

## Syntax and Semantics of *p-* in Squliq Atayal<sup>\*</sup>

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In Atayal (an Austronesian language of Taiwan), a prefixed *p-* can have five distinct functions: verbalizer, causativizer, reciprocal marker, irrealis marker, and agentive nominalizer. Homophonous words prefixed with *p-* seem confusingly ambiguous, yet they can be differentiated in context by examining syntactic distribution, co-occurring nominal argument, and case marking. The paper further examines co-occurrence patterns and constraints of *p-* prefixation.

Key words: Atayal, Austronesian, homophonous, prefix, verbalizer, causativizer, reciprocal marker, irrealis marker, nominalizer

### 1. Introduction

Atayal is an Austronesian language spoken in Taiwan, traditionally divided into two major varieties: C'uli' is regarded as the more conservative dialect, Squliq as the more innovative. As a typical Formosan language, Atayal has a very rich morphology. The present study attempts to provide a syntactic and semantic analysis of several homophonous prefixes (all represented as *p-*) in Squliq Atayal<sup>1</sup> as spoken in Jiānshí Village of Hsinchu County.

Egerod (1999:195) states that there are four homophonous *p-*prefixes in Squliq Atayal; below are examples of their functions (Egerod 1999:195):<sup>2</sup>

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<sup>1</sup> For a more detailed discussion of the structure of Squliq Atayal, please refer to Huang (1993, 2008).

<sup>2</sup> The examples presented in this paper, from Egerod's works or from my own fieldnotes, are all transcribed using the writing system co-claimed by the Ministry of Education and the Council

- (i) Verbal prefix forming an active negatable indicative of reciprocity (also used in a few cases where reciprocity does not seem to be involved); also sometimes a prefix for other verb forms indicating reciprocity:
- (1) a. maki' mkut uzi, maki' ini' *p*-kut.<sup>3</sup>  
 exist.AF cut.AF too exist.AF Neg Rec-cut  
 'There were some who fought with swords, some who did not fight with swords.'
- b. ini' *p*-kita'.  
 Neg Rec-see  
 'They do not look at each other.'
- c. ps'yanay ga', ini' *p*-kzyap uzi.  
 brothers-in-law Top Neg Rec-wrestle too  
 'Brothers-in-law cannot wrestle either.'
- (ii) Verbal prefix forming an active future:
- (2) a. ima' *p*-qwax pyatu' qani?  
 who Irr-wash bowl this  
 'Who will wash this bowl?'
- b. *p*-biru'=saku'.  
 Irr-write=1S.Nom  
 'I will write it myself.'
- c. *p*-bing=saku' qulih kira'.  
 Irr-bring=1S.Nom fish today  
 'I will bring a fish today.'

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of Indigenous Peoples' Affairs, R.O.C., on December 15, 2005. Most of the letters are the same as their IPA symbols, except for the following: ' ⇒ glottal stop /ʔ/; b ⇒ voiced bilabial fricative /β/; g ⇒ voiced velar fricative /ɣ/; ng ⇒ velar nasal /ŋ/; n\_g ⇒ consonant cluster /n/ & /g/; y ⇒ palatal glide /j/.

<sup>3</sup> For clarity's sake, a morphemic analysis of Egerod's examples is added here. As for the symbols and abbreviations used in this paper, they are as follows. =: indicates that the following bound pronoun is a clitic. < >: the enclosed element is an infix or its gloss; 1S: first person singular; 2S: second person singular; 3S: third person singular; 1PE: first person plural exclusive; AF: agent focus; Aff: affirmative; BF: beneficiary focus; Cau: causative; Com: comitative; Decl: declarative; Dist: distal; Gen: genitive; IF: instrument focus; Imp: imperative; Imprf: imperfective aspect; Irr: irrealis; LF: locative focus; Lin: linker; Loc: locative focus; NAF: non-agent focus; Neg: negation; Neu: neutral; Nom: nominative; NOM: nominalizer; Nrf: nonreferential; Part: particle; PF: patient focus; Prf: perfective aspect; Prep: preposition; Prox: proximal; Rec: reciprocity; Rf: referential; Stat: stative; Top: topic.

(iii) Verbal prefix forming causative verbs:

- (3) a. *p*-wah      kwara'    kinloka=nya'.  
           Cau-come    all            strength=3S.Gen  
           'Let all his strength come back!'
- b. wal=maku'    *p*-lgu-n                      yaba'    sswe'.  
           Prf=1S.Gen    Cau-accompany-PF    father    younger:sibling  
           'I have let my younger brother go with Father.'
- c. ini'=saku'      *p*-nbu'              laqi'.  
           Neg=1S.Nom    Cau-get:ill    child  
           'I have not let my child get sick.'

(iv) Prefix indicating the usual, professional performer of the action:

- (4) a. *p*-bazi  
           NOM-buy  
           'merchant'
- b. *p*-phgup  
           NOM-perform:magic  
           'magic healer; witch; shaman'
- c. *p*-qalup  
           NOM-hunt  
           'hunter'

However, Egerod's account of the *p*-prefixes is incomplete in that there is still at least one other function of *p*- not described, i.e. verbalizer *p*-. Nor does he provide a more detailed discussion of the functions and syntactic structures of the aforementioned prefixes. Furthermore, the co-occurring patterns and constraints of these *p*-prefixes are not investigated. The present paper thus attempts to present a more systematic analysis of the syntax and semantics of these homophonous *p*-prefixes in Squiliq Atayal.

## 2. Functions of *p*-

In the following sub-sections, we shall examine each *p*- with respect to its morpho-syntactic distribution and its meanings/functions. We shall begin with the investigation of *p*- as a verbalizer (which is not discussed in Egerod 1999), followed by its functions as causativizer, reciprocal marker, and irrealis marker (labeled an active future marker by Egerod 1999:195) as well as its extended nominal function, i.e. an agentive nominalizer (which Egerod (1999:195) treats as indicating the usual, professional performer of the action).

## 2.1 Verbalizer *p-*

A verbalizer is conventionally regarded as a morpheme that derives a verb from a non-verb class. For example, English affixes *en-*, *-ize*, *-ify*, *-en* can be used to derive verbs from nouns (e.g. *encourage*, *categorize*, *classify*, *strengthen*) or from adjectives (e.g. *enlarge*, *finalize*, *purify*, *shorten*), and these affixes can thus be treated as verbalizers.

The prefix *p-* in Squiliq Atayal can serve as a verbalizer<sup>4</sup> deriving verbs from nouns.<sup>5</sup> Examples follow:

(5)	Nouns	Prefixation	Denominal verbs
a.	lukus 'clothes'	+ <i>p-</i>	plukus 'to put on clothes'
b.	laqi' 'a child'		plaqi' 'to give birth to a child'
c.	qwas 'song'		pqwas 'to sing (songs)'
d.	bwax 'hull'		pbwax 'to peel (hull)'
e.	tara' 'a net'		ptara' 'to catch fish with a net'
f.	nep/net 'a fishing rod'		pnep/pnet 'to fish with a rod'
g.	qqway 'chopsticks'		pqqway 'to pick up food with chopsticks'
h.	sosu' 'a lock'		psosu' 'to lock'

<sup>4</sup> In addition to *p-*, Squiliq Atayal has some other verbalizers (e.g. *k-*, *s-*, *t-*), as illustrated in the following words:

- (i) phpah 'flower' + *k-* ⇒ kphpah 'to blossom'; yamil 'shoes' + *k-* ⇒ kyamil 'to put on shoes'; yaya' + *k-* ⇒ kyaya' 'to watch; to keep an eye on'
- (ii) kilux 'fever; heat' + *s-* ⇒ skilux 'to heat'; tanux 'outside; court' + *s-* ⇒ stanux 'to go outside; to stool'; behuy 'wind' + *s-* ⇒ sbehuy '(for wind) to blow'
- (iii) lalu' 'name' + *t-* ⇒ tlalu' 'to name'; ngasal 'house' + *t-* ⇒ tngasal 'to build a house'; kagang 'crab' + *t-* ⇒ tkagang 'to catch crabs'

For more details, please refer to Hayung (2008).

