THE PHONOLOGICAL RULES OF ATAYAL DIALECTS*

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1. INTRODUCTION

The Atayalic group occupies the northern half of Taiwan, covering eight prefectures (Taipei, Taoyuan, Hsinchu, Miaoli, Taichung, Nantou, Hualien and Ilan), with a population of 54,777 (as based on Wei and Wang 1966:5). It comprises two main languages, Atayal and Sediq. Atayal, in turn, consists of two major dialect groups, Squliq and C?uli?.[1]   I have collected extensive lexical materials for two Squliq dialects and eight C?uli? dialects for this report.[2]   The term "Atayal" is reserved for Atayal proper, referring only to Atayal dialects,

1. The following significant phonological differences are found between Atayal and Sediq: (1) While Atayal generally retains the labial stops and nasal /p, b, m/ at the same point of articulation in the word-final position, Sediq has all changed to the velars /k, ŋ/ word-finally. (2) While Sediq generally retains the voiced stops /b, d, g/, Atayal has the corresponding voiced fricatives and liquid /β, r, γ/. (3) Sediq /r/ corresponds to Atayal /y/ or /z/. However, Palŋawan, a C?uli? dialect of Atayal in the area of Sediq dialects, shares the above phonological features with Sediq rather than Atayal. Since lexical differences between Atayal and Sediq are much more conspicuous than phonological, they are more useful than phonological as linguistic bases for subgrouping Atayal and Sediq.

2. The Atayal material was collected between December 1978 and March 1980. My main informant for Squliq (represented by the Pyasan dialect), Ciru? (Tao-nan Yu in Chinese, male, aged

and "Atayalic" for the entire group in this study. Only the phonological features of Atayal dialects are treated in this paper.

Squliq dialects, the prestige dialect group, are all fairly uniform, whereas C?uli? dialects can be quite divergent from each other and some preserve very interesting and archaic features. Unfortunately, most of the previous linguistic publications on Atayal, such as Ogawa (1931), Egerod (1965a, b, 1966), Yamada and Liao (1974), were based on Squliq, the most "corrupted" in the sense that it has lost a lot of information for historical reconstruction. Several dialects with interesting linguistic features as presented in this paper have never been reported before.

The Atayalic group of languages has the most complex phonology and un-common morphology among all the Formosan languages and one of the most complex in the entire Austronesian family. One purpose of this study is to resolve some of the difficulties in interpreting Atayal phonology, based on internal reconstruction.

With a better understanding of the phonology, it will be easier to identify Austronesian cognates in Atayal. Atayal has hitherto been regarded as one of the most aberrant Austronesian languages mainly because of its low percentage of cognates with other Austronesian languages, the highest being only 11.8% as based on Dyen's (1965:29) lexicostatistical study. Obviously its poorly understood

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36) comes from the village of Tsejen, Fuhsing county, T'aoyuan prefecture. I have also consulted speakers of various age groups from Ulai county, Taipei prefecture, in several informant sessions, and noted very minor dialectal differences. My informants for C?uli? (represented by the Maspazi? dialect) come from the village of Taai, Wufung county, Hsinchu prefecture. My Skikun informants are all residents of the Sïchi village, Tat'ung county, Ilan prefecture. The Mnawyan dialect, which is linguistically and geographically very close to Skikun, is spoken in several settlements in the same county. As for the dialects of Mayrinax, Mabatu?an, Matabalay and Sakuxan, they are all spoken in T'aian county, Miaoli prefecture. Palŋawan is spoken in the village of Ch'inai, Jenai county, Nant'ou prefecture. My field investigations were conducted mostly in the Atayal native villages. In addition to my own field notes, I have also consulted the written reports on Atayal (all squliq) by Ogawa, Egerod and Yamada, and found that Egerod's are the most valuable for my purpose.

phonology constitutes part of the difficulty in identifying a number of cognates. It is hoped that a detailed account of Atayal morphophonemics as given in this paper will help to determine more cognates on a more solid basis.

A detailed account of Squliq phonology based on the Pyasan dialect is given in Section 2. The phonemic and phonetic differences in the major Atayal dialects, including C?uli? (based on the Maspazi? dialect), Skikun (or Mnawyan), Mayrinax, Matabalay, Sakuxan and Palŋawan, their morphophonemic rules and linguistic value for comparative study are all given in Section 3. As a matter of fact, all the Atayal dialects except Pyasan treated in this paper belong to the C?uli? group.[3]

The Atayalic group has the same tendency and direction of sound change. Each change in each dialect may be independent, but parallel. The following changes, either completed or in progress depending on the individual dialect, seem to be genetically shared by most, if not all, dialects in the entire group: (1) -l > -n, (2) -t, -d (only in Sediq) > -c, (3) -b > -p, (4) -p > -k, -m > -ŋ, (5) -g > -w, -y, (6) c > s, (7) vowel-deletion before stress. Some of these changes are manifested in the speech of younger speakers. These parallel but independent changes can be explained as the "drift" of the genetically-related languages or dialects, a concept suggested by Edward Sapir early in 1921. The historical problem of the Atayalic group will be dealt with in a separate paper. The synchronic phonological description given in this paper will serve as a basis for the envisaged historical study.

I have widened the scope of linguistic study by including some aspects of sociolinguistic study. These are: What roles do age and sex play in language structure and change? Different age groups certainly have different sound systems in virtually every Atayal dialect. One of the most interesting examples for sound

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3. In a talk during an informal meeting at the Institute of History and Philology, Academia Sinica, March 14, 1980, Shigeru Tsuchida proposed three linguistic bases for subgrouping Squliq and C?uli? dialects in Atayal: (1) Squliq /r/ corresponds to C?uli? /s/, e. g., /pira?/ vs. /pisa?/ 'how many,' /kira?/ vs. /kisa?/ 'a little later.' (2) Personal pronominal forms, i. e. Squliq /saku?/ or /ku?/ vs. C?uli? /cu/, /ci/, /su/ or /si/ 'I.' (3) Lexical differences, e. g., Squliq /ŋta?/ vs. C?uli? /wayluŋ/ 'chicken,' Squliq /sasaw/ vs. C?uli? /sasi?/ 'shade.'

changes in progress can be drawn from the variations of speech forms exhibited in the different age groups in Skikun; see § 3. 2. 1. 2. Of all Formosan languages and dialects, the Mayrinax dialect of Atayal is the only known dialect that shows certain well-defined differences between the male and female forms of speech. The female forms of speech retain the archaic features and are the basic, whereas the corresponding male forms are the innovated and derived; see § 3. 5. 2 or Li (1980). Such sociolinguistic studies certainly have a bearing for historical interpretation.

2. SQULIQ PHONOLOGY

The phonological structure of Atayal has been studied by Egerod (1966), Hirano (1972), Yamada and Liao (1974), all in the structural approach, with detailed phonetic descriptions and examples. The following is a brief summary of Atayal phonetics and phonology, together with some of my own observations. As for the extensive discussion of morphophonemic alternations in Atayal given in § 2. 4 below, it is mostly my own, but I owe much to Egerod's (1965a) earlier observations of verb inflexion and touched on them in an earlier paper of mine (Li 1977b).

The phonology of the Squliq dialect of Pyasan is discussed below. The dialectal differences in Atayal will be noted here and there and discussed in greater detail in § 3. Squliq is considered the prestige major dialect of Atayal. It is fairly uniform among all the sub-dialects of Squliq.

2. 1 Consonants[4]

	Lab.	Alv.	Alv.-pal.	Vel.	Uvu.	Pha.	Glo.
	p	t	c	k	q		ʔ
	b [β]	r	z	g [ɣ]			
		s		x		h	
		l					
	m	n		ŋ			
	w		y				

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4. The inventory of consonants is exactly the same as the one given by Yamada and Liao (1974), and nearly the same as Egerod (1966) except for the two semivowels.

The stops /p, t, k, q, ?/ are voiceless unaspirated prevocalically, but aspirated postvocalically, and so is the alveo-palatal affricate /c/ [tš]. The word-final /-t/ tends to be replaced by /-c/ in the speech of younger speakers. /b/ and /g/ are more commonly voiced fricatives [β] and [ɣ] respectively. Of the three voiceless fricatives /s, x, h/, /s/ [š] is the voiceless counterpart of the voiced alveo-palatal fricative /z/ [ž], /x/ is velar, and /h/ [ħ] is pharyngeal.

Of the two liquids, /r/ has the free variants between a flap [ɾ] and a trill [r̃]. The lateral fricative /l/ [ɬ] is produced with a nasal release [ɬⁿ] postvocalically, i. e. only in the word-final position. In fact, it is pronounced as a plain nasal [n] in the word-final position in the speech of the younger speakers in all Atayal dialects.[5]

The nasals /m, n̩, ŋ/ are voiced bilabial, dental and velar respectively.

The glottal stop /?/ is omitted initially before vowels, but written in consonant clusters in Egerod's transcription, e. g., /ariŋ/ 'begin,' /?riŋan/ 'beginning,' whereas in my transcription it is written in both types of phonetic environment not only for the sake of convenience, but also for consistency. For instance, Egerod (1965a:263) had to "purposely marked the initial glottal stop (though in our general transcription it has been left out)" when he discussed the loss of the initial consonant, e. g., /?agal/, /magal/ 'take'<*?magal. This problem of his can be avoided if the glottal stop is marked consistently. Moreover, the glottal stop is phonetically always present in the initial position before vowel even though there is no phonemic contrast between the glottal stop and zero consonant. As a matter of fact, there is no contrast between zero and any other consonant initially also. Why should the glottal stop be the only consonant to be omitted? In the word-medial and final position, the glottal stop is also phonemic, e. g.,

5. Shigeru Tsuchida (private conversation) has made the same observation, but wonders why such a change should take place in all these dialects. One possibility is that the phonetically nasal-released lateral as pronounced by older speakers is interpreted and heard as a nasal by all younger speakers. The change which affects /l/ only in the word-final position has brought about the alternation l~n in Atayal as reported by Yamada and Liao (1974: 4), in Sediq as described by Yang (1976: 650-51), and in Kahabu (a Pazeh dialect) as described by me (Li 1977b: 380).

/qmlu?, ql?an, ql?i/ 'close;' cf. the forms with the zero ending, e. g., /?uci, muci/ 'do thus,' /sami/ 'we (exc.)' /simu/ 'you (plural).'

Egerod does not have the semivowels /y, w/ in his phonemic transcription, whereas I recognize their phonemic status, e. g., /rayan/ 'green beans,' /wagi?/ 'sun,' /kaway/ 'plum.' Motivation for the present analysis is the following: First, most Squliq forms contain no more than two main vowels. It will show this type of canonical form more clearly to include the semivowels in the phonemic transcription, e. g., the dissyllabic form /wayay/ 'thread' in my transcription seems better than /uaiai/ in Egerod's (1965b:218). Second, all forms begin with a consonant and most end with a consonant if the semivowels are included and treated as consonants. Or else, we would have to state that some forms end with a glide phonetically /i/ [y] or /u/ [w]. Third, we can dispense with the phonemic long vowels /ii, uu/ which occur only word-finally. This will be discussed when we come to the problem of long vowels in the following section.

As stated in Egerod (1966:122), "All consonants, except /b/ /r/ /z/ and /g/, which are only prevocalic, can occur in prevocalic (single or in clusters) and postvocalic (only single) position." We shall have an explanation for the non-occurrence of these four consonants in the word-final position when we discuss the morphophonemic alternations in Atayal; see § 2.4.1–2.4.4.

The voiceless velar fricative /x/ does not occur word-initially.

2.2 Vowels and Stress

$$
\begin{array}{ccc}
i & & u \\
e & & o \\
& a &
\end{array}
$$

The three primary vowels /i, u, a/ are very common in both frequency of occurrence and distribution. The high vowels /i, u/ have the phonetic variants [e] and [o] respectively immediately adjacent to the consonants /h, q/, e. g., /buquh/ [bo:qóh] 'banana,' /hiluq/ [he:lóq] 'smoke,' /huzil/ [ho:žíl^n] 'dog.' The low vowel /a/ has the variant [æ] next to /h/, e. g., /mtalah/ [məta:lǽh] 'red.'

The mid vowels /e/ [ɛ] and /o/ [ɔ] are much less common. They are derived

from the diphthongs /ay/ and /aw/ (or /wa/) respectively, as based on comparative evidence. There may be minor dialectal differences, e. g., the items /tawciŋ/ 'cheek,' /qwayux/ 'rattan,' and /tnailuq/ 'arrow' in the pronunciation of speakers from Ulai county, but /tociŋ/, /qoyux/ and /tneluq/ in the pronunciation of speakers from Fuhsing county; both counties belong to the major dialect of Squliq.

A phonetic vowel [ə] occurs between consonants, e. g., /hpah/ [həpǽh] 'flower,' /bbuʔ/ [βəβúʔ] 'jungle, bush,' /qhniq/ [qəhəníəq] 'bird.' Since it is always predictable and never appears in the stressed syllable, it is treated as non-phonemic and hence not written in my transcription; here I follow Egerod. Hence we may get long consonant clusters in Squliq, e. g., /mspiʔ/ 'dream,' /mqzinah/ 'run,' /mspliq/ 'diarrhea.'

The vowel [ə] or [e] also appears as a phonetic transition between /i/ and /q/, e. g., /puniq/ [puːníəq] or [puːníeq] 'fire,' /qiraŋ/ [qəiráŋ] or [qeiráŋ] 'green beans.' The transitional vowel is actually somewhere between [ə] and [e] phonetically.

