Syntax and Semantics of p- in Squiliq Atayal*

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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, Squiliq 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 Squiliq Atayal1 as spoken in Jiānshí Village of Hsinchu County.

Egerod (1999:195) states that there are four homophonous p-prefixes in Squiliq Atayal; below are examples of their functions (Egerod 1999:195):2

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1 For a more detailed discussion of the structure of Squiliq Atayal, please refer to Huang (1993, 2008).

2 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.3
   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.’

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 /γ/; ng ⇒ velar nasal /ŋ/; n_g ⇒ consonant cluster /ŋ/ & /g/; y ⇒ palatal glide /j/.

3 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: irrealsis; 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. \[ p\text{-}wah \text{ kwara’ kinlokah=}nya’. \]
\[ \text{Cau-come all strength=}3S.\text{Gen} \]
‘Let all his strength come back!’

b. \[ \text{wal=}maku’ \ p\text{-}lgu-n yaba’ sswe’. \]
\[ \text{Prf=}1S.\text{Gen Cau-accompany-PF father younger:sibling} \]
‘I have let my younger brother go with Father.’

c. \[ \text{ini’=}saku’ \ p\text{-}nbu’ laqi’. \]
\[ \text{Neg=}1S.\text{Nom Cau-get:ill child} \]
‘I have not let my child get sick.’

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

(4) a. \[ p\text{-}baziy \]
\[ \text{NOM-buy} \]
‘merchant’

b. \[ p\text{-}phgup \]
\[ \text{NOM-perform:magic} \]
‘magic healer; witch; shaman’

c. \[ p\text{-}qalup \]
\[ \text{NOM-hunt} \]
‘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 Squliq 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 Squiql Atayal can serve as a verbalizer deriving verbs from nouns. Examples follow:

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

In addition to $p$-, Squiql Atayal has some other verbalizers (e.g. $k$-, $s$-, $t$-), as illustrated in the following words:

(i) phphah ‘flower’ $+ k$ $\Rightarrow$ kphphah ‘to blossom’; yamil ‘shoes’ $+ k$ $\Rightarrow$ kyamil ‘to put on shoes’; yaya’ $+ k$ $\Rightarrow$ kyaya’ ‘to watch; to keep an eye on’

(ii) kilux ‘fever; heat’ $+ s$ $\Rightarrow$ skilux ‘to heat’; tanux ‘outside; court’ $+ s$ $\Rightarrow$ stanux ‘to go outside; to stool’; behuy ‘wind’ $+ s$ $\Rightarrow$ sbehuy ‘(for wind) to blow’

(iii) lalu’ ‘name’ $+ t$ $\Rightarrow$ tlalu’ ‘to name’; ngasal ‘house’ $+ t$ $\Rightarrow$ tngasal ‘to build a house’; kagang ‘crab’ $+ t$ $\Rightarrow$ tkagang ‘to catch crabs’

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

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’ $+ pa$ $\Rightarrow$ paqabubing ‘Put on a hat! (AF.Imp)’

(ii) tunaq ‘sputum’ $+ pa$ $\Rightarrow$ 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.
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’.7

(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’.8

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):

| i.  | kagang⁶ ‘a crab’                  | pkagang ‘to crawl like a crab’ |
| j.  | kneril ‘a female’                | pkneril ‘to be womanly’        |

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⁶ 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 Jiānshi pronounce the word ‘crab’ as *kagang*.

⁷ 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).

⁸ 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-* ⇒ *ytutas* ‘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.’
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 Squliq Atayal:

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

<table>
<thead>
<tr>
<th>Sentence types</th>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Realis</td>
<td>Irrealis</td>
</tr>
<tr>
<td></td>
<td>Declarative</td>
<td>Imperative</td>
</tr>
<tr>
<td>Agent focus (AF)</td>
<td>m-; -m-; Ø</td>
<td>m- … -ay</td>
</tr>
<tr>
<td>Patient focus (PF)</td>
<td>-un; Ø</td>
<td>-ay</td>
</tr>
<tr>
<td>Locative focus (LF)</td>
<td>-an</td>
<td>-aw</td>
</tr>
<tr>
<td>Instrument focus (IF)</td>
<td>s-; Ø</td>
<td>-anay</td>
</tr>
<tr>
<td>Beneficiary focus (BF)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