<sup>5</sup> The corresponding verbalizer in Mayrinax Atayal is *pa-*. Mayrinax is one of the C'uli' dialectal variants; see Huang (1995) for basic structures. Some verbs in this dialect can be derived from nouns by prefixing *pa-*; cf. Huang (2000b:365):

- (i) qabubing 'hat' + *pa-* ⇒ paqabubing 'Put on a hat! (AF.Imp)'
- (ii) tunaq 'sputum' + *pa-* ⇒ patunaq 'Spit! (AF.Imp)'

In Huang (2000b:365), the prefix *pa-* as used above is regarded as a causativizer, an analysis which is revised here not only because the prefix *pa-* in (i)-(ii) is used to derive verbs *paqabubing* and *patunaq* from nouns, but also because the derived verbs like *paqabubing* and *patunaq* can further be affixed with the causativizer *pa-*; i.e. *papaqabubing* 'make someone put on a hat' and *papatunaq* 'make someone spit'. Consequently, it is legitimate to treat this prefix *pa-* as a verbalizer.

i.	kagang <sup>6</sup> ‘a crab’		pkagang ‘to crawl like a crab’
j.	kneril ‘a female’		pkneril ‘to be womanly’

As for the relationships between the nouns and their derived verbs, they can be classified as follows:

- (i) In (5a-d), the noun serves as the patient participant in the event manifested by the denominal verb, e.g. *lukus* ‘clothes’ and *plukus* ‘to put on clothes’ in (5a). This type of derived verb seems to be the most productive one.
- (ii) In (5e-h), the noun functions as the instrument being used in the event manifested by the denominal verb, e.g. *tara* ‘a net’ and *ptara* ‘to catch fish with a net’ in (5e).
- (iii) In (5i), the noun designates an argument performing an action or behaving in a manner manifested by the denominal verb, i.e. *kagang* ‘a crab’ and *pkagang* ‘to crawl like a crab’.<sup>7</sup>
- (iv) In (5j), the noun designates an argument presenting a state/property manifested by the denominal verb, i.e. *kneril* ‘female’ and *pkneril* ‘to be womanly’.<sup>8</sup>

The derived verbs discussed above may function as bare verbs and can be used in AF (Agent Focus) affirmative imperatives, AF negative imperatives, and AF negative declaratives, as illustrated in (6)-(9):

<sup>6</sup> As pointed out by one of the reviewers, the spelling of *kagang* ‘crab’ is given in Egerod (1999:102) as *kagang/kkagang/khkagang*. We are uncertain as to what caused this discrepancy; our Atayal informants in both Wūlái and Jiānshí pronounce the word ‘crab’ as *kagang*.

<sup>7</sup> There seems no other instance of the like. However, the language has other affixes that can function as verbalizers and can be added to animal names to form verbs. The semantic meanings of these affixes may either resemble that of *p-* discussed above (i.e. *pkagang*) or vary therefrom. For example (Hayung 2008): *kagang* ‘crab’ + *t-* ⇒ *tkagang* ‘to catch crabs’; *hozil* ‘dog’ + *t-* ⇒ *thozil* ‘to bite wildly like a dog (while hunting); to tease a dog’; *ngarux* ‘bear’ + *t-* ⇒ *tngarux* ‘to act as brave as a bear; to hunt a bear’; *yungay* ‘monkey’ + *t-* ⇒ *tyungay* ‘to behave like a canny monkey; to hunt a monkey’; *rapa* ‘buffalo’ + *s-* ⇒ *srapa* ‘to lie on the back like a buffalo does’. For more details, please refer to Hayung (2008).

<sup>8</sup> In our fieldnotes, we have no other instances of the like; yet some other verbalizers in the language seem to designate similar semantic meanings, though different semantic meanings are also found. Examples follow (Hayung 2008): *laqi* ‘child’ + *t-* ⇒ *tlaqi* ‘to behave like a child; to tease a child’; *yutas* ‘grandfather’ + *t-* ⇒ *tyutas* ‘to behave like a grandfather; to tease grandfather’. For more details, please refer to Hayung (2008).

- (6) a. plukus qani!  
 put:on.AF this  
 'Put on this (the clothes)!'
- b. laxi plukus qani!  
 Neg.Imp put:on.AF this  
 'Don't put on this (the clothes)!'
- c. ini' plukus qani.  
 Neg.Decl put:on.AF this  
 'He didn't put on this (the clothes).'
- (7) a. pbwax bonaw!  
 crack.AF peanut  
 'Crack peanuts!'
- b. laxi pbwax bonaw!  
 Neg.Imp crack.AF peanut  
 'Don't crack peanuts!'
- c. ini' pbwax bonaw.  
 Neg.Decl crack.AF peanut  
 'He didn't crack peanuts.'
- (8) a. ptara' qulih qani!  
 fish:with:net.AF fish this  
 'Catch this fish with a net!'
- b. laxi ptara' qulih qani!  
 Neg.Imp fish:with:net.AF fish this  
 'Don't catch this fish with a net!'
- c. ini'=ku' ptara' qulih qani.  
 Neg.Decl=1S.Nom fish:with:net.AF fish this  
 'I didn't catch this fish with a net.'
- (9) a. pnep sqani!  
 fish:with:rod.AF here  
 'Fish with a rod here!'
- b. laxi pnep sqani!  
 Neg.Imp fish:with:rod.AF here  
 'Don't fish with a rod here!'
- c. ini'=ku' pnep sqani.  
 Neg.Decl=1S.Nom fish:with:rod.AF here  
 'I didn't fish with a rod here.'

- (10) a. pkagang sqani!  
crawl.AF here  
'Crawl here!'
- b. laxi pkagang squ' lokah na' rhzyal!  
Neg.Imp crawl.AF Loc hard.AF Gen earth  
'Don't crawl on the hard ground!'
- c. ini' pkagang uraw laqi'=mu.  
Neg.Decl crawl.AF earth child=1S.Gen  
'My child didn't crawl on the ground.'
- (11) a. pkneril balay!<sup>9</sup>  
womanly.AF very  
'Be a lady!'
- b. laxi pkneril!  
Neg.Imp womanly.AF  
'Don't be sissy!'
- c. ini' pkneril laqi'=nya' kneril.  
Neg.Decl womanly.AF child=3S.Gen female  
'His daughter is not womanly (not a true woman).'

Like other verbal roots, the aforementioned denominal verbs can also be affixed with different focus markers when appearing in different sentence structures. Table 1 presents the focus markers found in Squaliq Atayal:

**Table 1:** Focus markers of Squaliq Atayal

Sentence types Focus types	Affirmative		Negative	
	Declarative		Imperative	Imperative
	Realis	Irrealis		
Agent focus (AF)	m-; -m-; Ø	m- ... -ay	Ø	
Patient focus (PF)	-un; Ø	-ay	Ø	-i
Locative focus (LF)	-an	-aw	-i	
Instrument focus (IF)	s-; Ø	-anay	-ani	
Beneficiary focus (BF)				

Below are examples containing some of the above-mentioned denominal verbs affixed with the AF focus markers m-/-m-/Ø when occurring in affirmative declaratives:

<sup>9</sup> A stative verb seldom appears in an imperative construction, affirmative or negative.

- (6) d. m-lukus=ku' lukus talah.  
AF-put:on=1S.Nom clothes red  
'I am wearing red clothes.'
- (7) d. ø-pbwax=ku' bonaw.  
AF-crack=1S.Nom peanut  
'I am cracking peanuts.'
- (8) d. t<m>ara'=ku' qulih krryax.  
AF-fish:with:net=1S.Nom fish often  
'I often catch fish with a net.'
- (9) d. ø-pnep=ku' sqani krryax.  
AF-fish:with:rod=1S.Nom here often  
'I often fish with a rod here.'
- (10) d. m-kagang rhzyal ngasal laqi'=mu.  
AF-crawl earth house child=1S.Gen  
'My child is crawling on the floor.'
- (11) d. m-kneril laqi'=nya' kneril.  
AF-womanly child=3S.Gen female  
'His daughter is very lady (a true woman).'