The phonetically long vowels [iː, uː] that occur only in the word-final position are interpreted as geminate vowels /ii, uu/ respectively in Egerod's system. However, there are several justifications to treat them as diphthongs /iy, uw/ respectively.[6] First, there are various diphtongs /ay, aw, uy, iw/ as in /pagay/ 'rice plant,' /ʔabaw/ 'leaf,' /sehuy/ 'taro,' /lliw/ 'tip,' but no such diphtongs as /iy, uw/ other than these two long vowels. Second, nearly all Atayal words end with a consonant, except for a few function words, e. g., /qa/, /la/, pronouns /sami/ 'we (exc.),' /simu/ 'you (pl.),' demonstratives /qani/ 'this,' /qasa/ 'that.' If these phonetically long vowels are interpreted as geminate vowels as Egerod has done, then words containing these vowels will be the major exceptions that end with a vowel. Third, since these phonetically long vowels are synchronically as well as diachronically derived from a vowel plus a consonant, [iː] < [ir] or [ig] and [uː] < [ug] (see § 2. 4. 2, 2. 4. 3), it is much more natural and economical for a consonant (/g/ or /r/) to derive as a semi-consonant (/y/ or /w/) rather

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6. Shigeru Tsuchida (private conversation) first suggested the idea. I looked into the possibility and found these justifications for the neat treatment of the problem.

than as a vowel (/i/ or /u/). In other words, the ·rules given in § 2. 4. 2 and 2. 4. 3 would be much more complex if the phonetically long vowels were treated as geminate vowels. Fourth, since the geminate vowels are distributionally very defective (only in the word-final position), it is certainly an advantage to eliminate them from the vowel inventory. Thus Squliq has five vowels /i, u, e, o, a/ rather than seven /i, u, ii, uu, e, o, a/. Fifth, there is no phonemic long vowel in Squliq other than [i:] and [u:]. From comparative evidence, all long vowels have become shortened in the dialect under discussion, e. g., Proto-Atayal *hiiʔ > hiʔ 'flesh, body.' Also it is strange to have length contrast ·only in the two high vowels.

The penultimate vowel is phonetically long, e. g., /bukil/ [βu:kílⁿ] 'peach,' /pimaʔ/ [pi:máʔ] 'towel.'

The mid vowels /e, o/ occur more frequently in non-final syllables, e. g., /meliq/ 'hold up,' /hoŋuʔ/ 'bridge,' only rarely in the final syllable, e. g., /qes/ 'boundary,' /smom/ 'wipe.'

All the diphthongs appear only in the final syllable in the dialect of Squliq as based on the speakers from Fuhsing county, but they may also appear in the penultimate syllable as pronounced by speakers from Ulai county. As for the dialects of Cʔuliʔ and Mayrinax, they may appear virtually in any syllable. See examples in § 3. 1.

In summary, there are five vowels /i, u, e, o, a/ plus six diphthongs /ay, aw, uy, iw, iy, uw/ in the Squliq dialect under examination.

Stress normally falls on the final syllable.

2.3 Canonical Form

CV	qa 'particle' la 'particle'
CVC	kun 'self' muʔ 'shoot' gis 'guts' ŋos 'edge' bih 'beside' hiʔ 'body'
CCVC	hpah 'flower' qziʔ 'thorn' bhut 'squirrel' szik 'liver'
CCCVC	thbuʔ 'gourd' qsyak 'oil' sqruw 'bait' qrgus 'cricket' tktuk 'golden bug'
·CCCCVC	mspliq 'diarrhea' stnxan 'privy'

CVCV	ṣimu 'you (pl)' sami 'we (exc.)'
CVCVC	tunux 'head' sumiq 'body louse' lukus 'clothes'
CCVCVC	tlahiʔ 'lemon' mqahal 'twin' hginuk 'waist'
CCCVCVC	mslawiʔ 'lightning' kblayul 'ritual' mqzinah 'run'
CVCCVC	kimkis 'ancestor' qamsyaʔ 'sugar' sinrxan 'whole'
C(C)VCVCVC	ʔinuŋan 'mind' miyugiʔ 'dance'
CVCCVCVC	pinqziwan 'former' kintariʔ 'kneel'

The most common types of canonical form are CCVC, CVCVC and CCVCVC. The less common types are CVC and CCCVC.

The rarest types are CV, CVCV, CVCC(C)VC, CVCVCVC and CVCCCVCVC.

All Atayal dialects permit only one final consonant. A dissyllabic form ordinarily permits a combination of two consonants before the last vowel only if the first member is a nasal, or the second member is a semiconsonant, but such combinations are extremely rare.

There is little limitation on the number or order in the combination of consonants before the penultimate vowel. However, the initial consonant tends to get lost in Squliq; see § 2.4.6.1.

A free form usually contains only one or two vowel nuclei in Squliq. A form with three vowel nuclei is rare.

2.4 Morphophonemic Alternations[7]

2.4.1 The Alternation b ~ p

The alternation of b ~ p is rare; less than ten verbs exhibit such an alternation in the data available, including some 270 verbs; see Appendix.

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7. Some of the morphophonemic alternations were discussed in an earlier paper of mine (Li 1977b), based on the data reported in Egerod (1965a). These are: the alternations b~p, g~u, r~i, t~c, l~n (the last one based on Yamada). In this paper, I shall give a more detailed discussion and fuller treatment for these alternations with more adequate data collected by myself and with revised orthography. Moreover, some alternations not touched on earlier will be discussed in this paper, including the alternations i~z, C~Ø, etc.
Hereafter hyphen indicates morpheme boundary, and slashes indicate infix.

All the verb stems, which are active imperatives, are free forms. The passive forms with -an and/or -un are cited in the following examples.

	Stem	Passive	
(1)	qatap	qtab-an	'cut with scissors'
	shop	shob-an	'suck'
	suyap	syab-an	'yawn'
	hop	hab-an	'stab, sting'
	gop	gob-an	'share one cup'
	hgup	hbg-an	'do magic' (Note the metathesis of b and g)

Cf. the non-alternating forms:

	Stem	Passive	
(2)	zup	zup-an	'blow with breath'
	kiyap	kyap-an	'catch'
	quyup	qyup-an	'roll up, fold'
	hap	hp-an	'sow'

It is obvious that b can be treated as the base and p as derived in the alternating forms:

(3) b → p / ___#

The solution also accounts for the fact that b does not occur word-finally in most Atayal dialects.

Alternatively, if p were treated as the base and b as derived, then it would be difficult to predict when to derive it as b in (l) and when to derive it as p in (2) above.

2.4.2 The Alternation g ~ w

Let us examine the alternation g ~ w in the examples below:

	Stem	Passive	
(1)	luhuw	lhug-an	'thread a needle'
	qebuw	qbug-an	'plough'
	lpuw	lpug-an	'count'
	htuw	htg-an	'come out'
	ruruw	rg-an	'push'

ksyuw	ksyug-an	'borrow'
gluw	(g)lg-an	'follow'
gluw	glg-an	'ride'
psyuw	p/in/syug-an	'compensate'
(2) goyaw	gog-an	'choose'
sosaw	s/n/wag-an	'chase away'
karaw	k/in/rag-an	'climb'
tlamaw	tlmag-an	'cut (grass)'
haw	hag-an	'scoop'
hotaw	h/in/tag-an	'drop, fall'
samaw	smag-an	'spread a mat'

Cf. the forms that do not manifest the alternation g $\sim$ w in the same position:

(3) nbuw	nbw-an	'drink'
ʔuluw	ʔlw-an	'discover'

These two examples may be exceptions to the rule of the g $\sim$ w alternation. Or the stem-final /w/ may have been original, but there is no comparative evidence for such a hypothesis.

For those forms with the alternation g $\sim$ w, g can be treated as the base and w as derived:[8]

(4) g $\rightarrow$ w /——#

There is no example manifesting g $\sim$ w after /i/ in the data available to me, but I shall assume that is the case for the rule stated above.

As in the case of the b $\sim$ p alternation discussed in the previous section, this solution also accounts for the non-occurrence of g word-finally in most Atayal dialects. It is a very productive rule.

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8. Note that the phonetic realizations of /g/ are conditioned by the preceding vowel: as [u] if the preceding vowel is [u], and as [w] if the preceding vowel is /a/. In other words, if the phonetically long vowel [u:] were interpreted as geminate vowels /uu/, then the rule stated in (4) would be:

(4') (a) g $\rightarrow$ u / u___#
(b) g $\rightarrow$ w / a___#

The alternation ,g ∼ ? in the example below presents a problem:

(5) gno?   g/in/nog-an   'joke'

Perhaps the stem-final -? is not phonemic, and /w/ derived from /g/ (based on Rule (4) above) after /o/ is lost. This is another exception to Rule (4), but of a different kind from those listed in (3). Incidentally, the stem vowel /o/ may have been derived from *aw historically.

2.4.3   The Alternation r ∼ y

This alternation occurs only in the Squliq dialects.

Let us examine the following examples with the alternation r ∼ y:

	Stem	Active	Passive	
(1)	baziy	maziy	b/n/ir-an	'buy'
			bzir-an	'store'
	bahiy	mahiy	h/n/ir-an	'dry in the air'
	kgiy	mkgiy	k/in/gir-an	'prepare hemp'
(2)	pgyay	mgyay	pgyar-an	'run away'

Cf. the following forms that do not contain the same alternation as above:

(3)	bhiy	mihiy	bhy-an	'beat, fight'
(4)	huluy	h/m/uluy	hluy-an	'drag'
	?ubuy	mubuy	?/in/buy-an	'continue'
		mhuiai	hiai-an	'able to' (Egerod 1965a:261)
	sgagai	smgagai	sgai-un	'take leave' (Egerod 1965a:261, 265)

The stem-final r in the passive forms in (1) and (2) above can be treated as the base and the word-final y as derived:

(5) r → y/___#

Alternatively, if y should be treated as the base, it would be difficult to predict when to derive it as r as in (1) and (2), and when to derive it as y as in (3) and (4). Another advantage for solution (5) is that it also accounts for the fact that r does not occur word-finally in Squliq, where this alternation is found.

2.4.4   The Alternation z ∼ y

Let us examine the alternation z ∼ y in the following examples:

	Stem	Passive		Imperative	
(1)	hkuy	h/in/iy-an	tkiy-un	hkz-i	'bend'
	p-hapuy	puz-an	puz-un	puz-i	'cook'
	kehuy	k/in/hoy-an	kihoy-un	khoz-i	'dig'
	tsehuy	c/in/hoy-an		tshoz-i	'dig taro'
	takuy	tkuy-an	tkuy-un	tkuz-i	'fall'
	holuy	h/in/luy-an	hluz-un	hluz-i	'drag'
	piray	p/in/ray-an	pray-un	praz-i	'turn'
	silay	s/in/lay-an	slay-un	slaz-i	'thresh'
	htuy	htiy-an	htz-un	htz-i	'obstruct'
	ʔubuy	buz-an	buz-un	buz-i	'continue, connect'
	kalay	k/in/lay-an	klay-un	klaz-i	'make'
	slubay	slbay-an	sbay-un	sbaz-i	'swing'

In the imperative forms that consistently show z ∼ y, z can be treated as the base and y as derived:

(2) $z \rightarrow y/\underline{\quad} \#$

Cf. the imperative forms which do not show z: /bhiy-i/ 'beat,' /psʔasiy-i/ 'cough,' /nbu-y/ 'drink,' /ʔlu-y/ 'find.'

One problem to account for the above data is that the stems followed by the suffixes /-an/ and /-un/ do not consistently end with /z/.   All the above forms are based on the relatively young informant, Tao-nan Yu (aged 37).   Whether /z/ turns up in a certain form often has to do with age or dialect difference. For instance, /mqzinah/ 'run' is in the speech of older speakers and /mqinah/ in the speech of younger speakers; also cf. /kmizap/ 'catch' in the speech of Hung-lung Lin (aged 43, from Ulai county), while /kmiyap/ in the speech of Tao-nan Yu (from Fuhsing county).   The appearance of /z/ also seems to depend on the form in which a lexical item takes.   In other words, different forms of

the same verb may or may not take /z/, e. g., /m-zup, zup-an, yup-un, zup-i/ 'blow.' Actually even the same speaker has the free variant forms. For example, I have recorded /buz-un/ ~ /buy-un/, /buz-an/ ~ /buy-an/ 'continue' from Tao-nan Yu. These examples indicate that the /z/ is in the state of change to /y/, at least in the Pyasan dialect of Squliq.

Alternatively, if y should be treated as the base and z as derived, then the rule might be:

(3) $y \rightarrow z/\underline{\quad} i$

There are a few exceptions to Rule (3). If the phonetic environment is revised to:

(4) $y \rightarrow z/\underline{\quad} V$

there will be more exceptions, as based on the speech of Tao-nan Yu.

This alternative solution seems to contradict the fact that older speakers preserve /z/, and that seems to indicate that /z/ is the base form preserved by the more conservative older generation, whereas the younger speakers tend to be more innovative and change /z/ to /y/.