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9 A stative verb seldom appears in an imperative construction, affirmative or negative.
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(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<arara’=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;\(^{10}\) 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 \(Ø\), the verbalizer \(p\)- is retained,\(^{11}\) as illustrated below:

\[
\begin{align*}
(6) & \text{ d’. } plukus + m- \Rightarrow mlukus \\
(7) & \text{ d’. } pbwax + ø \Rightarrow pbwax \\
(8) & \text{ d’. } ptara’ + -m- \Rightarrow tmara’ \\
(9) & \text{ d’. } pnep + ø \Rightarrow pnep \\
(10) & \text{ d’. } pkagang + m- \Rightarrow mkagang \\
(11) & \text{ d’. } pkneril + m- \Rightarrow mkneril
\end{align*}
\]

\(^{10}\) E.g.: \(píma\) ‘to bathe’ + \(m\)- \(⇒ \mbox{míma’}; \kat ‘to bite’ + \(-m\)- \(⇒ \kmáat; \tehuk ‘to arrive’ + \(Ø\) \(⇒ \tehuk.

\(^{11}\) In affirmative declaratives, denominal verbs containing other verbalizers, however, seem to retain these verbalizers when affixed with AF markers \(m\)- or \(-m\)-:

(i) a. \(t\anux ‘outside’ + \(s\)- \(⇒ \št\anux ‘to go outside; to stool’ + \(m\)- \(⇒ \mstt\anux
          \b. \(l\alul ‘name’ + \(s\)- \(⇒ \šl\alul ‘to name’ + \(-m\)- \(⇒ \š\y\alul
(ii) a. \(n\garux ‘bear’ + \(t\)- \(⇒ \nt\garux ‘to act as brave as a bear’ + \(m\)- \(⇒ \mnt\garux
          \b. \(n\garux ‘bear’ + \(t\)- \(⇒ \nt\garux ‘to hunt a bear’ + \(-m\)- \(⇒ \tmnt\garux
(iii) a. \(y\amil ‘shoes’ + \(k\)- \(⇒ \ky\amil ‘to put on shoes’ + \(m\)- \(⇒ \mk\y\amil
          \b. \(t\ar\i ‘knee’ + \(k\)- \(⇒ \kt\ar\i ‘to kneel down’ + \(-m\)- \(⇒ \km\t\ar\i

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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, $plkusun/plkusun/plkus$ in (6e-g), $ptara’$ vs. $ptara’/an/ptra’i$ in (8e-g), and $pkagang$ vs. $pnpun/pnpan/pnepi$ in (9e-g):

(6) e. $plkus-an=mu$ 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. $pnpun-an=mu$ 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. $pnpun-an=mu$ 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 $pnpun-i$ 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

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Denominal verbs</th>
<th>AF markers</th>
<th>Derived AF forms</th>
<th>NAF markers</th>
<th>Derived NAF forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>lukus</td>
<td>plikus</td>
<td>m-</td>
<td>m-mlkus</td>
<td>-un</td>
<td>plkusun / plkusan / plkusi</td>
</tr>
<tr>
<td>‘clothes’</td>
<td>‘to put on clothes’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tara’</td>
<td>ptara’</td>
<td>-m-</td>
<td>tmara’</td>
<td>-an</td>
<td>ptra’un / ptra’an / ptra’i</td>
</tr>
<tr>
<td>‘net’</td>
<td>‘to fish with a net’</td>
<td></td>
<td></td>
<td>-i</td>
<td></td>
</tr>
<tr>
<td>nep</td>
<td>pnen</td>
<td>ø</td>
<td>pnen</td>
<td></td>
<td>pnenun / pnenpan / pnenpi</td>
</tr>
<tr>
<td>‘rod’</td>
<td>‘to fish with a rod’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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 $en$slave ‘to make someone a slave of’, $en$large ‘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 $en$slave. (i) On the one hand, the prefixation of $en$- to the noun slave derives the verb $en$slave and thus $en$- is legitimately treated as a verbalizer. (ii) On the other hand, the meaning of the derived verb $en$slave 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 $p$-,\(^{12}\) which seems applicable to all the verbs. Consider the following examples:

