistent syllable-interchange throughout, either as a separate language, or as a grammatical (as opposed to a register) variant of the normal language.

More importantly, there is no clear-cut evidence of any play-language in any AN group that consistently makes use of CV reversal. The sporadic instances for Nengone and Dehu cited above may be considered significant (although I think the CV reversal is an artefact of other mechanisms, such as phonemic reversal), and the Kwara'ae case comes close, if we can learn more about the conditions under which the special register operates. The Rowa examples may just possibly be an instance of a play-language form of Mota. But without further data on these languages it is not possible to postulate a widespread play-language based on CV reversal.

In the Ririo case, however, there is some evidence for at least modern deliberateness about the metathesising. I have cited the loanwords; a few additional sociolinguistic facts are relevant. Imperfect speakers of Ririo (such as the children of native Ririo speakers) will, if asked for a Ririo word, give a metathesised Babatana word, which often differs from the true Ririo word. Thus, one such informant, in an older wordlist of 'Ririo', gave as the word for *'tree'* the form qòz, which is a metathesised form of Babatana qazu; however, all true speakers of Ririo agree that the Ririo word is the non-cognate ve. Further, I travelled down the coast of Choiseul with a Ririo speaker, who named all the villages we passed in metathesised form: Zòr for Zaru, Nuatòb for Nuatabu. These villages are well outside the normal Ririo-speaking area, and are unlikely to have formed part of the normal Ririo vocabulary; I believe they were deliberately metathesised by analogy. Such analogous metathesising may also account for some of the anomalous metatheses in Ririo.

It is also worth observing that, in Ririo, metathesis does not usually occur in the sequences -iCa and -uCa. Metathesised forms of these sequences would be homophonous with the metatheses of -eCa and -oCa. It seems a lot to expect of a phonologically-motivated sound-change that it would cease to operate just where ambiguity would occur, and one may wish to see a human consciousness in this. (It is obvious that metathesised forms in a language cannot give rise to too much homophony without drastically altering the structure, or the lexicon of the language. Ririo does permit homophonous forms to arise from the metathesis of -aCe/-aCi and -aCu/-aCo only, and Rotuman restricts its homophony — *pace* Biggs — to the metathesis of -eCi/-eCu.)

A final remark. I am grateful to Jacques Guy (ANU) for the observation that CV metathesis results in no loss of information (unless homophony results) in languages

whose structure is predominantly (C)VCV(C) — unlike syllable-transposition and consonant interchange, which can easily give rise to forms homophonous with other words in the language. But it is still unclear how we can make use of this insight in explaining CV metathesis in Austronesian languages.

ADDENDUM

Thanks to comments made by participants at the Third International Conference on Austronesian Linguistics in Bali, it is now possible to add a little additional data on Timorese and Kwara'ae. For the former R.A. Blust adds the following examples from his fieldnotes (personal communication):

Atoni (Timorese)

mɛ́sɛʔ	*'one'*	mɛs
núã	*'two'*	núã
ténũ	*'three'*	téun
hítu	*'seven'*	híut
fánũ	*'eight'*	fáun
nátun mɛsɛ	*'one hundred'*	náũt mɛs
nímã	*'hand'*	nímãʔ
ʔat mánĩ	*'to laugh'*	ʔat máĩn
ʔ	*'dead'*	maɛt
mánũ tɛkɔʔ	*'bird's egg'*	máũn tɛkɔʔ
náka	*'head'*	náka

He comments further that there appear to be no examples of metathesis involving final -a or aʔ, and that the metathesised forms are to be regarded as 'normal' speech, the underlying forms as 'careful speech', with no syntactic difference between them.

Gary Simons adds the following phonetic corrections and glosses to the Kwara'ae data:

tala 'ana	*'himself'*
sae-na	*'its inside'* (metathesised form probably saean)
'ali'ali	*'quickly'* (metathesised 'ail'ail)
karangia	*'near'* (metathesised karaing)
'ofodangi	*'morning'*
sasi akau	(perhaps = sasi-a kau *'do it thither'*; in any case the /o/ for /au/ is a normal fast-speech contraction, not metathesis)
kafo	*'water'*
taifilia-ku	*'I alone'*
abu	*'holy'*
sira-mu	*'your belly'*
ta'ena	*'today'*
likotai	*'quickly'*
buli	*'cowrie shell'*
kusi	'lst sg neg'

He confirms that the metathesised forms are the normal ones in 'normal rapid speech', whereas the underlying forms are used in careful speech, and singing. The statement

that "metathesis operates on roots rather than suffixes, and prior to reduplication" is not strictly correct; metathesis is conditioned rather by the stress patterns of Kwara'ae (penultimate syllable and every second preceding syllable); the metathesised syllables are those following stress. For further details see Simons' mimeo paper 'A Kwara'ae spelling list' (Working Papers for the Language Variation and Limits to Communication Project No.6, 1977).

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