Note that different denominal verbs may choose different AF forms, just like ordinary verbs;<sup>10</sup> the reason of such different formations may have something to do with verbal semantics (cf. Huang 2000b). Also note that when AF focus marker *m-* or *-m-* is present, the verbalizer *p-* is replaced, and when the AF focus marker is  $\emptyset$ , the verbalizer *p-* is retained,<sup>11</sup> as illustrated below:

- (6) d'. **p**lukus + *m-*  $\Rightarrow$  mlukus  
(7) d'. **p**bwax +  $\emptyset \Rightarrow$  **p**bwax  
(8) d'. **p**tara' + *-m-*  $\Rightarrow$  tmara'  
(9) d'. **p**nep +  $\emptyset \Rightarrow$  **p**nep  
(10) d'. **p**kagang + *m-*  $\Rightarrow$  mkagang  
(11) d'. **p**kneril + *m-*  $\Rightarrow$  mkneril

<sup>10</sup> E.g.: *pima* 'to bathe' + *m-*  $\Rightarrow$  *mima*'; *kat* 'to bite' + *-m-*  $\Rightarrow$  *kmat*; *tehuk* 'to arrive' +  $\emptyset \Rightarrow$  *tehuk*.

<sup>11</sup> In affirmative declaratives, denominal verbs containing other verbalizers, however, seem to retain these verbalizers when affixed with AF markers *m-* or *-m-*:

- (i) a. *tanux* 'outside' + *s-*  $\Rightarrow$  *stanux* 'to go outside; to stool' + *m-*  $\Rightarrow$  mstanux  
b. *lalu* 'name' + *s-*  $\Rightarrow$  *slalu* 'to name' + *-m-*  $\Rightarrow$  smlalu'  
(ii) a. *ngarux* 'bear' + *t-*  $\Rightarrow$  *tngarux* 'to act as brave as a bear' + *m-*  $\Rightarrow$  mtngarux  
b. *ngarux* 'bear' + *t-*  $\Rightarrow$  *tngarux* 'to hunt a bear' + *-m-*  $\Rightarrow$  tmngarux  
(iii) a. *yamil* 'shoes' + *k-*  $\Rightarrow$  *kyamil* 'to put on shoes' + *m-*  $\Rightarrow$  mkyamil  
b. *tari* 'knee' + *k-*  $\Rightarrow$  *ktari* 'to kneel down' + *-m-*  $\Rightarrow$  kmtari'



On the other hand, in NAF (Non-agent Focus) constructions, affirmative or negative, the verbalizer *p-* co-occurs with the NAF marker *-un/-an/-i*; thus, *plukus* vs. *plkusun/plkusan/plkusi* in (6e-g), *ptara'* vs. *ptara'un/ptara'an/ptara'i* in (8e-g), and *pkagang* vs. *pnepun/pnepan/pnepi* in (9e-g):

- (6) e. *plkus-un*=mu                      lukus=nya'                      talah.  
          put:on-NAF=1S.Gen    clothes=3S.Gen    red  
          'I will wear his red clothes. (His red clothes will be worn by me.)'
- f. *plkus-an*=mu                      lukus=nya'                      talah.  
          put:on-NAF=1S.Gen    clothes=3S.Gen    red  
          'I wore his red clothes. (His red clothes were worn by me.)'
- g. ini'=mu                      *plkus-i*                      lukus=nya'                      talah.  
          Neg.Decl=1S.Gen    put:on-NAF    clothes=3S.Gen    red  
          'I didn't wear his red clothes. (His red clothes were not worn by me.)'
- (8) e. *ptara'-un*=mu                      qu'                      qulih                      qani.  
          fish:with:net-NAF=1S.Gen    Nom    fish                      this  
          'I will catch this fish with a net. (This fish will be caught with a net by me.)'
- f. *ptara'-an*=mu                      qu'                      qulih                      qani.  
          fish:with:net-NAF=1S.Gen    Nom    fish                      this  
          'I caught this fish with a net. (This fish was caught with a net by me.)'
- g. ini'=mu                      *ptara'-i*                      qu'                      qulih                      qani.  
          Neg.Decl=1S.Gen    fish:with:net-NAF    Nom    fish                      this  
          'I didn't catch this fish with a net. (This fish was not caught with a net by me.)'
- (9) e. *pnep-un*=mu                      qu'                      qulih                      qani.  
          fish:with:rod-NAF=1S.Gen    Nom    fish                      this  
          'I will catch this fish with a rod. (This fish will be caught with a rod by me.)'
- f. *pnep-an*=mu                      qu'                      qulih                      qani.  
          fish:with:rod-NAF=1S.Gen    Nom    fish                      this  
          'I caught this fish with a rod. (This fish was caught with a rod by me.)'
- g. ini'=mu                      *pnep-i*                      qu'                      qulih                      qani.  
          Neg.Decl=1S.Gen    fish:with:rod-NAF    Nom    fish                      this  
          'I didn't catch this fish with a rod. (This fish was not caught with a rod by me.)'

To sum up the present discussion, the following table illustrates some nouns, their denominal verbs containing the verbalizer *p-*, and the relevant forms of the denominal verbs retaining or omitting the verbalizer *p-*:

**Table 2:** Denominal verbs and their relevant forms

Nouns	Denominal verbs	AF markers	Derived AF forms	NAF markers	Derived NAF forms
lukus 'clothes'	plukus 'to put on clothes'	m-	mlukus	-un	plkusun / plkusan / plkusi
tara' 'net'	ptara' 'to fish with a net'	-m-	tmara'	-an -i	ptran / ptran / ptra'i
nep 'rod'	pnep 'to fish with a rod'	ø	pnep		pnepun / pnepan / pnepi

## 2.2 Causativizer *p-*

A causativizer is a morpheme used either to designate someone's causing something to be done or to happen, or to indicate someone's making someone else do something. For instance, *en-* and *-en* in English may derive causativize verbs like *enslave* 'to make someone a slave of', *enlarge* 'to make something large or larger', *strengthen* 'to make someone/something strong or stronger', *shorten* 'to make something short or shorter', and *whiten* 'to make something become white'.

One thing to point out here is that the causativizers *en-* and *-en* examined above resemble the verbalizers *en-* and *-en* discussed in §2.1. Compared with a verbalizer which derives a verb from a non-verb class, the definition of which is, relatively speaking, more from a grammatical viewpoint (cf. §2.1), a causativizer is named somewhat from a functional/semantic perspective. Consequently, it is possible to find a verbalizer that may simultaneously function as a causativizer. For instance, consider the English morpheme *en-* in the word *enslave*. (i) On the one hand, the prefixation of *en-* to the noun *slave* derives the verb *enslave* and thus *en-* is legitimately treated as a verbalizer. (ii) On the other hand, the meaning of the derived verb *enslave* is 'to make someone become a slave' and thus *en-* is reasonably analyzed as a causativizer. In other words, the morpheme *en-* in English, among others, has dual functions, a verbalizer and a causativizer.

In Squliq Atayal, a similar but not exactly identical case is observed. First, note that Squliq Atayal has a causativizer *p-*,<sup>12</sup> which seems applicable to all the verbs. Consider the following examples:

<sup>12</sup> The language has some other causativizers, though they are not as productive as the prefix *p-*. For instance, Egerod (1999:40) points out that the prefix *c-* may create causative or reflexive causative verbs; for example: *baq* 'to know' + *c-* ⇒ *cbaq* 'to teach; to inform'. More examples are given below. As for the differences among these causativizers, please refer to Hayung (2008).