2.4.5 The Alternation t ~ c

The consonant /c/ occurs only before vowel /i/ and before other consonants. The alternation t ~ c is observed in the following examples:

	Stem	Passive		Imperative	
(1)	paqùt	pqut-an	pqut-un	pquc-i	'ask'
	kat	k/n/at-an	kat-un	kac-i	'bite'
	kut	k/n/ut-an	kut-un	kuc-i	'cut'
	siŋut	sbiŋut-an	sbiŋ-un	sbŋic-i	'sneeze'
(2)	cinun	c/in/un-an	tn-un	t/m/inun (AF)	'weave'

It is clear from the above data that t can be treated as the base and c as derived:

(3) $t \rightarrow c/\underline{\quad} i$

With regards to the distribution of /t/ and /c/, Egerod (1966:123) stated, "/t-/ and /c-/ are in complementary distribution before vowels (only /c/ before

/i/), but not before consonants: /tmira?/ 'to spin' (cf. /cira?/ 'spindle'), but /cbaq/ 'to teach'." My investigation of the same dialect of Atayal confirms his statement, which justifies the treatment as given in (3) above. On the same page he also noted that "[-t] and [-ts] are in free variation." Based on my own observation, all the male informants from Ulai and Fuhsing, whose age ranges from 37 to 67, consistently pronounce [t] in all position, postvocalic as well as prevocalic, except before /i/, whereas younger speakers like Li-hua Lin (Mrs. Yu) from Fuhsing consistently produces -c [-ts] in the postvocalic position.

The rule (3) applies only in the dialects of Squliq and Skikun, not in the dialect Mayrinax or C?uli?; see § 3.1.

2.4.6 Loss of Consonant

2.4.6.1 Loss of the Initial Consonant[9]

Loss of the initial consonant occurs mostly with the active form (with -m-), less frequently with the passive forms (with -an or -un) and imperative (with -i). As the initial consonant generally appears with the stem and passive forms, but not with the active form, we get the alternations of m with some other consonant: m ~ b, m ~ ?, m ~ g, m ~ k, m ~ l, m ~ p, m ~ q, m ~ r, etc.

In a synchronic study, loss of the initial consonant is detectable only in verb inflection. Examination of this phenomenon should be valuable for cognate identification. Since vowels before penult are generally deleted, the lost initial consonant was actually the initial syllable. The posited initial consonant clusters such as *bm-, *gm- and *?m- below were historically derived from *bum-, *gum- and *?um- respectively.

2.4.6.1.1 Loss of b-

	Stem	Active	Passive	
(1)	baziy	maziy (*bm-)	birun	'buy'
	bhiy	mihiy	bhyan	'beat'
	biru?	miru?	brwan, brun	'write'
	biq	miq	biqan, biqun	'give'

9. See also Egerod (1965a: 263-65). I have checked all the examples with my informant.

buʔ	muʔ	bwan	'shoot'
bahuq	mahuq	hbuqi	'wash clothes'
behoy	mehuy	b/in/hoyan, behoyun	'boil'
bikiʔ	mikiʔ	bkyan, bkyun	'bend'
buliŋ	muliŋ	bliŋan, bliŋun	'throw'
bhol	mhol	hblun	'tie up'
brbil	mrbil	brbilan, brbilun	'tremble'

By internal reconstruction alone, we can posit *bm- for m- in the active form, as Egerod (1965a: 263) has done. That is to say, the m- in Squliq is historically derived from *bm- (< *bum-), and the initial *b- is lost immediately adjacent to the homorganic /m/.

The fact that we assume *bm- instead of *mb- is because the sequence mb- does occur in Squliq, e. g., /mbihiy/ 'fight each other,' whereas bm- does not.

The validity of this analysis is in a way supported with comparative evidence. Cf. the following active forms in Squliq, Cʔuliʔ (represented by the Maspaziʔ dialect) and Mayrinax:

	Squliq	Cʔuliʔ	Mayrinax	
(a)	maziy	mabaziy	mabaynay, mabaay	'buy'
	mahiy	mabahiy	mabahiy	'beat'
	mrbil	mabalabil	mabilbil	'tremble'

Note that /b/ turns up in Cʔuliʔ and Mayrinax forms although the sequence of /b/ and /m/ as posited for Squliq is not the same as compared with Cʔuliʔ and Mayrinax. However, this difference in sequence is also found in some Squliq verbs, e. g., /gmleŋ/ ~ /mgleŋ/ 'lead,' /gmluw/ ~ /mgluw/ 'follow, ride;' see § 2. 4. 6. 1. 2 below. Some Mayrinax verbs may take both the prefix and infix with slight semantic differences, e. g., /ma-qaluit/, /q-um-aluit/ 'flow, adrift.' These variant forms with different functions may go back to an early stage in Proto-Atayal.

The comparative evidence also leads us to another problem. Cf. the following active forms of the verbs in the dialects:

	Squliq	Cʔuliʔ	Mayrinax	
(b)	mahuq	mahuʔ	mabahuq	'wash clothes'
(c)	miq	maiʔ	maiq	'give'
	mhul	mahul	mhul	'tie up'

Note that there is a discrepancy in the presence and absence of /b/ in the verb 'to wash clothes.' The posited *b appears in neither Cʔuliʔ nor Mayrinax forms of the verbs 'to give' and 'to tie up.'

Some of the alternations in the initial consonants, therefore, must have gone back to an earlier stage. As a matter of fact, nasal substitution of the initial consonants is a very common sound process in many western Austronesian languages such as Tagalog, Toba-Batak and Javanese, including the alternations of m ~ b, m ~ p, m ~ w, n ~ d, n ~ t, ŋ ~ k, s ~ n, etc. (Dempwolff 1934: 30–31).

2.4.6.1.2 Loss of g-

	Stem	Active	Passive	
(2)	galuʔ	(g)maluʔ (*gm-)	lingwanan	'sympathize'
	gleŋ	(g)mleŋ	ginlŋan	'lead'
	gluw	(g)mluw	(g)lgan, (g)lgun	'follow; ride'
	gnoʔ	mnoʔ	ʔinnogan, nogun	'joke'
	goyaẅ	(g)moyaw	gogan, gogun	'choose'
	ghap	(g)mhap	(g)hpan, hpun	'sow'

The optional initial consonant g- is indicated by parentheses above. My main informant for Squliq generally gives the form without the initial consonant in parentheses, but would accept it if it was added to the form. This is true not only of g- in the examples above, but also of the other consonants l-, r- in the examples below. The initial consonant is retained more often in Cʔuliʔ, Skikun and Mayrinax. It may also turn up in the Squliq texts that I have collected. It is clearly in the stage of being lost in Squliq.

The optional initial g- may appear after m-, e.g., /gmleŋ/ ~ /mgleŋ/ 'lead,' /gmluw/ ~ /mgluw/ 'follow, ride.'

2.4.6.1.3 Loss of ?-

	Stem	Active	Passive	
(3)	?alax	malax (*?m-)	laxan or lxan, laxun	'give up'
	?atuk	matuk	tukan, tukun	'hoe'
	?agal	magal	galan, galun	'take'
	?aras	maras	?rasan, rasun	'bring'
	?apal	mapal	palun	'have extra-marital sexual relations with'
	?uci	muci	—	'do thus'
	?nmuk	mumuk	mukun	'cover'
	?ubuy	mubuy	buyun	'continue'
	?zuw	mzuw	zugun	'exchange'

2.4.6.1.4 Loss of p-

(4)	paqut	maqut (*pm-)	pqutan	'ask'
	patas	matas	pintasan, ptasun	'tattoo'
	pgyay	mgyay	pgyaran, pgyarun	'run away'
	phaw	hmaw	phogun	'sharpen, compensate'
	pima?	mima?	pman	'bathe'
	puŋ	muŋ	poŋan, poŋun	'hear'

2.4.6.1.5 Loss of k-

(5)	kaki?	maki? (*km-)	ki?an, ki?un	'exist'
	kita?	mita?	kintan, kton	'see'
	kzyup	mzyup	kinyopan, kyopun	'enter'

2.4.6.1.6 Loss of q-

(6)	qaniq	maniq (*qm-)	qniqan, niqun	'eat'
		Cf. qmaniq 'greedy'		

2.4.6.1.7 Loss of l-

(7)	lamu?	mamu? (*lm-)	lmwan, lmun	'pick up'
	lŋyaq	(l)mŋyaq	lŋyaqan, lŋyaqun	'swim'
	laqux	maqux	lqxan, lqxun	'win'

lpuw	(l)mpuw	linpgan, (l)pgun,	'count'
lqiŋ	(l)mqiŋ	lqŋan, lqiŋun	'hide'
(l)ŋluŋ	(l)mŋluŋ	llŋun	'think'
leliq	(i)meliq	linliqan, lliqun	'hold up'
lahiŋ	(l)mahiŋ	lhiŋun	'weed'

2.4.6.1.8 Loss of r-

(8) rana?	(r)mana? (*rm-)	rnan, rnon	'feed'
ruyu?	(r)muyu?	—	'be still, stable'
ruruw	(r)muruw	rgan	'push'

2.4.6.1.9 Loss of t-(?)

| (9) tbah | minbah (*tm-) | tbahan, tbahun | 'renew, renovate' |
| txal | minxal | txalun | 'do once' |

Cf. qutux 'one'

| tlom | mtlom | loman | 'burn' |

2.4.6.1.10 Loss of s-(?)

| (10) sbuliŋ | mbuliŋ (*sm-) | bliŋan | 'throw away' |
| sbka? | mbka? | binkan | 'split' |

2.4.6.1.11 Loss of z-

| (11) zuŋi? | muŋi? (*zm-) | zŋyan, zŋyun | 'forget' |
| zpu? | mpu? | zpwan, zpun | 'miss the target' |

2.4.6.1.12 Loss of h-

| kaŋi? | mkaŋi? | hkŋiyun, hkŋiyan | 'walk' |

The lost initial consonant consists of the following types: the voiced fricatives /b, z, g/, the voiceless stops /p, t, k, q, ?/, the liquids /l, r/ and the voiceless fricatives /s, h/. The few examples we have got for the loss of t- and s- are not clear enough to establish the case solidly. All these are based on the verb inflexion in Squliq alone.

We have also comparative evidence for the loss of the initial consonant or syllable in the noun as well as in the verb form in Squliq. For example,

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(13)	qziʔ	pqciʔ	baʔaziʔ	baqtiʔ	'thorn'
	knus	rknas	rakinus	rakus	'camphor laurel'
	qniʔ	pqniʔ	baʔaniʔ	baqniʔ	'bone'
	hluk	bhluk	bahaluk	bahluk	'lung'
	takan	btakan	—	batakan	'bamboo'
	laquŋ	glaquŋ	galaʔuŋ	gilaquŋ	'pheasant'
	hzyal	—	rahiyal	—	'earth, ground'
	ʔnux	—	gaʔanux	giʔnux	'tooth'
	hmiq	lhmiq	lhmiʔ	lihpiq	'thin'
	meliq	lmeliq	lmeliʔ	rumiriliq	'hold up'
	hbaw	lhbaw	lhbaw	lihbaw	'light; not heavy'
	mŋyaq	lmŋyaq	malaŋyaʔ	lumaŋuy	'swim'
	lukuʔ	blukuʔ	balukuʔ	balukuʔ	'winnowing basket'
	labaŋ	glabaŋ	galabaŋ	gilabaŋ	'wide'
	laquy	glaquy	—	gilaquy	'female beast'

The lost initial consonant in the examples above consists of /b, r, g, l/.

2.4.6.2 Identical Consonant Deletion

A verb stem may contain two consecutive syllables with the same consonant. The vowel between the identical consonants is deleted as the stress is shifted to the suffix. As a result, one of the consonants is also deleted in the passive forms, including the imperative with -i.

	Stem	Active	Passive	Imperative	
(1)	(h)ham	hmham	hamun	hami	'grope'
	sosaw	smosaw	swagun, swagan	swagi	'chase away'
	cinun	tminun	tnun, cinunan	tuni	'weave'
	kŋuŋuʔ	mŋuŋuʔ	kŋun	kŋuy	'fear'
	kkah	kmkah	kahun, kahan	kahi	'kick'
	ggil	gmgil	gilun	gili	'sieve'

sgagay	smgagay	sgayun	sgazi	'see off'
ruruw	(r)muruw	rgan	—	'push'

Note that in the derivation process *sosag-i > *soag-i > swag-i 'chase away!' what gets deleted is the second consonant, rather than the first; whereas in *tinun-i > *tnun-i > tun-i 'weave!' it is the first consonant that gets deleted.

However, not all geminate consonants are contracted into single, as in the following examples:

(2)	k-ŋuŋuʔ	mŋuŋuʔ	kŋŋwan	kŋuy	'fear'
	s-ŋuŋuʔ	smŋuŋuʔ	sŋŋun	sŋŋuy	'frighten'
	tutuʔ	tmutuʔ	ttun, ttwan	ttuy	'chop, hew'
	mumuʔ	tmumuʔ	tmmun, tmmwan	tmmuy	'tie a knot'

2.4.7 Deletion of Vowel in the Antepenultimate Syllable, i.e. Alternation of Vowel with Zero

Generally speaking, all vowels (monophthong or diphthong) before penult are deleted, as manifested in the following examples (also cf. Egerod 1965a: 255–57). All the vowels deleted occur in the unstressed syllables. These vowels are phonetically reduced to [ə], phonemically interpretable as zero.