(12)	Verbs	Prefixation	Causative verbs
a.	qaniq ‘to eat’	+ <i>p-</i>	pqaniq ‘to cause someone to eat; to feed’
b.	hoqil ‘to die’		phoqil ‘to cause someone to die; to kill’
c.	kut ‘to cut’		pkut ‘to make someone cut/kill’
d.	’aras ‘to bring’		p’aras ‘to make someone bring’
e.	tama’ ‘to sit’		ptama’ ‘to make someone sit down’
f.	tuliq ‘to get up’		ptuliq ‘to get someone up’

Note that the causativizer *p-* in Squaliq Atayal resembles the verbalizer *p-* examined in §2.1. Although the two morphemes share the same form, they should not be confused with each other, unlike the English case discussed above. Atayal and perhaps most of the Austronesian languages do not have a distinctive adjective class; that is, what English speakers may regard as adjectives are actually treated as verbs (i.e. stative verbs) (cf. Huang 2000b). Consequently, in Atayal, only affixes added to nouns in deriving verbs are treated as verbalizers, and affixes added to verbs (either dynamic or stative verbs) which remain verbs are then analyzed as causativizers; whereas English affixes (e.g. *en-* and *-en*) may be analyzed as both verbalizers and causativizers since they can derive verbs from nouns or adjectives, and since the derived verbs may at the same time contain a causative interpretation. Furthermore, the denominal verbs (affixed either with *p-* or with *s-/t-*) in Atayal can be further affixed with the causativizer *p-* (the derivation of which will be illustrated in §4), while no such case is found in English.

The above-mentioned formation of causative verbs in Atayal seems to be rather common in Austronesian languages. The derived causative verbs, like the denominal verbs, can appear in AF affirmative imperatives, AF negative imperatives, and AF negative declaratives. Examples follow:

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- (i) *tuliq* ‘to rise’ + *t-* ⇒ *ttuliq* ‘to cause ... to rise’; *yaqih* ‘bad’ + *t-* ⇒ *tyaqih* ‘to cause ... not to proceed smoothly’.
- (ii) *qruzyux* ‘long’ + *s-* ⇒ *sqruzyux* ‘to lengthen; to become longer’; *labang* ‘wide’ + *s-* ⇒ *slabang* ‘to widen’.

- (13) a. pqaniq tuba'.<sup>13</sup>  
 feed.AF poison  
 'Feed (him) with poison!'
- b. laxi pqaniq tuba'.  
 Neg.Imp feed.AF poison  
 'Don't feed (me) with poison!'
- c. ini'=ku' pqaniq tuba'.  
 Neg.Decl=1S.Nom feed.AF poison  
 'I didn't feed (him) with poison.'
- (14) a. phoqil bngan ngta' qasa.  
 kill.AF male chicken that  
 'Kill that rooster!'
- b. laxi phoqil bngan ngta' qasa.<sup>14</sup>  
 Neg.Imp kill.AF male chicken that  
 'Don't kill that rooster!'
- c. ini'=ku' phoqil bngan ngta' qasa.  
 Neg=1S.Nom kill.AF male chicken that  
 'I didn't kill that rooster.'

Furthermore, like most regular verbs, such causative verbs can also appear in AF affirmative declarative sentences, although there is no overt AF marker. In other words, the causative verbs, when appearing in AF affirmative declarative sentences, have the AF marker Ø, instead of prefix *m-* or infix *-m-*. Consider:

- (13) d. cyux pqaniq tuba' kneril qasa.  
 Imprf.Dist feed.AF poison woman that  
 'That woman is feeding (him) with poison.'
- (14) d. phoqil bngan ngta' krryax.  
 kill.AF male chicken often  
 'He often kills roosters.'

<sup>13</sup> According to some Atayal speakers, a sentence similar to (13a) but containing an animate (especially human) patient argument is not acceptable, e.g. *\*pqaniq laqi'=mu* 'Feed my child!' In other words, only an inanimate argument can serve as the patient/object to the verb *pqaniq* 'to feed' in AF imperatives (e.g. (13a)). However, some Atayal speakers still prefer to add an additional argument to (13a) because the new sentence sounds more complete to them; i.e. *pqaniq tuba' squliq qasa* 'Feed the person with poison!' Nevertheless, all these sentences are not considered as commonly used as their corresponding NAF sentences, e.g. *pniq-i tuba' squliq qasa* 'Let the person be fed with poison!'

<sup>14</sup> Though (14b) is acceptable to my informants, its NAF counterpart is still more preferable, i.e. *laxi phqili bngan ngta' qasa* 'Don't kill that rooster!'

In addition, such causative verbs can be affixed with NAF focus markers and appear in declaratives and imperatives, either affirmative or negative, especially when the patient is a human argument, as illustrated below:

- (15) a. pniq-un=mu            laqi'=mu.  
           feed-NAF=1S.Gen    child=1S.Gen  
           'I will feed my child. (My child will be fed by me.)'
- b. pniq-an=mu            laqi'=mu.  
           feed-NAF=1S.Gen    child=1S.Gen  
           'I fed my child. (My child was fed by me.)'
- c. pniq-i                laqi'=mu.  
           feed-NAF    child=1S.Gen  
           'Feed my child! (Make my child eat!).'
- d. laxi                pniq-i            laqi'=mu.  
           Neg.Imp    feed-NAF    child=1S.Gen  
           'Don't feed my child! (Don't make my child eat!).'
- e. ini'=mu                pniq-i            laqi'=su'.  
           Neg=1S.Gen    feed-NAF    child=2S.Gen  
           'I didn't feed your child. (I didn't make your child eat.)'
- (16) a. phqil-un=mu            squliq    qasa.  
           kill-NAF=1S.Gen    person    that  
           'I will kill that man. (That man will be killed by me.)'
- b. phqil-an=mu            squliq    qasa.  
           kill-NAF=1S.Gen    person    that  
           'I killed that man. (That man was killed by me.)'
- c. phqil-i                squliq    qasa.  
           kill-NAF    person    that  
           'Kill that man! (Make that man die!).'
- d. laxi                phqil-i            squliq    qasa.  
           Neg.Imp    kill-NAF    person    that  
           'Don't kill that man! (Don't make that man die!).'
- e. ini'=mu                phqil-i            squliq    qasa.  
           Neg=1S.Gen    kill-NAF    person    that  
           'I didn't kill that man. (I didn't make that man die.)'

To sum up the present discussion, the following table illustrates some of the Atayal bare verbs, their causative verbs containing the causativizer *p-*, and some other relevant forms:

**Table 3:** Causative verbs and their relevant forms

Verbs	Causative verbs	AF markers	Derived AF forms	NAF markers	Derived NAF forms
qaniq 'eat'	pqaniq 'to feed'	ø	pqaniq	-un -an	pniqun / pniqan / pniqi
hoqil 'die'	phoqil 'to kill'		phoqil	-i	phqilun / phqilan / phqili

## 2.3 Reciprocal marker *p-*

A semantic definition of 'reciprocal' can be as follows (Givón 1990:628): "Two like events are at issue, with the subject of the first being the object of the second, and vice versa. The two participants thus *act upon each other*." Thus, a reciprocal marker is used to indicate involved participants' doing something to each other (i.e. a mutual action). The formation of reciprocal verbs with the prefix *p(a)-/m(a)-* seems to be a rather common practice in Formosan languages.<sup>15</sup> In Squaliq Atayal, the reciprocal marker *p-*<sup>16</sup> is affixed to verb roots or stems, as exemplified below:

(17)	Verbs	Prefixation	Reciprocal verbs
a.	s'inu' 'to miss'	+ <i>p-</i>	ps'inu' / pss'inu' 'to miss each other; to get involved'
b.	raw 'to help'		praw/prraw 'to help each other'
c.	kita' 'to see'		pkita'/pkkita' 'to look at each other'
d.	bihiy 'to beat'		pbihiy/pbbihiy 'to beat each other'

First, note that in forming reciprocal verbs, the first consonant of the root verb may be repeated when the reciprocal prefix *p-* (or its variant *m-*, to be discussed shortly) is added. Whether the repetition of the initial consonant indicates plurality (i.e. more than

<sup>15</sup> Zeitoun (2002) is the first to show that in many Formosan languages the reciprocal for dynamic verbs is *ma-Ca-* and in Atayal *m-C-*, and reduplication of the root usually implies plurality. She further states that the reconstructed reciprocal form for POC (proto-Oceanic) is *\*paRi-*, and posits two different sets of reciprocal forms to be reconstructed in PAN: (i) *ma-Ca-* (*~pa-Ca-*) for dynamic verbs and (ii) *maR-* (*~paR-*) for stative verbs, based on the distribution of reflexes in Formosan languages. For details, please refer to Zeitoun (2002).