2.4.7.1 Loss of /a/

Stem	Passive	
paqut	pqutun	'ask'
ʔaras	rasun	'bring'
sayuk	syukun	'broil'
tlamaw	tlmaguñ	'cut (meat)'
qatap	qtabun	'cut (with scissors)'

2.4.7.2 Loss of /i/

kihuy	khoyun	'dig'
bhiy	bhiyun	'beat'
cisal	salun	'play'
hiliʔ	hliyun	'accuse'

hinas	hnasun	'pass'
biki?	bkliyun	'bend'

2.4.7.3 Loss of /u/

suliŋ	sliŋun	'burn'
buyaw	gyaguŋ	'wade'
huluy	hluyun	'pull'
quzi?	qziyun	'hang over'
tuciŋ	ciŋun	'knock'
kugus	kgusun	'scrape, shave'
putaq	ptaqun	'vomit'

2.4.7.4 Loss of /e/

tehok	thkan	'arrive'
geh	ghan	'open'
leliq	lliqun	'hold up'

2.4.7.5 Loss of /o/

hobiŋ	hbeŋun	'cut (meat)'
hoqil	hqilan	'die'
hotaw	htagan	'drop'

Note that, in a few cases, the first syllable (including the first consonant) of the verb stem is lost in the passive form. e.g., tuciŋ ~ ciŋun 'knock,' cisal ~ salun 'play.' Also only a few cases show loss of vowel before the final syllable, e.g., bul ~ blun 'bury,' geh ~ ghan 'close.'

The following examples show loss of diphthongs before the penultimate syllable:

2.4.7.6 Loss of /ya/

syaqeh	sqehan	'do not get along well'
qyanux	qnxan, qnxun	'live'

2.4.7.7 Loss of /wa/

qwalax	qlwaxan	'rain'

2.4.7.8 Loss of /yu/

syunaw	snagan	'succeed, inherit'

2.4.8 Alternation of Vowels (Ablaut)

2.4.8.1 The Alternation a ~ o

	Stem	Active	Passive	
(a)	skon	smkon	skanun	'chew'
	hop	hmop	habun	'stab, sting'
(b)	goyaw	(g)moyaw	gogun	'choose'
	haw	hmaw	hogun	'fine, sharpen'
	ciyaw	mciyaw	cyogan	'work'

2.4.8.2 The Alternations a ~ i and a ~ e

baziy	maziy	birun, biran	'buy'
blaq	mblaq	blequn	'good, do it well'

2.4.8.3 The Alternation u ~ i

(a)	htuy	hmtuy	hntiyan	'oppose, obstruct'
	sbiŋut	smniŋut	sbŋici, sbiŋutan, sbiŋun	'sneeze'
	hkuy	hmkuy	hnkiyan	'bend'
(b)	sluhiy	msluhiy	pslhuyun	'landslide'

2.4.8.4 The Alternation e ~ i

(a)	thgeruʔ		thgiran, thgiri	'turn around something'
	tapeh	tmapeh	tpihun, tpihan, tpihi	'beckon'
	heriq	hmiriq	heriqi	'demolish, destroy'
(b)	hobiŋ	hmobiŋ	hbeŋun	'cut (meat)'
	lqiŋ	(l)mqiŋ	lqeŋun, lqeŋi	'hide (thing)'
	biŋ	miŋ	beŋun. bneŋan	'take, hold in hand'
	kbzeh	kbzeh	kbzihan, kbzihi	'repeat'

2.4.8.5 The Alternation u ~ o

kihuy	kmihuy	khoyun	'dig'

tsehuy	tmsehuy	cinhoyan	'dig taroes'
	mehuy	behoyun	'boil, bubble'
sbehuy	sbehuy	sbhozan	'blow (wind)'
puŋ	muŋ	poŋan	'hear'
nkux	mnkux	koxan	'scare, afraid'
qul	qmul	qolun	'rob'
kuw	kmuw	kogan	'tired mentally'
kzyup	mzyup	kyopan, kyopun	'enter'

2.4.9 Contractions

2.4.9.1 Identical Vowel Deletion

Identical vowels across the morpheme boundary (indicated by "+" in the examples below) are shortened into single vowels. Note that the final glottal stop is generally dropped when followed by a suffix -un, -an or -i:

	Stem	Active	Passive (-un)	
(1)	satu?	smatu?	stun < *satu + un	'see off'
	qzu?	qmizu?	qzun < *qizu + un	'contagious'
	lamu?	mamu?	lmun < *lamu + un	'pick up'
	biru?	miru?	brun < *biru + un	'write'
		stmumu?	tmmun < *tmumu + un	'tie a knot'
	bu?	mu?	bun < *bu + un	'shoot'
	sxu?	smuxu?	sxun < *suxu + un	'pound rice'
	sŋuŋu?	smŋuŋu?	sŋŋun < *sŋuŋu + un	'frighten'
	tutu?	tmutu?	ttun < *tutu + un	'chop, hew'
(2)	kita?	mita?	ktan < *kita + an	'see'
	laka?	mlaka?	plkan < *plaka + an	'fly'
	raŋa?	maŋa?	rŋan < *raŋa + an	'feed'
	pana?		pnan < *pana + an	'carry on back'
	thma		thman < *thma + an	'taste'
	shŋa?	shna?	shnan < *shna + an	'catch up'
	pima?	mima?	pman < *pima + an	'wash (body parts)'
	tama?	mtama?	cinman < *tinama + an	'sit'

(3) zuŋiʔ   muŋiʔ   zŋi < *zŋi+i   'forget'

         siʔ   smiʔ   si-si < *si-si+i   'put'

         hziʔ   hmziʔ   hzi < *hzi+i   'pour (water)'

         ʔuciʔ   muci   ʔuci < *ʔuci+i   'do thus, say thus'

         bikiʔ   mikiʔ   bki < *biki+i   'bend'

         (h)kaniʔ   hmkaniʔ   hkni < *hkni+i   'seek'

         kaŋiʔ   mhkaŋiʔ   khaŋi < *khaŋi+i   'walk'

         ʔabiʔ   mʔabiʔ   ʔabi < *ʔabi+i   'sleep'

No example has been attested for the deletion of the identical mid vowels, since no suffix begins with /e/ or /o/, nor any verb stem ends with either of the two vowels.

2. 4. 9. 2 The Contraction au > o before the Final Consonant

Stem	Active	Passive (-un)	
shŋaʔ		shŋon < *shŋa+un	'catch up'
bkaʔ	mbkaʔ	bkon < *bka+un	'split'
kitaʔ	mitaʔ	kton < *kita+un	'see'
ʔusaʔ	musaʔ	ʔson < *ʔusa+un	'go'
plakaʔ	mlakaʔ	plkon < *plaka+un	'fly'
pklwaʔ	mklwaʔ	pklon < *pklwa+un	'float'
raŋaʔ	maŋaʔ	rŋon < *raŋa+un	'feed'

This contraction in Squliq is evident when compared with another dialect, Cʔuliʔ:

Squliq	Cʔuliʔ		
rom	raum	'needle'	
smom	samaum	'wipe'	
goŋ	gauŋ	'creek, stream'	
smok	samauk	'smell'	
qom	ʔagum	'anteater'	(See § 3.1 for the loss of /g/.)

2. 4. 10 Metathesis

Metathesis of consonants is found in verb inflexion in the Squliq dialect:

	Active	Passive	
(a)	mhol (< *bmhol)	hblun	'tie a knot'
	qmihul	hqlun, hŋqlan	'compel'
	hmgup	hbgan	'do magic'

(See § 2.4.1 for b → p/___#.)

	Active	Passive	
	mŋilis	lŋisan, lŋisun	'weep'
	mahoq (< *bmahoq)	hboqun	'wash clothes'
	msluhiy	pshluyan	'landslide'
	{gmalu? / sgalu?	{linguanan / lgani	'sympathize'
	mqlui?	qlyu?an, qlyu?un	'flow'
	msluhiy	pshluyan	'landslide'

(b) hoqil 'die', pqheli 'kill'

Metathesis of vowels has been attested in the same nominal form between different age groups, for instance, tlui? as pronounced by older speakers while tliu? 'mulberry' by younger speakers.

Metathesis seems rather common across dialects in Atayal. Listed below are only some of the examples that have been observed:

Squliq	Skikun	C?uli?	
bilus	libus	bilus	'sugar cane'
qabaŋ	qabaŋ	ba?uŋ	'pumpkin'
guru? (烏來)	xuru?	—	'duck'
rugu? (復興)			
qihuy	hquy	?ihuy	'horn'
mŋilis	mliŋis	maŋilis	'weep'
htgan	thgan	hatagan	'sunrise'

More detailed dialectal differences will be taken up in the following section, § 3.

3. ATAYAL DIALECTS

3.1 Phonemic and Phonetic Differences in the Major Atayal Dialects

The main difference in the phonemic inventory between Maspaziʔ Cʔuliʔ and Squliq is that the former has no /q/; it has changed to /ʔ/. Thus it can be inferred that when a certain item differs between Squliq and Cʔuliʔ only by /q/ and /k/, Cʔuliʔ may have borrowed the form from Squliq, e. g., Squliq /qtahiʔ/ : Cʔuliʔ /ktahiʔ/ 'ant;' cf. Paran Sediq /qtahi/. Or alternatively, assimilation of the stop to the following /h/ may have taken place in Squliq; see the discussion in (3) and (4) below.

Skikun and Mayrinax differ from both Squliq and Cʔuliʔ in the lack of /z/ in their phonemic inventory. Skikun and Mayrinax are subdialects of the Cʔuliʔ subgroup.

A phonetic difference between Squliq and Cʔuliʔ is that while the former may have the voiced stop variants [b, g] for its two voiced fricatives [β, ɣ] respectively, the latter commonly has only the voiced fricative variants. The bilabial fricative [β] is replaced by labiodental [v] in the speech of younger speakers of Cʔuliʔ. The liquid [r] is commonly a flap in Cʔuliʔ, but more commonly a trill in Squliq, and it is commonly a retroflexed fricative [ɹ] or [ʐ] in Skikun, not a trill or flap.

Skikun /g/ [ɣ] is partially devoiced prevocalically, e. g., [kɣis] 'hemp plant,' a free variant ɣ ~ x preconsonantly, e. g., [ɣmaːɬiəq] or [xmaːɬiəq] 'to tear,' and completely devoiced as [x] postvocalically, e. g., [tqiːnúx] 'mushroom,' [βɣaːyáx] 'Alocasia' even by older speakers. However, it is completely devoiced in all position by younger speakers (below middle age) and female speakers (ages 53 and 28) that I worked with. The voicing of [ɣ] in the prevocalic position is very well preserved in Mnawyan, a dialect closely related to Skikun.

Mayrinax is the only dialect that retains both /b/ [β] and /g/ [ɣ] in the word-final position, e. g., /sabsab/ 'eaves,' /ginabugab/ 'rice gruel,' /ʔabag/ 'leaf,' /qag/ 'rib.' The occurrence of the final [-β] is rare; I have recorded only 6 items with [-β] in approximately 1,500 items for the dialect. The final [-ɣ] is phonetically rather weak, but clearly voiced.

A difference in the distribution of consonant is that while /t/ has changed to /c/ before /i/ in Squliq and Skikun, it is still retained as /t/ in Cʔuliʔ and Mayrinax. All verbs are given in the active form below:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(1)	tnciŋ	tŋciŋ	tanatin	tintin	'steelyard'
	msquciʔ	squciʔ	masʔutiʔ	masiqutiʔ	'defecate'
	mciriq	mciriq	matiriʔ	—	'fight'
	mcisal	mcisal	matisal	—	'play'

Cʔuliʔ does have a few forms with the sequence /ci/, as in /ʔalaciŋ/ 'board,' /kaciŋ/ 'buffalo.' They may have been loans from the other dialects.

Skikun has undergone one further change t > c word-finally even in the speech of older speakers:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(2)	kmut	kmuc	kmut	kumut	'cut'
	mit	miic	mit	mit	'sheep'
	yapit	yapic	yapit	ʔapit	'flying squirrel'
	ramat	ramac	ramat	raramat	'side dish'

The consonant /r/ does not occur word-finally in Squliq or Skikun, but it does in Cʔuliʔ in a few items, e. g., /yapuwar/ 'guava,' in Mayrinax, e. g., /sumapiyar/ 'dream,' /qaur/ 'type of snake,' and in Palŋawan many forms, e. g., /cehur/ 'taro.'

Assimilation of consonants took place largely in Squliq and Skikun, rather than in Cʔuliʔ or Mayrinax. The nasals have been partially assimilated in Squliq and occasionally in Skikun in the examples below. Sometimes they are assimilated to the preceding consonant and sometimes to the following consonant:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(3)	kintariʔ	kitariʔ	kmtatariʔ	kantatariʔ	'kneel'
	sŋahuŋ	smhuŋ	smhuŋ	sumihuŋ	'moan'
	mhkaniʔ	mhkaniʔ	hamkaniʔ	—	'walk'
	ŋway kya	nway moku? kya	nway kya	—	'not necessary'

It the examples below, the first velar stop /k/ has been assimilated to the final uvular stop /q/ or to the following pharyngeal fricative /h/ in Squliq and Skikun:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(4)	mquriq	mquriq	mkuriʔ	kumriq	'steal'
	mqbaq	tqbaq	makbaʔ	makibaq	'learn'
	qsliq	qsliq	kasaliʔ	—	'lover'
	qhoniq	qhoniq	kahawniʔ	kahuniq	'tree'
	qhniq	qhniq	kabhaniʔ	kabahniq	'bird'
	qthuy	qthuy	katahuy	kitihuy	'fat, not thin'

These are the items not apt to be borrowed. Further evidence for the assimilation of /k/ to /q/ is the Squliq and Skikun verb stem /qaniq/ < PAN *kaʔən 'eat.'

Shigeru Tsuchida (private conversation) pointed out that the sequences /k-q/ and /k-h/ do appear in Squliq and Skikun, but such sequences may have come into being at a later stage in history, e. g., Squliq /kyahil/ 'animal skin.' Professor Fang Kuei Li (private conversation) said that forms with such sequences may have escaped the assimilation process.

Occasionally assimilation took place in Cʔuliʔ and Mayrinax; or alternatively dissimilation took place in Squliq and Skikun:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(5)	mrbil	mrbil	mabalabil	mabilbil	'tremble'
	nqwaq	nqwaq	ŋaʔwaʔ	ŋaqwaq	'mouth'

It is not always easy to determine in which dialect a certain form has undergone the process of assimilation. For instance, cf. Squliq /tatak/: Cʔuliʔ /takak/ 'hut.'

Vowels are best preserved in Cʔuliʔ and Mayrinax, particularly those before the penult, and so are diphthongs. Cf. the examples below:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(6)	hmham	(muhay)	humaham	—	'grope'

	lpiyuŋ	lpiytŋ	lipiyuŋ	—	'relative'
	qpuguʔ	qpuguʔ	lapuguʔ	qalipuguʔ	'hair whorl'
(7)	rmeʔ	rmeʔ	ramaiʔ	ramaiʔ	'horse'
	bes	bes	bais	bais	'companion'
	goŋ	goŋ	gauŋ	gauŋ	'creek'
	qoluʔ	qoluʔ	qawluʔ	—	'nape'

The examples in (7) above indicate that the diphthongs have derived as monophthongs in Squliq and Skikun. However, /e, o/ seem to be phonemic in Cʔuliʔ:

	Squliq	Skikun	Cʔuliʔ	
(8)	meliq	lmeliq	lmeliʔ	'hold up'
	tmahok	tmahok	tamahok	'cook'

The consonant /g/ is lost in the environment a_u and a_i in Squliq and Skikun:

	Squliq	Skikun	Cʔuliʔ	Mayrinax	
(9)	qom	q-qom	ʔagum	qaum	'anteater'
	qoŋuʔ	qoŋuʔ	ʔaguŋuʔ	qaguŋuʔ	'loom'
	rom	rom	raum	ragum	'needle'
	qeraŋ	qeraŋ	ʔagiraŋ	qagiraŋ	'string beans'

Difference in the presence or absence of /z/:

	Squliq	Skikun	Cʔuliʔ	
(10)	qsizuʔ	qsuyuʔ	ʔsuyuʔ	'pestle'
	msizup	(thiyup)	masiyup	'sink'
	pzyux	piyux	payux	'many'

3.2 Phonological Rules in the Atayal Dialects

3.2.1 Morphophonemic Alternations in Skikun

3.2.1.1 The Alternation g ~ x in Skikun

	Active	Imperative	
(1)	mlhax	tlhag-i	'awake'

	moyax	yuyag-i	'choose'
	rmax	rag-i	'help'
(2)	ksiyux	ksyug-i	'borrow'
	psiyux	psyug-i	'compensate'
	mnbux	nbug-i	'drink'
	mglux	gl(u)g-i	'follow'
(3)	hmox	hog-i	'scoop out'

Cf. the non-alternating forms that contain /x/:

(4)	mwatux	tux-i	'bark'
	sbnux	sbnux-i	'flatten'

For the alternating forms, g can be treated as the base and x as derived:

(5) $g \rightarrow x /$ ___ #

The phonetic environment in the above rule is being levelled out in the speech of younger speakers as their /g/ [ɣ] is devoiced in all position. Consequently, /g/ and /x/ are being merged, and there will be minus one segment in the inventory of the phonemic system in the dialect in the course of time.

3.2.1.2 The Alternations p ∼ k, b ∼ k, and m ∼ ŋ

Skikun is in the process of changing labials to velars word-finally. All labials in the word-final position tend to become velars, especially in the speech of younger speakers. The change varies from speaker to speaker, depending on the age. Cf. the various speakers in pronouncing the following forms (The initials stand for the names of the informants, followed by their sex and age. The abbreviations of the informants' names are as follows: S. T., Sayun Temuʔ; P. S., Piriŋ Suluŋ; Y. S., Yawiʔ Suyan; Y. N., Yayuc Nakaw; W. B., Wilaŋ Butay; M. T., Makan Tanaʔ):

Variations of Finals by Different Age Groups in Skikun

	S. T. f82	P. S. m59	Y. S. m52	Y. N. f53	W. B. m30 / M. T. f28	
A 1. ghap		-p	-p	-p	-k	'seed'
2. qurip		-p	-p	-p	-k	'ginger'
3. qciyap		-p	-p	-p	-k	'opposite shore'
4. yiyup		-p	-p	-p	-k	'Chinese goshawk'
5. qatap		-p	-p	-p	-k	'scissors'
6. hmap		-p	-p	-p	-k	'stab'
7. pshup		-p	-p	-p	-k	'suck'
8. hmgup		-p	-p	-p	-k	'do magic'
9. tgiyup		-p	-p	-k	-k	'sink'
10. talap		-p	-p	-k	-k	'eaves'
11. miyup		-p	-p	-k	-k	'enter'
12. qmalup		-p	-p	-k	-k	'hunt'
13. kmiyap		-p	-p	-k	-k	'catch'
14. mgop		-p	-p	-k	-k	'share one cup'
15. qmuyup		-p	-p	-k	-k	'fold'
16. msuyap		-p ~ -k	-k	-k	-k	'yawn'
B 1. qom		qqom	-m	-m	-ŋ	'anteater'
2. rom		-m	-m	-ŋ	-ŋ	'needle'
3. syam		-m	-m	-ŋ	-ŋ	'pork'
4. prahum		-m ~ -ŋ	-m	-ŋ	-ŋ	'lip'
5. yuhum		-m ~ -ŋ	-m	-ŋ	-ŋ	'gall'
6. qmtam		-m ~ -ŋ	-m	-ŋ	-ŋ	'swallow'
7. tmalam		-m ~ -ŋ	-m	-ŋ	-ŋ	'taste'
8. { lmom / mtlom		{ lmoŋ / mtlom	mom	-ŋ / -ŋ	-ŋ / -ŋ	'burn'
9. mnkum		-m	-ŋ	-ŋ	-ŋ	'dark'
10. cmom		-ŋ	-ŋ	-ŋ	-ŋ	'wipe'

Let it be noted that the change of the nasal -m > -ŋ is taking place at a faster rate than the change of the stop -p > -k, as manifested in the speech of

the speakers at fifties. Younger speakers under age 30 or so all invariably have velars in the word-final position, even from the same family such as Yawi? Suyan.

Thus the alternations p ~ k, b ~ k and m ~ ŋ are found in the verb inflexion only in the speech of the younger speakers. The following examples are based on Wilaŋ Butay (aged 30):

3. 2. 1. 2. 1   The Alternation p ~ k

	Stem	Active	Passive	
(1)	kiyak	kmiyak	kyap-un	'catch'
	ʔiyuk	miyuk	yup-un	'enter'
	qaluk	qmaluk	qlup-un	'hunt'
	quyuk	qmuyuk	qyup-un	'fold'

Cf. the non-alternating forms below:

	Stem	Active	Passive	
	sayuk	smayuk	syuk-un	'broil'
	tahuk	tmahuk	thk-un	'cook vegetables'

3. 2. 1. 2. 2   The Alternation b ~ k

	Stem	Active	Passive	
(2)	hak	hmak	habun	'stab'
	qatak	qmatak	qtabun	'cut with scissors'
	gok	mgok	gobun	'share one cup'

3. 2. 1. 2. 3   The Alternation m ~ ŋ

	Stem	Active	Passive	
(3)	loŋ	lmoŋ	lom-un	'burn'
	coŋ	cmoŋ	com-un	'wipe'
	qtaŋ	qmtaŋ	qtam-un	'swallow'
	talaŋ	tmalaŋ	tlam-un	'taste'

Cf. the non-alternating forms below:

	Stem	Active	Passive	
	puŋ	muŋ	puŋ-un	'hear'
	hobiŋ	hmobiŋ	hbeŋ-un	'cut'
	tuciŋ	tmuciŋ	cciŋ-un	'knock'

The data above indicate that the labials are the base and that the velars are derived in the word-final position:

(4) (a) p → k

    (b) b → k

    (c) m → ŋ   ___#

These changes are parallel, so they can be captured by one rule in terms of distinctive features.

The change from labials to velars word-finally is a typical feature of Sediq (Yang 1976). It is interesting to note that Skikun, one of the Atayal dialects which is geographically remote from Sediq, is undergoing a sound change in the same direction. According to Shigeru Tsuchida (private conversation), the same change is completed in still another Atayal dialect, Mstbaun, spoken in the village of Fahsiang (發祥村), which is geographically close to Sediq. I have observed the same change in the Atayal dialect of Palŋawan spoken in the village of Ch'inai (親愛村) in the same area.

The same change can also be observed between the different age groups in Mnawyan, the Atayal dialect closest to Skikun both linguistically and geographically, but it seems to go at a slower pace. The ages of the Mnawyan informants I have worked with range along 87, 63, 51, 38 and 29. Like Skikun, the older speakers of Mnawyan preserve the final labials, whereas the younger speakers tend to replace them by the velars. For instance, all final labials are substituted by velars in the speech of ʔiciroʔ Yumin (male, aged 29), e. g., /yiyuk/ 'Chinese goshawk,' /ʔimuk/ 'blow,' /lmoŋ/ 'burn.' The last item is pronounced /lmom/ by Kenziʔ Yumin (male, aged 38). Unfortunately I have not worked with these informants as extensively as the ones in Skikun.

3.2.1.3 The Alternation t ~ c in Skikun

	Active	Passive	Imperative	
(1)	miŋac	ŋat-an	ŋac-i	'rob'
	kmac	kat-an	kac-i	'bite'
	kmuc	kut-an	kuc-i	'cut'
	smilac	slat-an	slac-i	'beat'

The rule can be stated as below:

(2) $t \to c /$ _____ $\left\{ \begin{matrix} i \\ \# \end{matrix} \right\}$

The above rule is shared by the speakers at all ages in Skikun.

The oldest informant named Sayun Temu? (戴阿旬 in Chinese, aged 82) has t ∼ c as free variants word-finally. The above rule does not apply word-finally in the speech of older speakers in many other Atayal dialects, such as Squliq and C?uli?, although it does in the speech of younger speakers. Apparently Skikun is undergoing the change at a faster rate than the other dialects in this respect.

3.2.2 Parallel Alternations in the C?uli? Dialects

The C?uli? dialects in Atayal exhibit parallel morphophonemic alternations in some of the verbs. Unlike the alternations t ∼ c discussed in § 2.4.5 and 3.2.1.3, which is historically derived from *t, the alternations c ∼ t and s ∼ t discussed in this section is historically derived from *c < PAN *C.

3.2.2.1 The Alternation c ∼ t in Mayrinax

	Stem	Active	Passive	Imperative	
(1)	paqut	maqut	paquc-an	paquc-i	'ask'
	kat	kumat	kac-un		'bite'
	qaluit	qumaluit	qaluic-un		'flow'
	?iŋat	?umiŋat	?iŋac-un		'rob'

Cf. the non-alternating forms that contain /t/:

		Active	Passive	Imperative	
(2)	—	kumut	kut-an	kut-i	'cut'
	saqit	sumaqit	saqit-an	saqit-i	'reap'

For the alternating forms, as in (1) above, c̠ can be treated as the base and t̠ as derived:

(3) $c \to t /$ _____ $\#$

3.2.2.2 The Alternation s ∼ t in Matabalay, Sakuxan and Maspazi?

It is interesting to note the parallel alternation s ∼ t in the closely related dialects, Matabalay and Sakuxan:

	Stem	Active	Passive	Imperative	
(4)	paʔut	maʔut	paʔus-an	paʔus-i	'ask'
	kat	kumat	kinas-an	kas-i	'bite'
		maʔaluit	paʔaluis-un	paʔaluis-i	'flow float,'

Cf. the non-alternating forms that contain only /t/ or /s/:

(5)	—	kumut	kut-an	kut-i	'cut'
(6)	ŋilis	maŋilis	paliŋis-un		'weep'
	tapus	tumapus		tapas- i	'winnow'

Likewise, s can be treated as the base and t as derived for the alternating forms in (4) above:

(7) s → t/____#

The same alternation s ∼ t is found in Maspaziʔ (Cʔuliʔ), e. g., /yamiŋat/, /yaŋas-i/ 'seize.'

3. 2. 3   The Alternations s ∼ y and s ∼ g in the Cʔuliʔ Dialects

Parallel and related to the alternation r ∼ y in Squliq (see § 2. 4. 3) and ŕ∼y in Palŋawan, the phenomena in the Cʔuliʔ dialects consist of three types: (1) s (etymologically equivalent to /r/ in Squliq) ∼ y in most Cʔuliʔ dialects, (2) s ∼ g in the Matabalay dialect, and (3) no alternation, i. e. /s/ in both the word-medial and final position in Skikun and Mnawyan.