<sup>16</sup> The language seems to have other reciprocal markers, as exemplified below (Hayung 2008):  
 (i) *giba* 'to hug' + *t-* ⇒ *tgiba* 'to hug each other'; *panga* 'to carry on back' + *t-* ⇒ *tpanga* 'to carry each other on back'  
 (ii) *blaq* 'good' + *s-* ⇒ *sblaq* 'to be good to each other'; *sobeh* 'close' + *s-* ⇒ *ssobeh* 'to be in neighborhood'



with the AF focus marker *m-* (but not *-m-* or  $\emptyset$ ) in affirmative declaratives. Examples follow:

- (21) a. m-s'inu'=sami<sup>17</sup>      ki'      yaya'=mu      krryax.  
 Rec.AF-miss=1PE.Nom    Com    mother=1S.Gen    often  
 'My mother and I often miss each other.'
- (22) a. m-rraw=sami      ki'      rangi'=mu      krryax.  
 Rec.AF-help=1PE.Nom    Com    friend=1S.Gen    often  
 'My friend and I often help each other.'

Notice that such reciprocal AF verbs are different from their non-reciprocal AF counterparts. Compare:

- (21) b. s<m>'inu'=ku'      yaya'=mu      krryax.  
 miss<AF>miss=1S.Nom    mother=1S.Gen    often  
 'I often miss my mother.'
- (22) b. r<m>aw=ku'      rangi'=mu      krryax.  
 help<AF>help=1S.Nom    friend=1S.Gen    often  
 'I often help my friend.'

As illustrated above, in forming AF verbs to be used in affirmative declarative sentences, the reciprocal verbs are prefixed with *m-* which replaces *p-* (e.g. *ps'inu'* vs. *ms'inu'* in (21a), and *prraw* vs. *mrraw* in (22a)), whereas their corresponding non-reciprocal verbs are formed with the infix AF marker *-m-* (e.g. *sm'inu'* in (21b) and *rmaw* in (22b)). A similar formation contrast is also found with the following verbs:

(23)	Bare verbs	Reciprocal form in AF imperatives	Reciprocal form in AF declaratives	Non-reciprocal form in AF declaratives
a.	hili'	phili'/phhili'	<u>m</u> hili'/ <u>m</u> hhili' 'to accuse each other'	<u>h</u> mili' 'to accuse'
b.	kat	pkat/pkkat	<u>m</u> kat/ <u>m</u> kkat 'to bite each other'	<u>k</u> mat 'to bite'
c.	kayal	pkayal/pkkayal	<u>m</u> kayal/ <u>m</u> kkayal 'to talk to each other'	<u>k</u> mayal 'to talk'

<sup>17</sup> Note that the plural pronoun *sami* 'we' is used here instead of the singular one *ku* 'I'. Such a usage is called 'Inclusive pronoun'. For details, please refer to Huang (1993).



d.	kut	pkut/pkkut	<u>mkut</u> / <u>mkkut</u> 'to cut/kill each other'	kmut 'to cut'
e.	kzyap	pkzyap/pkkzyap	<u>mkzyap</u> / <u>mkkzyap</u> 'to wrestle each other'	kmzyap 'to wrestle'
f.	sayu'	psayu'/pssayu'	<u>msayu'</u> / <u>mssayu'</u> 'to quarrel with each other'	smayu' 'to argue'
g.	soya'	<u>pssoya'</u> <sup>18</sup>	<u>mssoya'</u> 'to be in love with each other; to yearn for each other'	smoya' 'to like'
h.	spung	pspung/psspung	<u>mpspung</u> / <u>mpsspung</u> 'to compete'	smpung 'to measure; to judge'

However, consider the following sentences:

- (24) a. m-kita'=sami ki' sayun krryax.  
Rec.AF-see=1PE.Nom Com Sayun often  
'Sayun and I often see each other.'
- b. m-ita'=saku' squliq qasa.  
AF-see=1S.Nom person that  
'I saw that man.'
- (25) a. m-bihiy=sami ki' laqi' qasa krryax.  
Rec.AF-beat=1PE.Nom Com child that often  
'That child and I often fight with each other.'
- b. m-ihiy laqi' qasa krryax.  
AF-beat child that often  
'That child often beats (him).'

Unlike what is discussed in (21)-(22) with the prefix *m-* indicating reciprocal AF marker and the infix *-m-* serving as non-reciprocal AF marker respectively, both reciprocal and non-reciprocal verbs given in (24)-(25) are prefixed with the AF marker *m-*, except that the reciprocal AF *m-* is simply added to the verb roots without replacing the initial consonant (and thus *mkita'* in (24a) and *mbihiy* in (25a)), whereas the non-reciprocal AF

<sup>18</sup> It is puzzling that while most reciprocal forms listed here have two alternative forms, the verb *soya'* only allows the form *pssoya'*, but not *psoya'*, the latter of which can only give the irrealis reading 'will like', instead of a reciprocal one \*'like each other'. One of the reviewers points out that this is the sole verb given which is stative, and suggests that there may be a difference between dynamic reciprocal verbs (*m-/p-* — with reduplication of the base indicating plurality) and stative reciprocal verbs (*m-* + Red) in Atayal. More research is needed.

*m-* substitutes the initial consonant of the roots (and thus *mita'* in (24b) and *mihiy* in (25b)).<sup>19</sup> A similar formation contrast is also observed in the following verbs:

(26)	Bare verbs	Reciprocal form in AF imperatives	Reciprocal form in AF declaratives	Non-reciprocal form in AF declaratives
a.	biq	pbiq/pbbiq	mbiq/mbbiq 'to give to each other'	miq 'to give to someone'
b.	biru'	pbiru'/pbbiru'	mbiru'/mbbiru' 'to write to each other'	miru' 'to write'
c.	buling	pbuling/pbbuling	mbuling/mbbuling 'to throw at each other'	muling 'to throw'
d.	laqux	plaqux/pllaqux	mllaqux/mllaqux 'to win over or to loose to each other'	maqux 'to win'
e.	lamu'	plamu'/pllamu'	mlamu'/mllamu' 'to choose something for each other'	mamu' 'to choose'

One more remark before moving on to the next topic is that, besides the AF marker *m-*, we have no data illustrating reciprocal verbs affixed with NAF markers. In other words, reciprocal verbs seem incompatible with NAF markers and only appear in the AF form. This is understandable because in reciprocal constructions, both involved participants function as Agents/doers of the named event and serve as the grammatical subject.

To sum up the present discussion, the following table illustrates some of the Atayal bare verbs, their reciprocal verbs containing the reciprocal marker *p-*, and some other relevant forms:

<sup>19</sup> Huang (2000b:375), while working on Mayrinax verb classification, also points out that such alternation takes place more frequently with verbs beginning with *p-* and *b-*. That is, '... out of 76 verbs marked by *m-*, there are 40 verbs showing *p- ~ m-* alternations, and 5 *b- ~ m-* alternations. Perhaps it is because *m-*, *p-* and *b-* are all labial sounds.'