3. 2. 3. 1   The Alternation s ∼ y in Most Cʔuliʔ Dialects

Mayrinax, for instance, shows the alternation in the following verbs:

	Stem	Active	Passive	
(1)	baay	ma-baay	b/in/as-un	'buy'
	rahiy	r/um/ahiy	rahis-an	'dry in the air'
	kgiy	k/um/a-kgiy	k/um/kgis-an	'prepare hemp'

For the forms with such an alternation, s can be treated as the base and y as derived:

(2) s → y/____#

The same type of alternation is also found in Maspaziʔ Cʔuliʔ, e. g., /kmkagiy/, kingis-an/ 'prepare hemp.'

3.2.3.2 The Alternation s ~ g in Matabalay

Matabalay is the only dialect that shows the s ~ g alternation. The same verbs listed in § 3.2.3.1 above are given below to illustrate this alternation in Matabalay:

	Stem	Active	Passive/Imperative	
(3)	bazig	ma-bazig	ma-b/in/as-un	'buy'
	rahig	r/um/ahig	rahis-ani	'dry in the air'
	kagig	k/um/akagig	kamkagis-i	'prepare hemp'

The /zi/ in /bazig/ corresponding to /a/ in /baay/ is a historical problem that takes too long to explain here.

Cf. the forms that do not show the alternation in Matabalay:

	Active	Imperative	
(4)	r/um/aag	raag-i	'help'
	?/um/abug	?abag-i	'immerse in water'

For the forms with s ~ g alternation, s can be treated as the base and g as derived:

(5) s → g/____#

The word-final /-g/ is phonetically a weak voiced velar fricative [-ɣ], preserved only in the speech of older speakers (aged 63); it has become /-y/ in the speech of younger speakers (aged 50 or younger).

3.2.3.3 With /s/ in the Final Position

The voiceless fricative /s/ is still retained in the word-final position only in Skikun and Mnawyan. For example, the same verbs listed in (1) and (3) in Skikun:

	Stem	Active	Passive	
(3)	bes	m-bes	bes-an	'buy'
	rahis	r/m/ahis	rhis-an	'dry in the air'
	kgis	k/ŋ/-kgis	kgis-an	'prepare hemp'

3.2.4 The Morphophonemic Alternations Shared by the Atayal Dialects

The Atayal dialects share the following morphophonemic alternations:

(1) b ~ p by all dialects except Mayrinax

(2) g ~ w by all dialects except Skikun, Mnawyan and some older Mayrinax speakers

(3) r ~ y by Squliq dialects, but s ~ y by most Cʔuliʔ dialects except Matabalay, Palŋawan, Skikun and Mnawyan. For examples, see § 2.4.3 for r ~ y and § 3.2.3 for s ~ y.

(4) z ~ y by Squliq and Cʔuliʔ

(5) t ~ c by all dialects: t → c/___i by Squliq and Skikun, t → c/___# by all dialects by the younger speakers

(6) c ~ t or s ~ t by Cʔuliʔ dialects; see § 3.2.2 for examples

(7) l ~ n by most, if not all, dialects by the younger speakers

Some examples are given below to illustrate the alternations above (see § 2.4 for further examples for various alternations in Squliq):

(1) b ~ p

	Active	Imperative	
Squliq:	qmatap	qtab-i	'cut with scissors'
Skikun:	qmatap	qtab-i	'cut with scissors'
Cʔuliʔ:	kamarip	karib-i	'cut with scissors'
Sakuxan:	kumarip	karib-i	'cut with scissors'
Squliq:	shup	shub-i	'suck'
Skikun:	pshup	pshub-i	'suck'
Cʔuliʔ:	magaup	gaub-i	'share one cup'

The alternation g ~ w occurs after /u/ and /a/ in both Squliq and Cʔuliʔ, but only after /u/ in the speech of younger speakers in Mayrinax:

(2) g ~ w

	Active	Imperative	
Squliq:	mzuw	zug-i	'exchange'
Cʔuliʔ:	mayuw	yug-i	'exchange'
Mayrinax:	ʔumiyuw	ʔiyug-i	'exchange'
Squliq:	rahaw	rhag-i	'trap'
Cʔuliʔ:	rahaw	rahag-i	'trap'
Mayrinax:	lumpuw	lapg-i	'count'
Squliq:	mhzyaw	hyag-i	'chase'
Cʔuliʔ:	mahayaw	bhyag-i	'chase'

(3)	z ~ y	Active	Imperative		
	Squliq:	mehuy	behoz-i	'boil'	
	Cʔuliʔ:	mnmayhuy	pnhuz-i	'boil'	
(4)	t ~ c	Active	Imperative	Passive	
	Squliq:	kmut	kuc-i	kut-an	'cut, kill'
	Skikun:	kmuc	kuc-i	kut-an	'cut, kill'
	Squliq:	smilat	slac-i	slat-an	'beat'
	Skikun:	smilac	slac-i	slat-an	'beat'

3.3 Linguistic Value of Skikun, Mnawyan and Mayrinax for Comparative Study

3.3.1 The Retention of *c and *-g in Skikun, Mnawyan and Mayrinax

Skikun and Mayrinax are both linguistically valuable for comparative study in at least two respects. One, they preserve the phonemic distinction between /c/ and /s/. Cf. the examples in (1) and (2) below:

	Squliq	Cʔuliʔ	Skikun / Mnawyan	Mayrinax	
(1)	slaq	salaʔ	claq	claq	'mud'
	qasuʔ	ʔasuʔ	qacuʔ	qasuʔ	'boat'
	bisuw	bisuw	—	bicuw	'earthworm'
	squliq	saʔuliʔ	cquliq	cuquliq	'person'
	smuxuʔ	samaxuʔ	cmuxuʔ	cumuxuʔ	'pound rice'
	skaʔ	sakaʔ	ckaʔ	ma-cka-ckaʔ	'middle'
(2)	msaniq	pasaniʔ	psaniq	pisaniq	'tabu'
	trakis	tarakis	trakis	trakis	'millet'
	qsinuw	ʔasinuw	qsinux	qasinug	'animal'

Two, Skikun and Mnawyan preserve Proto-Atayal *g as /x/ word-finally after /a/ or /u/, and Mayrinax retains it as /g/ [ɣ] also after /a/ or /u/; cf. (3) and (4), (5) and (6) below.

	Squliq	Cʔuliʔ	Skikun / Mnawyan	Mayrinax	
(3)	syaw	syaw	syax	syag	'side'
	skutaw	paskutaw	skutax	—	'chest'

	moyaw	mwayaw	moyax	mwaag	'choose'
	ʔabaw	ʔabaw	ʔabax	ʔabag	'leaf'
(4)	bonaw	bawnaw	bonaw	bawnaw	'peanut'
	sasaw	sasiʔ	csasaw	sasaw	'shadow'
(5)	tqnuw	taʔinuw	tqnux	taqaqinug	'mushroom'
	ŋuhuw	ŋuhuw	ŋuhux	ŋuhug	'nose'
	qibuw	ʔibuw	qibux	qaqibug	'rice scoop'
	lubuw	lubuw	lubux	lubug	'Jew's harp'
(6)	tunux	tunux	tunux	tunux	'head'

Skikun and Mnawyan are the only known Atayal dialects that still preserve /-x/ after /u/ as a reflex of *-g.

However, the problem with Skikun and Mnawyan is that they have been much influenced by the surrounding Squliq dialects. Vowels before penult are generally lost and diphthongs have become monophthongs except in the word-final position; see § 3.1 for examples. Mnawyan preserves /g/ [ɣ] in the initial and medial position much better than Skikun, e.g., /guyil/ 'dog,' /gbyan/ 'dusk,' /cmuguʔ/ 'pound (rice)' in Mnawyan, but /huyil/, /xbyan/ and /cmuxuʔ/ in Skikun.

3.3.2 Special Features in Mayrinax

Mayrinax is the only known Atayal dialect that retains both PA *-b and *-g. It is the only dialect that still retains the voicing feature of the PA final stops. PA *-b is devoiced in all the other dialects:

	Squliq	Cʔuliʔ	Skikun	Mayrinax	
(1)	shup	pasiyup	pshup	pasihub	'suck'
	hmop	—	hmap	humab	'stab'
	mgop	magaup	mgop	gumaub	'share one cup'
	hmgup	hamagup	hmgup	humgup	'do magic'

The retention of some consonant clusters in the word-medial position in Mayrinax can help account for some irregular correspondences in the Atayal dialects. Discrepancies of consonants between these dialects are due to the loss

of one consonant in some dialect and that of another consonant in the other:

	Squliq	Cʔuliʔ	Skikun	Mayrinax	
(2)	mhoqil	mahawʔil	mnoqil	manahuqil	'die'
	ʔinuŋan	ʔinuŋan	luŋan	ʔinluŋan	'mind'
Cf.	kagaŋ	kagaŋ	kakaŋ	kakagaŋ	'crab'

One might argue that the Mayrinax form /kakagaŋ/ 'crab' has got the first syllable reduplicated, as that is a common process in the dialect; cf. /ba-banaŋ/ 'sorghum,' /qa-qluŋ/ 'edible fungus,' /ta-qa-qinuw/ 'mushroom,' /ra-ramat/ 'food.'

Not only consonants, but also vowels are best retained in Mayrinax; see § 3.1 for examples.

The retention of the initial syllable of a certain form in Mayrinax, which is lost in the other dialects, facilitates identification of the Proto-Austronesian cognates. For example,

	Squliq	Cʔuliʔ	Skikun	Mayrinax	
(3)	pu-niq	pu-niq	pu-niq	hapu-niq	'fire' < PAN *xapuy'

Mayrinax /w/ corresponds to /y/ or /z/ in the other Atayal dialects in all position except word-finally after /a/ (see the last example below):

	Squliq	Cʔuliʔ	Skikun	Mayrinax	
(4)	byaciŋ	bayaciŋ	byaliŋ	bwatiŋ	'moon'
	behuy	bayhuy	behuy	bayhuw	'wind'
	—	yaŋaw	—	waŋaw	'fly (insect)'
	mlikuy	—	mlikuy	malikuw	'man'
	lihuy	lihuy	—	lihuw	'forehead'
	gyus	giyus	giyus	giwus	'guts'
	kyahil	kyahil	kyahil	kwahil	'skin'
	—	sbyaŋan	—	sinbwanan	'spear'
	yawaʔ	yawaʔ	yawaʔ	wawaʔ	'basket'
	—	—	moyax	ʔimuwag	'house'
	—	—	moyay	maʔoway	'tired'
	hyuciʔ	hayuciʔ	hiyuciʔ	hawutiʔ	'slippery'

pyaway	—	pyaway	pwaway	'beans'
qsuyan	baʔasuyan	qsuyan	qumisuwan	'elder sibling'
mtakuy	matakuy	mtakuy	matakuw	'fall from standing'
qsahuy	ʔasahuy	—	qcahuw	'viscera'
qthuy	kthuy	qthuy	kitihuw	'fat'
mzinah	pbazinah	mbyinah	mabwinah	'return'
mhuyay	—	—	mahuway	'thank'
—	lamiʔuy	—	lamiquw	'cogan grass'
loziq	lawziʔ	loyiq	lawwiq	'eyes'
Cf. khmay	khmay	khmay	kihma:	'thick'

Mayrinax has also the semivowel /y/, as in /kahuy/ 'tree,' /wuŋay/ 'monkey,' /cubalay/ 'correct,' derived from Proto-Atayalic *y.

The w-y (or z) correspondence illustrated in (4) above is historically derived from PA *r.

This derivation is lost between identical vowels in Mayrinax:

Squliq	Cʔuliʔ	Skikun	Mayrinax	
(5) kayal	kayal	kayal	kaal	'sky'
kmayal	kamayal	kmayal	kumaal	'speak'
tayal	ʔatayal	tayal	ʔitaal	'aborigines'
qsizuʔ	ʔsuyuʔ	qsuyuʔ	qasuuʔ	'pestle'
ʔzil	ʔaʔil	ʔiyil	ʔiil	'left'
pzit	pazit	piyit	piit	'sparrow'

Mayrinax is the only known dialect of all Formosan languages that shows certain well-defined differences between male and female forms of speech. The female speech preserves the older forms, whereas the male speech turns out to be the innovated. The female forms are the basic and the corresponding male forms are derived by having some type of affix added, an intervocalic consonant deleted, the final (or initial) consonant or syllable replaced, and so on. For example,

		Female	Male	Prato-forms
(6)	'tree'	kahuy	kahu-niq	PAN *kaSiw
	'road'	ra'an	ran-iq	PAN *Zalan
	'tatoo'	matas	mat-iq	PFN *mataS
	'dig'	k-um-ai?	k-um-ai-huw	PAN *kaliH
	'raw'	mataq	mat-il-uq	PAN *ma(n)taq
	'buy'	ma-baay	ma-ba-yn-ay	PAN *bəli
	'anteater'	qagum	qaum	PAN *qaRəm
	'hunt'	q-um-alup	q-um-aiw-a-p	PAN *qaNup
	'weave'	t-um-inun	t-um-inuq	PHN *tinə?un
	'sew	c-um-aqis	c-um-a?iŋ	PAN *CaSiq
	'head louse'	kucu?	kuhiŋ	PAN *kuCu
	'new'	giqas	?iqas	

It is worthnoting that the majority of the male forms in Mayrinax are the ones currently used in the other Atayal dialects, which do not distinguish between male and female speech.