**Table 4:** Reciprocal verbs and their relevant forms

Bare verbs	Reciprocal verbs in AF imperatives		Reciprocal forms in AF declaratives		Non-reciprocal forms in AF declaratives
hili' 'to accuse'	phili'/phhili'	m-	mhili'/mhhili'	-m-	hmili'
kat 'to bite'	pkat/pkkat		mkat/mkkat		kmat
kayal 'to talk'	pkayal/pkkayal		mkayal/mkkayal		kmayal
kut 'to cut'	pkut/pkkut		mkut/mkkut		kmud
kzyap 'to wrestle'	pkzyap/pkkzyap		mkzyap/mkkzyap		kmzyap
raw 'to help'	praw/prraw		mrrow/mrraw		rmaw
sayu' 'to argue'	psayu'/pssayu'		msayu'/mssayu'		smayu'
soya' 'to like'	pssoya'		mssoya'		smoya'
spung 'to judge'	pspung/psspung		mspung/msspung		smpung
s'inu' 'to miss'	ps'inu'/pss'inu'		ms'inu'/mss'inu'		sm'inu'
bihiy 'to beat'	pbihiy/pbbihiy	m-	mbihiy/mbbihiy	m-	mihiy
biq 'to give'	pbiq/pbbiq		mbiq/mbbiq		miq
buling 'to throw'	pbuling/pbbuling		mbuling/mbbuling		muling
kita' 'to see'	pkita'/pkkita'		mkita'/mkkita'		mita'
laqux 'to win'	plaqux/pllaqux		mllaqux/mllaqux		maqux
lamu' 'to choose'	plamu'/pllamu'		mlamu'/mllamu'		mamu'

## 2.4 Irrealis marker *p-*

In this section, let us investigate the irrealis marker in the Atayal language. An irrealis marker is used to indicate an unactualized or future event. The irrealis marker in Atayal is *p-*. It is perhaps more productive than any of the verbalizer, causativizer or reciprocal markers; that is, while the verbalizer, causativizer, or reciprocal marker *p-* can only be affixed to certain words, the irrealis marker *p-* can be attached to most verbs, except for motion verbs like *musa* 'to go' / *mwah* 'to come' and existential verbs *nyux/cyux* 'to exist; to possess'.<sup>20</sup> The following examples containing plain verbs/verb roots (e.g. (27a-b)) or denominal verbs (e.g. (28a-b)) affixed with the irrealis marker *p-*:

- (27) a. *p-qwax=ku'*                      *pyatu'*    *qani*.  
           Irr-wash.AF=1S.Nom    bowl    this  
           'I will wash this bowl.'

<sup>20</sup> While existential verbs *nyux/cyux* 'to exist; to possess' do not have irrealis forms, the irrealis forms of motion verbs *musa* 'to go' / *mwah* 'to come' are made with the addition of the vowel *a*; hence, *mausa* 'will go' and *mawah* 'will come'.

- a'. q<m>wax=ku'                      pyatu'      qani.  
wash<AF>wash=1S.Nom   bowl      this  
'I am washing this bowl.'
- b. p-biru'=saku'                      kira'.  
Irr-write.AF=1S.Nom      later  
'I will write (it) later.'
- b'. nyux=saku'                      m-iru'      tegami'      qani.  
Imprf.Prox=1S.Nom      AF-write      letter      this  
'I am writing this letter.'
- (28) a. p-tngasal=sami                      kira'.  
Irr-build:house.AF=1PE.Nom      later  
'We will build a house later.'
- a'. t<m>ngasal=sami                      ngasal=myan.  
build:house<AF>=1PE.Nom      house=1PE.Gen  
'We are building our house.'
- b. p-skilux=saku'                      mami'      kira'.  
Irr-heat.AF=1S.Nom      rice      later  
'I will heat rice later.'
- b'. nyux=saku'                      ø-skilux      mami'.  
Imprf.Prox=1S.Nom      AF-heat      rice  
'I am heating rice.'

The irrealis marker *p*- only co-occurs with AF verbs; it disappears in NAF constructions. Consider:

- (29) a. qwax-un=mu                      pyatu'      qani.  
wash-NAF=1S.Gen      bowl      this  
'I will wash this bowl. (This bowl will be washed by me.)'
- a'. qwax-an=mu                      pyatu'      qani.  
wash-NAF=1S.Nom      bowl      this  
'I washed this bowl. (This bowl was washed by me.)'
- b. brw-un=mu                      kira'.  
write-NAF=1S.Gen      later  
'I will write it later. (It will be written by me later.)'
- b'. brw-an=mu                      soni      hiya'.  
write-NAF=1S.Gen      today      3S.Neu  
'I wrote it today. (It was written by me today.)'

- (30) a. **tngsal-un**=myan                      ngasal      qani.  
           build:house-NAF=1PE.Gen    house      this  
           ‘We will build this house. (This house will be built by us.)’
- a’. **tngsal-an**=myan                      ngasal      qani.  
           build:house-NAF=1PE.Gen    house      this  
           ‘We built this house. (This house was built by us.)’
- b. **sklux-un**=mu                      qulih      qasa.  
           heat-NAF=1S.Gen      fish      that  
           ‘I will heat that fish. (That fish will be heated by me.)’
- b’. **sklux-an**=mu                      qulih      qasa.  
           heat-NAF=1S.Gen      fish      that  
           ‘I heated that fish. (That fish was heated by me.)’

To sum up the present discussion, the following table illustrates some of the Atayal bare/denominal verbs, their irrealis forms containing *p-*, and some other relevant forms:

**Table 5:** Verbs with irrealis marker and their relevant forms

Bare verbs / Denominal verbs	AF		NAF	
	Irrealis	Realis	Irrealis	Realis
qwax ‘to wash’	<b>p</b> -qwax	q<m>wax	qwax-un	qwax-an
biru’ ‘to write’	<b>p</b> -biru’	m-iru’	brw-un	brw-an
<b>tngasal</b> ‘to build a house’	<b>p</b> -tngasal	t<m>ngasal	tngsal-un	tngsal-an
<b>skilux</b> ‘to heat’	<b>p</b> -skilux	ø-skilux	sklux-un	sklux-an

## 2.5 Agentive nominalizer *p-*: an extended function of irrealis marker

Before concluding the present discussion, there is another thing that deserves further attention. That is, Huang (2002:211) points out that in Mayrinax Atayal, ‘irrealis forms of AF verbs may serve as agentive nominals’; in other words, agentive nominals can be derived through the prefixation of the irrealis/future marker *pa-* to the verb roots and give the reading ‘one that does ... (as a profession)’ or ‘one that will do ...’ Compare the following sets of examples (Huang 2002:212):

- (31) Mayrinax Atayal
- a. **pa-paquwas**      ku’              irawing=mu.  
           Irr-sing.AF      Nom.Rf      friend=1S.Gen  
           ‘My friend will sing.’

- a'. baq-un=mu                      ku'              papaquwas      ka'      haca'.  
          know-NAF=1S.Gen      Nom.Rf      singer              Lin      that  
          'I know that singer (who will sing there).'
- b. pa-quriq              ru'              pa-agiyay.  
          Irr-steal.AF      and      Irr-escape.AF  
          'He will steal (things) and escape.'
- b'. m-agiyay              ku'              paquriq      la.  
          AF-escape      Nom.Rf      thief              Part  
          'The thief has escaped.'

Notice that while the emphasized words *papaquwas* in (31a-a') and *paquriq* in (31b-b') are identical, *papaquwas* in (31a') and *paquriq* in (31b') appear in the sentence initial position and both manifest irrealis/future events. On the other hand, *papaquwas* in (31a) and *paquriq* in (31b) are preceded by the Nominal case marker *ku'*, and each designates an agentive nominal indicating a profession. It is thus legitimate to treat the agentive nominalizer *p-* in Atayal as an extended function of the irrealis marker *p-*.<sup>21</sup> Furthermore, the syntactic distribution and the presence of the case-marking may help differentiate the irrealis AF verbs from the agentive nominals.

A similar situation is also observed in Sqliq Atayal. For instance, as remarked by Egerod (1999:195), the verb prefixed with *p-* may indicate 'the usual, professional performer of the action', though he does not seem to be aware that such a function is in fact an extended from the irrealis form. Some examples containing agentive nominalizer *p-* and their relevant forms are given below:

(32)	Bare verbs	Irrealis verbs / Future events	Nominals / Agents
a.	baziy 'to buy'	p-baziy 'will buy'	pbaziy 'merchant'
b.	hgup 'to perform magic'	p-hgup 'will perform magic'	phgup 'witch; shaman'
c.	luhuw 'to string; to recite'	p-luhuw 'will recite'	pluhuw 'storyteller'
d.	qalup 'to hunt'	p-qalup 'will hunt'	pqalup 'hunter'
e.	qul 'to snatch'	p-qul 'will snatch'	pqul 'robber'
f.	qumah 'to cultivate'	p-qumah 'will cultivate'	pqumah 'farmer; peasant'
g.	quriq 'to steal'	p-quriq 'will steal'	pquriq 'thief'

Below are some sentences with irrealis verbs and agentive nominals respectively:

<sup>21</sup> In Mayrinax Atayal, the realis forms of verbs, like their corresponding irrealis ones, may also designate agentive nominals and give the reading 'one that does... (as a profession); one that is doing...' (cf. Huang 2002:212-213). In addition, the language uses other focus markers to derive nominals. Please refer to Huang (2002) for a more detailed discussion.