For a detailed account of the sex differences in the speech of Mayrinax, see Li (1980).

APPENDIX: LIST OF VERB INFLEXION IN SQULIQ (PYASAN)

	Stem	Active	Passives		Imperative
able	thoyay	mhuyay	hyayan	hyayun	hyazi
accept	swal	smwal	swalan	swalun	swali
accuse	hili?	mhili?	hliyan	hliyun	hli
add, migrate	twaŋ	tmwaŋ	twaŋan	twaŋun	twaŋi
adhere	trŋil	mtrŋil	trŋilan	trŋilun	trŋili
annoy	sqilaŋ	smqilaŋ	sqlaŋan	sqlaŋun	sqlaŋi
annoy, trouble	sqaya?	smqaya?	sqyan	sqzun	sqzi
answer	syuk	smyuk	snyukan	syukun	syuki
arrive	—	tehok	thkan	thkun	thki
ask	paqut	maqut	pqutan	pqutun	pquci
awake	lhaw	mlhaw	lhagan	lhagun	lhagi
bake sweet potato	tatah	tmatah	tntahan	ttahun	ttahi
bark	tux	mtux	tuxan	txun	tuxi
beat	bhiy	mihiy	bhiyan	bhiyun	bhiyi
begin	?ariŋ	t?ariŋ	t?riŋan	t?riŋun	t?riŋi
belch	shyuk	smhyuk	shyukan	shyukun	shyuki
bend	hkuy	hmkuy	hinkiyan	tkiyun	hkzi
bend	biki?	miki?	bkiyan	bkiyun	bki
bite	kat	kmat	knatan	katun	kaci
blink	mit	mitmit	mitan	mitun	mici
blow (wind)	behuy	sbehuy	sbhozan	sbhozun	sbhozi
blow (with breath)	zup	mzup	zupan	yupan	zupi
boil	qrqul	mqrqul	qrqulan	qrqulun	qrquli
boil, bubble	—	mehuy	binhoyan	behoyun	bhozi
borrow	ksuw	kmnsuw	ksugan	ksugun	ksugi
bow (cf. peck)	tatuk	tmatuk	—	—	—
break	bka?	mbka?	bkan	bkon	bkay
split	kbka?	mkbka?	kbkan	kbkon	kbkay

	Stem	Active	Passives		Imperative
break wind	tquci?	tmquci?	tqciyan	tqciyun	tqci
breathe	suna?	msuna?	—	—	ssuna?
bring	?aras	maras	?inrasan	?rasun	?rasi
broil	sayuk	smayuk	syukan	syukun	syuki
bump on head	taciŋ	mtaciŋ	tciŋan	tciŋun	tciŋi
burn	suriŋ	{smuliŋ / msuliŋ}	{sinliŋan / sliŋan}	sliŋun	sliŋi
burn	tlom	mtlom	loman	lomun	lomi
bury	bul	mbul	?inblan	blun	bli
buy	baziy	maziy	biran	birun	biri
call	plawa?	mlawa?	pinlwan	plwanun	plwani
carry on back	paŋa?	—	pŋan	pŋon	pŋi
catch	kiyap	kmiyap	kyapan	kyapun	kyapi
catch up	hŋa?	shŋa?	shŋan	shŋon	shŋay
change	?yuw	m?yuw	?inyugan	?yugun	?yugi
chase, run after	hzaw	hmzaw	hzagan	hzagun	hzagi
chase away	sosaw	smosaw	swagan	swagun	swagi
chew	skon	smkon	sinkanan	skanun	skani
choose	goyaw	(g)moyaw	?ingogan	gogun	gogi
clean (water)	tasaw	mtasaw	tsagan	tsagun	tsagi
clear the nose	ŋihi?	sŋihi?	sŋhiyan	sŋhiyun	sŋhi
climb (a tree)	karaw	mkaraw	kinragan	kragun	kragi
close	qlu?	qmlu?	qinl?an	ql?un	ql?i
collapse	hwah	mhwah	hwahan	hwahun	hwahi
come	?wah	mwah	?inwahan	?wahun	?wahi
come out	htuw	hmtuw	htgan	htgun	htgi
compel	qihul	qmihul	hŋqlan	hqlun	hqli
compensate	—	psyuw	psyugan	psyugun	psyugi
console	slhaw	smlhaw	slhagan	slhagun	slhagi
contagious, transmit	qzu?	qmizu?	qzuwan	qzun	qzi

	Stem	Active	Passives		Imperative
continue, connect	ʔubuy	mubuy	buzan	buzun	buzi
Cf. join, link	pʔubuy	pinʔubuy	pbuzan	pbuzun	pbuzi
cook (dishes, vegetables)	tahok	tmahok	cinhkan	thkun	thki
cook (staple food)	phapuy	phapuy	{puyan / pzyan	{pu(z)yun / purun	puzi
cough	sʔasiy	smʔasiy	psʔasyan	psʔasyun	psʔasi
count	lpuw	(l)mpuw	(l)pgan	(l)pgun	(l)pgi
cover	ʔumuk	mumuk	mukan	mukun	muki
crawl	kagaŋ	{mkagaŋ / kmagaŋ	kgaŋan	kgaŋun	kgaŋi
cut, kill	kut	kmut	{kutan / k(i)nutan	kutun	kuci
cut, chop, hew	tutuʔ	tmutuʔ	ttwan	ttun	ttuy
cut (meat, grass)	tlamaw	tmlamaw	tlmagan	tlmagun	tlmagi
cut	hobiŋ	hmobiŋ	hinbeŋan	hbeŋun	hbeŋi
cut (with scissors)	qatap	qmatap	qintaban	qtabun	qtabi
dance	yugiʔ	miyugiʔ	—	—	(pi)yugi
defecate	squciʔ	msquciʔ	sinqciyan	sqciyun	sqci
demand	sinaʔ	msinaʔ	snan	snon	snay
destroy, demolish	hiriq	hmiriq	hinriqan	hriqun	hriqi
diarrhea	spliq	mspliq	spliqan	spliqun	spliqi
die	hoqil	mhoqil	hqilan	hqilun	hqili
dig	kehuy	kmihuy	kihoyan	kihoyun	khozi
dive	lomuk	tlomuk	tlmkan	tlmkun	tlmki
divide	qasuw	qmasuw	qsugan	qsugun	qsugi
doze	ŋuquʔ	mŋuquʔ	ŋquwan	ŋqun	ŋquy
drag	huluy	hmuluy	hluyan	hluzun	hluzi
dream	spiʔ	mspiʔ	spiyan	spiyun	pspi
drink	nbuw	mnbuw	nbuwan	nbun	nbuy
dry by air	bahiy	mahiy	hniran	hirun	hiri
dry by sun	pugiʔ	mugiʔ	pgiyan	pgiyun	pgi

	Stem	Active	Passives		Imperative
eat	qaniq	maniq	qniqan	nniqun	qniqi
eat raw	qataq	qmataq	qintaqan	qtaqun	qtaqi
enter	kzyup	mzyup	kyopan	kyopun	kyopi
put in	zup	mzup	zupan	zupun	zupi
escape	pgyay	mgyay	{pgyaran	pgyarun	pgyari
			{pingyaran		
exchange	ʔyuw	mzuw	zugan	zugun	zugi
exchange labor	sbzeh	smbzeh	sbzehan	sbzehun	sbzehi
exist, be at	kakiʔ	makiʔ	kiʔan	kiʔun	kiʔi
fall (from a standing position)	takuy	mtakuy	tkuyan	tkuyun	tkuzi
fall, drop	hotaw	mhotaw	htagan	htagun	htagi
farewell	gagay	smgagay	singayan	sgayun	sgazi
fear	(k)ŋuŋuʔ	mŋuŋuʔ	kŋŋuwan	kŋun	kŋuy
frighten	sŋuŋuʔ	smŋuŋuʔ	sŋŋuwan	sŋŋun	sŋŋuy
feed	raŋaʔ	(r)maŋaʔ	rŋon	rŋun	rŋay
fight (with weapons)	ciriq	mciriq	{cinriqan	criqun	criqi
			{triqan		
find, discover	ʔuluw	muluw	ʔluwan	ʔlun	ʔluy
flatten	bnux	sbnux	sbnxan	sbnxun	sbnxi
float	klwaʔ	mklwaʔ	pinklwan	pklwon	klwaʔi
flow	qluyʔ	mqluyʔ	qlyuʔan	qlyuʔun	qlyuʔi
fly	lakaʔ	mlakaʔ	pinlkan	plkon	plkay
follow	gluw	{(g)mluw	(g)lgan	(g)lgun	(g)lgi
		{m(g)luw			
forget	zuŋiʔ	(z)muŋiʔ	zŋiyan	zŋiyun	zŋi
full	tŋiʔ	mtŋiʔ	tŋiyan	tŋiyun	tŋi
give	biq	miq	b(i)qan	biqun	biqi
give birth	plaqiʔ	mlaqiʔ	plqiyan	plqiyun	—
go	ʔusaʔ	musaʔ	ʔsan	ʔson	ʔsay
grind	gil	mgil	gilan	gilun	gili
grope	(h)ham	hmham	hinhaman	hamun	hami

	Stem	Active	Passives		Imperative
grow	rkyas	mrkyas	rkyasan	rkyasun	rkyasi
hang over	(s)quzi?	qmuzi?	qziyan	qziyun	qzi
hang up	spqaya?	spqaya?	spqyan	—	—
happy	pqas	mqas	pqasan	pqasun	pqasi
hear	puŋ	muŋ	poŋan	poŋun	poŋi
help	raw	rmaw	ragan	ragun	ragi
hide (person)	tlqiŋ	tmlqiŋ	tlqeŋan	tlqeŋun	—
hide (thing)	lqiŋ	(l)mqiŋ	ʃiqŋan / liŋqeŋan	lqeŋun	lqeŋi
hit (with fist forward)	hotul	hmutul	htulan	htulun	htuli
hit, thresh	silat	smilat	slatan	slatun	siaci
hold (in hand)	biŋ	miŋ	bneŋan	beŋun	beŋi
hold up	leliq	meliq	linliqan	lliqun	(l)liqi
hot (flavor)	qtux	qmtux	—	qtxun	qtxi
hunt	qalup	qmalup	qlupan	qlupun	qlupi
ill caused by dog	syus	smyus	syusan	syusun	syusi
immerse in water	buw	mbuw	bugan	bugun	bugi
joke	gno?	mno?	ginnogan	(g)nogun	(g)nogi
joke (?)	hyapas	hmyapas	hinpasan	hpasun	hpasi
kick	kkah	kmkah	kahan	kahun	kahi
kneel	ktari?	kintari?	kintriyan	ktriyun	pktari
knock	tuciŋ	tmuciŋ	ciŋan	ciŋun	ciŋi
knock hard on head	tunux	tmunux	tnuxan	tnuxun	tnuxi
knock lightly on head	tlak	tmlak	tlakan	tlakun	tlaki
know	baq	baq	—	baqun	(b)baqi
landslide	sluhiy	msluhiy	slhuyan	slhuyun	slhuzi
laugh	—	msiq	syaqan	syaqun	syaqi
lazy	qilaŋ	mqilaŋ	qlaŋan	qlaŋun	qlaŋi
lead	gleŋ	gmleŋ / mgleŋ	gleŋan	(g)leŋun	(g)leŋi
leak, drip	hbiŋ	hmbiŋ	hbiŋan	hbiŋun	hbiŋi

	Stem	Active	Passives		Imperative
lean back	—	syahaw	syahyagan	syahyagun	syahyagi
learn	qbaq	mqbaq	qbaqan	qbaqun	qbaqi
leave behind	sbil	smbil	sbilan	sbilun	sbili
lick	himuq	hmimuq	hmuqan	hmuqun	hmuqi
lick	thma?	tmhma?	thman	thmon	thmay
lie down	tgayaw	tgayaw	—	—	—
to light	pilaw	milaw	{plagan / pinlagan	plagun	plagi
live, alive	qyanux	mqyanux	qnxan	qnxun	—
live, dwell	—	tŋasal	—	—	tŋasali
do magic	hgup	hmgup	hinbgan	hbgun	hbgi
make	kalay	kmalay	kinlayan	klayun	klazi
marry	squn	msqun	squnan	squnun	psquni
measure, judge	spuŋ	smpuŋ	{spŋan / sinpŋan	spŋun	spŋi
meet	stnaq	mstnaq	stnaqan	stnaqun	stnaqi
mend, patch	tapaŋ	tmapaŋ	tpaŋan	tpaŋun	tpaŋi
miss the mark/target	zpu?	mpu?	zpwan	zpun	zpuy
moan	shuŋ	smhuŋ	shuŋan	shuŋun	shuŋi
move, shake	szui?	mzui?	—	—	z?an
obstruct, oppose	(s)htuy	hmtuy	htiyan	htzun	htzi
do once	txal	{minxal / cinxal	txalan	txalun	txali
open	geh	gmeh	ghan	gehun	gehi
pain	—	mxal	pxyalan	pxyalun	pxyali
pass	hinas	hminas	hnasan	hnasun	hnasi
peck, hoe	?atuk	matuk	{tukan / tinukan	tukun	tuki
peel hemp	kgiy	mkgiy	kgiran	kgirun	kgiri
pick up	lamu?	mamu?	lmwan	lmun	lmuy
plant	muya?	pmuya?	pmzan	pmzon	pmzi
play	pzui?	mzui?	pzi?an	pzi?un	pzi?i