- (33) a. p-baziy=ku' lukus talah.  
 Irr-buy.AF=1S.Nom clothes red  
 'I will buy the red clothes.'
- a'. baq-un=mu (qu') pbaziy qasa.  
 know-NAF=1S.Gen Nom merchant that  
 'I know that merchant.'
- b. p-quriq pila'=su' laqi' qasa.  
 Irr-steal.AF money=2S.Gen child that  
 'That child will steal your money.'
- b'. bhl-an (qu') pquriq qasa la.  
 bind-NAF Nom thief that Part  
 'That thief was caught.'

Similar to Mayrinax Atayal discussed above, Squaliq Atayal utilizes syntactic distribution to differentiate the irrealis AF verbs from their corresponding nominals. In other words, while the words *pbaziy* in (33a) and *pquriq* in (33b) appear in sentence initial position and are irrealis verbs, the words *pbaziy* in (33a') and *pquriq* in (33b') follow the initial verbs and are nominals, with or without a preceding case marker.<sup>22</sup>

### 3. Identification of *p-*

As discussed above, there are five homophonous *p*-prefixes in Squaliq Atayal; namely, verbalizer, causativizer, reciprocal marker, irrealis marker and agentive nominalizer. Since they share the same form *p-*, words prefixed with one of them resembles each other; thus, confusion and/or ambiguity may arise. Consider:

(34)	Original form	Verbalizer	Causativizer	Reciprocal	Irrealis	Nominalizer
a.	qwas 'song'	pqwas 'to sing'	p(p)qwas 'to make ... sing'	--	pqwas 'will sing'	p(p)qwas 'singer'
b.	qaniq 'to eat'	--	pqaniq 'to feed'	--	pqaniq 'will eat'	--
c.	baziy 'to buy'	--	pbaziy 'to make ... buy'	--	pbaziy 'will buy'	pbaziy 'merchant'

<sup>22</sup> In Squaliq Atayal, case markers are often omitted, especially in young people's speech.

d.	kayal 'to talk'	--	pkayal 'to make ... talk'	pkayal 'to talk to each other'	pkayal 'will talk'	--
e.	qumah 'to cultivate'	--	pqumah 'to make ... cultivate'	--	pqumah 'will cultivate'	pqumah 'farmer'

As illustrated above, in isolation, words prefixed with *p-* resemble each other, and there seems no way to identify their meanings, except that co-occurring elements may help disambiguate them and help differentiate their functions. For instance:

- (35) a. p-qaniq=saku' (qulih qani) kira'.  
 Irr-eat.AF=1S.Nom fish this later  
 'I will eat (this fish) later.'
- b. p-qaniq=saku' laqi'=su' kira'.  
 Cau-eat.AF=1S.Nom child=2S.Gen later  
 'I will feed your child later.'

Comparing (35a) and (35b), one may notice that the requirement of an additional participant *laqi'* in (35b) may help indicate that the verb *pqaniq* in (35b) is a causative verb, whereas *pqaniq* in (35a) is an irrealis verb. However, a different construction like NAF construction may do the job better, as shown in (35a')-(35b'); no ambiguity arises:

- (35) a'. niq-un=maku' kira' qulih qani.  
 eat-NAF=1S.Gen later fish this  
 'I will eat the fish later. (The fish will be eaten by me later.)'
- b'. p-niq-an=maku' kira' laqi'=su'.  
 Cau-eat-NAF=1S.Gen later child=2S.Gen  
 'I will feed your child later. (Your child will be fed by me later.)'

Also, as demonstrated in §2.5, different syntactic distribution and/or case markers may help disambiguate words prefixed with *p-*. Consider:

- (36) a. p-qumah=saku' kira'.  
 Irr-cultivate=1S.Nom later  
 'I will cultivate (farms) later.'
- b. lokah (qu') pqumah qani.  
 diligent.AF Nom farmer this  
 'This farmer works hard.'



- c. *pqumah qasa ga' yaba'=mu.*  
 farmer that Top father=1S.Gen  
 'As for that farmer, he is my father.'

In (36a), while *pqumah* appears sentence initially and attracts the bound pronoun *saku*, the word in question has to be a verb and the prefix *p-* is an irrealis marker. On the other hand, *pqumah* in (36b) follows a verb and an optional case marker; it is a nominal meaning 'farmer'. Similarly, (36c) is a Topic construction, and the word *pqumah* modified by the determiner *qasa* is a nominal.

To sum up the present discussion, the words prefixed with *p-* appear alike, yet they can be differentiated in context, especially through their syntactic distributions, co-occurring nominal argument and case marker(s).

#### 4. Co-occurring patterns and constraints

In the preceding sections, we have examined the syntactic distributions and semantic functions of the five homophonous morphemes *p-* in Squaliq Atayal. Below we would like to investigate whether there are any co-occurring patterns and constraints among these prefixes.

First, let us recall the derivational processes these five *p-* prefixes involve:

- i. verbalizer:  $p- + \text{Noun} \Rightarrow \text{Verb}$
- ii. causativizer:  $p- + \text{Verb} \Rightarrow \text{Verb}$
- iii. reciprocal marker:  $p- + \text{Verb} \Rightarrow \text{Verb}$
- iv. irrealis marker:  $p- + \text{Verb} \Rightarrow \text{Verb}$
- v. agentive nominalizer:  $p- + \text{Verb} \Rightarrow \text{Noun}$  (an extended function of irrealis marker)

Our next concern is whether these morphemes are derivational or inflectional. Haspelmath (2002:71) proposes a few criteria (and distinctive properties) for differentiating the two types of affixes:

	Inflectional	Derivational
1	relevant to the syntax	not relevant to the syntax
2	obligatory	optional
3	not replaceable by simple word	replaceable by simple word
4	same concept as base	new concept
5	relatively abstract meaning	relatively concrete meaning

6	semantically regular	possibly semantically irregular
7	less relevant to base meaning	very relevant to base meaning
8	unlimited applicability	limited applicability
9	expression at word periphery	expression close to the base
10	less base allomorphy	more base allomorphy
11	cumulative expression possible	no cumulative expression
12	not iterable	iterable

Considering the above-mentioned criteria/properties, we thus conclude that:

- i. The verbalizer *p-* seems to illustrate all of the above-mentioned derivational properties, and is legitimately regarded as a derivational affix.
- ii. The causativizer *p-* seems to satisfy the above-mentioned derivational criteria (1-5, 7, & 12), and seems more plausible to be treated as a derivational affix.
- iii. The reciprocal marker *p-* seems to satisfy the derivational criteria (1-9), and seems legitimately regarded as a derivational affix as well.
- iv. The irrealis marker *p-* designates Tense/Aspect/Mood, and seems to possess the above-mentioned inflectional properties (1-10 & 12), and should be regarded as an inflectional affix.
- v. The agentive nominalizer *p-*, an extended function of irrealis marker, derives a noun from its verbal counterpart, and perhaps it is irrelevant to discuss whether it is an inflectional or derivational affix.