	Stem	Active	Passives		Imperative
play	cisal	mcisal	salan	salun	sali
plough	qebuw	qmebuw	⎰qbugan	qbugun	qbugi
			⎱qinbugan		
point to, aim	turiŋ	pturiŋ	triŋan	triŋun	(p)triŋi
pound (rice)	suxu?	smuxu?	sxuwan	sxun	sxuy
pour	hzi?	hmzi?	⎰hziyan	hziyun	hzi
			⎱hzi?an		
pull	skluw	smkluw	sklgan	sklgun	sklgi
pull	shot	pshot	pshotan	pshotun	pshoci
push	(s)ruruw	(r)muruw	rgan	rgun	—
put	si?	smi?	⎰siyan	siyun	si
			⎱snyan		
quarrel	sayu?	msayu?	szwan	szun	szi
remove, give up	?alax	malax	laxan	laxun	laxi
renovate, make new	tbah	minbah	tbahan	tbahun	tbahi
repeat	bzeh	kbzeh	kbzihan	kbzihun	kbzihi
return	bzinah	mzinah	bzinahan	bzinahun	bzinahi
ride	gluw	mluw	glgan	glgun	glgi
rob, seize	siŋat	smiŋat	sŋatan	sŋatun	sŋaci
roll, fold	quyup	qmuyup	qyupan	qyupun	qyupi
rub	(rgul	rmgul)	(grgan	grgun	grgi)*
run	q(z)inah	mq(z)inah	qnahan	qnahun	qnahi
sacrifice	qes	qmes	⎰qesan	qesun	qesi
			⎱qnesan		
scare, misunderstand	nkux	mnkux	koxan	koxun	koxi
scold	s?aŋ	ms?aŋ	sin?aŋan	s?aŋun	s?aŋi
scoop out	haw	hmaw	hagan	hagun	hagi
scrape, shave	kugus	kmugus	kgusan	kgusun	kgusi
scrape fruit	kahat	kmahat	khatan	khatun	khaci
scratch	kamil	kmamil	kmilan	kmilun	kmili

* These two sets of forms do not seem to belong to the same verb stem.

	Stem	Active	Passives		Imperative
see	kita?	mita?	ktan	kton	ktay
see off	satu?	smatu?	⌠stwan ⌡stwani	stun	stuy
seek	hkaɲi?	hmkaɲi?	hinkɲiyan	hkɲiyun	hkɲi
send away	tu?	tmu?	tuan	tun	tui
sew	saqis	smaqis	sqisan	sqisun	sqisi
have extramarital sexual relations	?apal	mapal	?palan	(?)palun	?pali
share cne cup while drinking	gop	mgop	goban	gobun	gobi
shoot	bu?	mu?	bwan	bun	buy
shout	hwaw	hmwaw	hwagan	hwagun	hwagi
sieve	ggil	gmgil	gilan	gilun	gili
sing, chirp	pqwas	mqwas	piŋqwasan	pqwasun	pqwasi
sink	siup	msiup	psnyupan	psyupun	yupi
sit	tama?	mtama?	tman	tmon	tmay
sleep	?abi?	m?abi?	?inbiyan	?biyun	?abi
smell	sok	smok	sokan	sokun	soki
smother	t?umuk	mt?umuk	t?mukan	t?mukun	t?muki
snatch	qul	qmul	qinolan	qolun	qoli
sneeze	—	sbiŋut	sbŋutan	sbŋutun	sbŋici
soak	hŋu?	hmŋu?	hŋ?an	hŋ?un	hŋ?i
sow	ghap	(g)mhap	(g)hpan	hpun	ghpi
speak, tell	kayal	kmayal	kyalan	kyalun	kyali
spit	tuyoq	tmuyoq	tyuqan	tyuqun	tyuqi
spread (a mat)	samaw	smamaw	smagan	smagun	smagi
squat	kinhyuk	kinhyuk	kinhyukan	kinhyukun	kinhyuki
squeeze	kikil	kmikil	kilan	kilun	kili
squeeze	boq	moq	boqan	boqun	boqi
stab	hop	hmop	haban	habun	habi

	Stem	Active	Passives		Imperative
stable	ʔuyuʔ	(r)muyuʔ	—	—	—
stand	sʔrux	msʔrux	sʔruxan	sʔruxun	sʔrxi
steal	quriq	mquriq	qnriqan	qriqun	qriqi
suck	—	shoβ	shoban	shobun	shobi
swallow	qum	mqum	qman	qmun	qmi
sweep	sapuh	smaβuh	ʃspuhan	spuhun	spuhi
			⎨sinβuhan		
sweep	kagaw	kmagaw	kingwagan	kwagun	kgwagi
swell	qlhwaʔ	mqlhwaʔ	qlhwaʔan	qlhwaʔun	qlhwaʔi
swim	lŋyaq	mŋyaq	lŋyaqan	lŋyaqun	lŋyaqi
swing	(s)lubay	smlubay	slbayan	sbayun	sbazi
sympathize	galuʔ	(g)maluʔ	glwan	glun	gluy
take	ʔagal	magal	galan	galun	gali
take care of	lahaŋ	mlahaŋ	khaŋan	khaŋun	khaŋi
take turns	tgyut	mtgyut	tgyutan	tgyutun	tgyuci
talk	—	pqzuʔ	pqzwan	pqzun	pqzui
taste	talam	tmalam	tlaman	tlamun	tlami
tattoo	patas	matas	ptasan	ptasun	(p)tasi
teach	cbaq	mcbaq	cbaqan	cbaqun	cbaqi
tear	(s)galiq	smaliq	sliqan	sliqun	sliqi
think	ŋluŋ	(l)mŋluŋ	liŋluŋan	(l)luŋun	(l)luŋi
thread a needle	luhuw	muhuw	lhugan	lhugun	lhugi
thresh	silay	smilay	sinlayan	slayun	slazi
throw	buliŋ	muliŋ	bliŋan	bliŋun	bliŋi
do thus, say thus	ʔuci	muci	—	—	—
tie (a knot)	mumuʔ	tmumuʔ	tmmwan	tmmun	tmmuy
tie up	bhul	mhul	hblan	hblun	hbli
till the land	kaluʔ	kmaluʔ	klwan	klun	kluy
tired mentally	kuw	kmuw	kogan	kogun	kogi
touch	tliŋ	tmliŋ	tliŋan	tliŋun	tliŋi

	Stem	Active	Passives		Imperative
trap	rahaw	rmahaw	rinhagan	rhagun	rhagi
tremble	brbil	mrbil	brbilan	brbilun	brbili
turn	piray	miray	prayan	prayun	prazi
turn around something	hgeru?	thgeru?	thgiran	thgirun	thgiri
turn over	pakux	makux	pinkuxan	pkuxun	(p)kuxi
vomit	putaq	mutaq	ʃptaqan ltaqan	ptaqun	ptaqi
wade	buyaw	muyaw	biŋgyagan	(b)gyagun	(b)gyagi
wait	naga?	mnaga?	ngan	ngon	ngay
wake up	tuliq	mtuliq	tliqan	tliqun	tliqi
walk	kaŋi?	ʃ(h)mkaŋi? lmhkaŋi?	hkŋiyan	hkŋiyun	ʃhkaŋi lkhaŋi
wash, bathe	pima?	mima?	pman	pmon	pmay
wash (clothes)	bahoq	mahoq	hbqan	hboqun	hbqi
wash (utensils)	qwax	qmwax	qwaxan	qwaxun	qwaxi
weave	cinun	tminun	tnunan	tunun	tuni
weed (field)	qumah	mqumah	qmahan	qmahun	qmahi
weed (rice paddy)	lahiŋ	mahiŋ	lhiŋan	lhiŋun	lhiŋi
weep	ŋilis	mŋilis	lŋisan	lŋisun	lŋisi
whet, sharpen	rhaw	rmhaw	rhagan	rhagun	rhagi
win	laqux	(l)maqux	lqxan	lqxun	lquxi
winnow	tabus	tmabus	tbsan	tbsun	tbsi
wipe	som	smom	soman	somun	somi
wither	quray	mquray	mqrayan	—	qrazi
work	ciyaw	mciyaw	cyowagan	cyogun	cyogi
worship	hkuŋ	hmkuŋ	hkuŋan	hkuŋun	hkuŋi
wrap	sabu?	smabu?	sbwan	sbun	sbuy
write	biru?	miru?	brwan	brun	bruy
yawn	suyap	msuyap	syaban	syabun	syabi

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泰 雅 方 言 的 音 韻 律

（摘　要）

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　　泰雅語羣分布在大半個臺灣的山地，包括臺北、桃園、宜蘭、新竹、苗栗、臺中、南投、花蓮等八縣，人口近六萬。這個語羣分爲泰雅與賽德兩支。泰雅又分爲賽考利克與澤敖利兩個方言羣。我蒐集了十多種方言的詞彙資料作爲本研究報告的根據，分析這些方言的音韻系統，描述各種詞音位轉換的現象。

　　賽考利克方言羣的各種方言大都相當一致，彼此差別很少，而澤敖利方言羣彼此差別却相當大，有的方言保存了饒有趣味的現象以及許多古音的特色。過去有關泰雅語的研究報告絕大多數都是根據賽考利克方言羣，例如小川尙義、易家樂、山田幸宏等人的著作。這是對臺灣山地語言研究一件不幸的事，因爲賽考利克是變化最厲害、丟掉古語成分最多的方言羣。本文提供從未有人寫過的數種澤敖利方言資料。

　　泰雅語羣是各種臺灣土著語言當中音韻最爲複雜，構詞也最爲特殊與不尋常。本文的寫作目的之一是根據內部的擬測來解決泰雅音韻的一些疑難問題，部分再以比較研究來做佐證。作者另有一文 (Li 1980) 根據汶水方言男女語言形式的不同，藉以說明今日泰雅語構詞的特殊現象的由來。對於泰雅音韻與構詞有較佳的了解之後，我們

要鑑定泰雅語的南島同源字自然就更有把握。相信泰雅語的同源字百分比絕不會如戴安所說的那麼低。

本文以很多篇幅討論賽考利克方言的詞音位轉換：b～p, g～w, r～y, z～y, t～c, 字首輔音的消失，非重音元音的消失，元音的轉換，連音的裁減，換位等。澤放利方言羣的詞音位轉換包括四季方言的 g～x, p～k, b～k, m～ŋ，汶水方言的 c～t，大興、中興、大隘各方言的 s～t（對應於前者的 c～t），多數方言的 s～y（對應於另一方言羣的 r～y），以及大興方言的 s～g。有的規律（如 b～p, g～w）是許多方言所共有，有的只限於少數方言（如 c～t）甚至某一方言（如 s～g）所有。有一節專討論四季方言及汶水方言的比較研究價值，包括保存 c 與 s 的區別，反映古語字尾有濁塞音尾等。附錄有賽考利克方言的 270 個動詞變化表。

本文描述的主要泰雅方言如下：

漢　名	土　名	現　住　地	主要發音人
1. 澤仁方言	Pyasan	桃園縣復興鄉澤仁村	游道男
2. 大隘方言	Maspazi?	新竹縣五峯鄉大隘村	羅新壽、趙旺華
3. 四季方言	Skikun	宜蘭縣大同鄉四季村	陳勝立、戴昆遠、簡振旺
4. 汶水方言	Mayrinax	苗栗縣泰安鄉錦水村汶水	劉茂男、林美枝、湯清發
5. 大興方言	Matabalay	苗栗縣泰安鄉大興村	簡瑞璋、簡文彬
6. 中興方言	Sakuxan	苗栗縣泰安鄉中興村	高德安
7. 萬大方言	Palŋawan	南投縣仁愛鄉親愛村萬大	曾朝清

文中並以澤仁方言代表賽考利克方言，以大隘方言代表澤放利方言。如果同時列舉四種方言的例字時，就加上四季方言與汶水方言。

泰雅語羣的語音演變大致有共同的趨勢與方向。各方言的每一種音變可能是獨立的，但却是平行的。多數方言通常由年輕人的語音顯示以下音變的傾向：㈠ -l＞-n，㈡ -t, -d（只限於賽德語）＞-c，㈢ -b＞-p，㈣ -p＞-k, -m＞-ŋ，㈤ -g＞-w, -y，㈥ c＞s，㈦非重音元音的消失。以上這些音變有的方言已經完成，有的正在進行中。六十年前薩皮耳所提出的「漂流」(drift) 觀念正好可以解釋這種有親屬關係的方言所表現的平行但獨立的演變。

　　本文擴大了語言研究的領域，嘗試做兩種社會語言學的調查研究；卽年齡與性別在語言結構與演變方面所扮演的角色。不同代的人往往有不同的語音系統，例如<u>四季</u>方言各種不同年齡對於以舌根音取代字尾脣音就有明顯的不同趨勢。在調查各種<u>臺灣</u>土著語言當中，我們首次發現<u>汶水</u>方言是唯一有男女語言形式的不同。女性的語言形式保存較古的形式，也是基本的形式，而男性的語言形式却是後起的，也是衍生的形式。這些社會語言學的研究，對於探索歷史語言學的問題可以提供很好的線索。