In sum, without considering the agentive nominalizer *p-* which does not co-occur with the other *p-* prefixes, only the irrealis marker *p-* is an inflectional affix and the other three are derivational. As a result, the irrealis marker *p-* should appear in the outermost position, the verbalizer *p-* should be in the innermost position of derived words, and the causativizer *p-* and the reciprocal marker *p-* are expected to appear in-between. Furthermore, since the causativizer may in principle be affixed to all the verbs while the reciprocal marker cannot, it seems legitimate to postulate that the reciprocal marker appears closer to the verbalizer if there is one, and the causativizer is in its further step away from the root/stem verb.<sup>23</sup> However, in reality, it is also possible to involve

<sup>23</sup> Two examples are given here to indicate the possibility of the sequence of Causativizer – Reciprocal – (Verbalizer), though such sequence seldom appears in daily speech:

(i) p-p-p-qwas                      kwara'    sqliq    qasa.  
Cau-Rec-Verbalizer-song    all            person    that  
'Make all those people sing to one another.'

arguments performing a causative event with each other, and thus the reverse ordering is likewise plausible.<sup>24</sup> To conclude, the potential sequence of these *p*-prefixes can be formulated and generalized as follows:

- (Irrealis) – (Causativizer) – (Reciprocal) – (Verbalizer) – Root/Stem  
 (Irrealis) – (Reciprocal) – (Causativizer) – (Verbalizer) – Root/Stem

All the possible co-occurrences containing *p*-prefixes are shown below:

- i. Irrealis - Verbalizer - Root/Stem
- ii. Irrealis - Reciprocal - Root/Stem
- iii. Irrealis - Causativizer - Root/Stem
- iv. Irrealis - Reciprocal - Verbalizer - Root/Stem
- v. Irrealis - Causativizer - Verbalizer - Root/Stem
- vi. Irrealis - Causativizer - Reciprocal - Verbalizer - Root/Stem
- vii. Irrealis - Reciprocal - Causativizer - Verbalizer - Root/Stem
- viii. Reciprocal - Verbalizer - Root/Stem
- ix. Reciprocal - Causativizer - Root/Stem
- x. Reciprocal - Causativizer - Verbalizer - Root/Stem
- xi. Causativizer - Verbalizer - Root/Stem
- xii. Causativizer - Reciprocal - Root/Stem
- xiii. Causativizer - Reciprocal - Verbalizer - Root/Stem

However, while examining the data that have been collected, we observe that there are very few words containing two *p*-prefixes, not to mention three or four. For instance:

- (37) a. *p-p-lukus=ku'*                      *lukus*      *talah.*  
           Irr-Verbalizer-clothes=1S.Nom    clothes    red  
           'I will wear red clothes.'

- 
- (ii) *p-p-p-qqway*                      *nniqun*    *lpyung=su'.*  
       Cau-Rec-Verbalizer-chopsticks    food      relative=2S.Gen  
       'Make your relatives pick up food with chopsticks for each other.'

<sup>24</sup> Two examples (though with AF Reciprocal marker *m-*, and with Verbalizer *k-* instead of *p-*) are given here to indicate the possibility of the sequence of Reciprocal – Causativizer – (Verbalizer):

- (i) *m-p-qaniq*    *krryax*    *qu'*    *yutas*    *ru'*    *yaki'*    *qasa.*  
       Rec-Cau-eat    often    Nom    old:man    and    old:woman    that  
       'Those old man and woman often feed with each other.'
- (ii) *cyux*            *m-p-k-yamil*                      *qu'*    *sazing*    *laqi'*    *qasa.*  
       Imprf.Dist    Rec-Cau-Verbalizer-shoes    Nom    two    child    that  
       'Those two children are putting on shoes with each other.'

- b. p-p-rraw=sami                      ki'      rangi'=mu      suxan.  
 Irr-Rec-help.AF=1PE.Nom   Com   friend=1S.Gen   tomorrow  
 'My friend and I will help each other tomorrow.'
- c. p-p-qaniq                      laqi'=mu      yaya'.  
 Irr-Cau-eat.AF      child=1S.Gen      mother  
 'Mother will feed my child.'

Furthermore, for most Squliq Atayal speakers, the two *p*-prefixes may appear as one in their daily speech, as exemplified below:

- (37) a'. p-lukus=ku'                      lukus      talah.  
 Irr.Verbalizer-clothes=1S.Nom   clothes   red  
 'I will wear red clothes.'
- b'. p-rraw=sami                      ki'      rangi'=mu      suxan.  
 Irr.Rec-help.AF=1PE.Nom   Com   friend=1S.Gen   tomorrow  
 'My friend and I will help each other tomorrow.'
- c'. p-qaniq                      laqi'=mu      yaya'.  
 Irr.Cau-eat.AF      child=1S.Gen      mother  
 'Mother will feed my child.'

A possible explanation for such a phenomenon is that Squliq Atayal prefers not to have two or more identical sounds occurring in a sequence, and thus haplology is common.

Consequently, many seeming identical words with different meanings may be a result of *p*- deletion, as exemplified below:

**Table 6:** Instances of homophonous words containing *p*- in Squliq Atayal

Surface form	Meanings	Derivation	Functions of <i>p</i> -
1   plukus	'to dress'	p-lukus	Verbalizer
	'will dress'	p-p-lukus	Irrealis-Verbalizer
	'make s.o. dress'	p-p-lukus	Causativizer-Verbalizer
	'will make s.o. dress'	p-p-p-lukus	Irrealis-Causativizer-Verbalizer
2   ptara'	'to fish with a net'	p-tara'	Verbalizer
	'will fish with a net'	p-p-tara'	Irrealis-Verbalizer
	'to make s.o. fish with a net'	p-p-tara'	Causativizer-Verbalizer
	'will make s.o. fish with a net'	p-p-p-tara'	Irrealis-Causativizer-Verbalizer

3	phoqil	‘will die’	p-hoqil	Irrealis
		‘to make s.o. die; to kill’	p-hoqil	Causativizer
		‘will kill s.o.’	p-p-hoqil	Irrealis-Causativizer
4	praw	‘will help’	p-row	Irrealis
		‘will help each other’	p-p-row	Irrealis-Reciprocal
5	pkayal	‘will talk’	p-kayal	Irrealis
		‘will talk to each other’	p-p-kayal	Irrealis-Reciprocal

## 5. Conclusion

In this paper, we have investigated the syntactic distributions and semantic functions of five homophonous prefixes *p-* in Squaliq Atayal; namely, verbalizer, causativizer, reciprocal marker, irrealis marker and agentive nominalizer. The functions of these morphemes can be summarized in the following table:

**Table 7:** Functions of *p-* in Squaliq Atayal

	<i>p-</i>	Original form	Derived form	Functions	Examples
1	Verbalizer	noun	verb	event	kagang ‘crab’ + <i>p-</i> ⇒ pkagang ‘to crawl like a crab’
2	Causativizer	verb	verb	causation	qaniq ‘to eat’ + <i>p-</i> ⇒ pqaniq ‘to cause to eat’
3	Reciprocal	verb	verb	mutuality	s’inu’ ‘to miss’ + <i>p-</i> ⇒ ps’inu’/pss’inu’ ‘to miss each other’
4	Irrealis	verb	verb	futurity	qwax ‘to wash’ + <i>p-</i> ⇒ pqwax ‘will wash’
5	Nominalizer	verb	noun	profession	baziy ‘to buy’ + <i>p-</i> ⇒ pbaziy ‘merchant’

We have further illustrated that although the words prefixed with *p-* appear alike, yet they can be differentiated in context, especially through their syntactic distributions, co-occurring nominal argument, and case marker(s).

Finally, the paper has examined the co-occurrence constraints of these prefixes, and demonstrated that the sequence of the named prefixes can be generalized as follows:

(Irrealis) – (Causativizer) – (Reciprocal) – (Verbalizer) – Root/Stem  
 (Irrealis) – (Reciprocal) – (Causativizer) – (Verbalizer) – Root/Stem

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## 賽考利克泰雅語前綴 *p-* 之語法及語意研究

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尖石國中

泰雅語是台灣南島語的一支，本篇論文主要探討該語言之賽考利克方言中同音詞綴 *p-* 的語法及語意特質。文中發現前綴 *p-* 有時為動詞化詞綴、使役詞綴、相互詞綴、未實現貌詞綴、或表主事者之名物化詞綴。這些歧異功能可藉由詞綴 *p-* 出現在不同語法結構中而區別之。本篇論文亦針對這些詞綴 *p-* 同時出現時之限制加以探討。

關鍵詞：泰雅語，南島語，同音詞，前綴，動詞化，使役詞，相互詞，未實現貌，名物化