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\(^{12}\) 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).
Verbs  Prefixation  Causative verbs
\begin{tabular}{|l|l|l|}
\hline
a. qaniq ‘to eat’  & + p-  & pqaniq ‘to cause someone to eat; to feed’ \\
\hline
b. hoqil ‘to die’  &  & phoqil ‘to cause someone to die; to kill’ \\
\hline
c. kut ‘to cut’  &  & pkut ‘to make someone cut/kill’ \\
\hline
d. ‘aras ‘to bring’  &  & p’aras ‘to make someone bring’ \\
\hline
e. tama’ ‘to sit’  &  & ptama’ ‘to make someone sit down’ \\
\hline
f. tuliq ‘to get up’  &  & ptuliq ‘to get someone up’ \\
\hline
\end{tabular}

Note that the causativizer \textit{p}- in Squliq Atayal resembles the verbalizer \textit{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. \textit{en}- and \textit{-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 \textit{p}- or with \textit{s-} or \textit{t-}) in Atayal can be further affixed with the causativizer \textit{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:

(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’.
Lillian M. Huang and Tali’ Hayung

(13) a. pqaniq tuba’.
   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.
   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.
   Improf.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.’

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!’

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

<table>
<thead>
<tr>
<th>Verbs</th>
<th>Causative verbs</th>
<th>AF markers</th>
<th>Derived AF forms</th>
<th>NAF markers</th>
<th>Derived NAF forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>qaniq ‘eat’</td>
<td>pqaniq ‘to feed’</td>
<td>ø</td>
<td>pqaniq</td>
<td>-an</td>
<td>pniqun / pniqan / pniqi</td>
</tr>
<tr>
<td>hoqil ‘die’</td>
<td>phoqil ‘to kill’</td>
<td>phoqil</td>
<td></td>
<td>-i</td>
<td>phqilun / phqilan / phqili</td>
</tr>
</tbody>
</table>

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. In Squiliq Atayal, the reciprocal marker p-16 is affixed to verb roots or stems, as exemplified below:

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

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

15 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).

16 The language seems to have other reciprocal markers, as exemplified below (Hayung 2008):
   (i) giba ‘to hug’ + t- ⇒ tgbia ‘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’
one argument is involved), and whether the presence and absence of the repeated consonant in reciprocal verbs makes any semantic distinction remain unclear and deserve further investigation.

Also note that the reciprocal marker $p$- shares the same form with the verbalizer and the causativizer, and that the reciprocal verbs, like denominal verbs and causative verbs, can appear in AF affirmative imperatives, AF negative imperatives, and AF negative declaratives, as exemplified below:

\[(18)\]
\begin{align*}
  a. & \quad \text{ps’inu’} \quad \text{kiy!} \\
       & \quad \text{miss:each:other.AF Part} \\
       & \quad \text{‘Miss each other!’} \\
  b. & \quad \text{laxi} \quad \text{ps’inu’!} \\
       & \quad \text{Neg.Imp miss:each:other.AF} \\
       & \quad \text{‘Don’t miss each other!’} \\
  c. & \quad \text{ini’=sami} \quad \text{ps’inu’} . \\
       & \quad \text{Neg.Decl=1PE.Nom miss:each:other.AF} \\
       & \quad \text{‘We didn’t miss each other.’}
\end{align*}

\[(19)\]
\begin{align*}
  a. & \quad \text{prraw ay!} \\
       & \quad \text{help:each:other.AF Part} \\
       & \quad \text{‘Help each other!’} \\
  b. & \quad \text{laxi prraw!} \\
       & \quad \text{Neg.Imp help:each:other.AF} \\
       & \quad \text{‘Don’t help each other!’} \\
  c. & \quad \text{ini’=sami prraw.} \\
       & \quad \text{Neg.Decl=1PE.Nom help:each:other.AF} \\
       & \quad \text{‘We didn’t help each other.’}
\end{align*}

\[(20)\]
\begin{align*}
  a. & \quad \text{pkita’!} \\
       & \quad \text{see:each:other.AF} \\
       & \quad \text{‘Look at each other!’} \\
  b. & \quad \text{laxi pkita’!} \\
       & \quad \text{Neg.Imp see:each:other.AF} \\
       & \quad \text{‘Don’t look at each other!’} \\
  c. & \quad \text{ini’=sami pkita’} . \\
       & \quad \text{Neg.Decl=1PE.Nom see:each:other.AF} \\
       & \quad \text{‘We didn’t see each other.’}
\end{align*}

Similar to some, but not all, of the Atayal regular verbs and denominal verbs containing the verbalizer $p$-, the derived reciprocal verbs mentioned above can be affixed
with the AF focus marker \( m- \) (but not \( -m- \) or \( \emptyset \)) in affirmative declaratives. Examples follow:

\[(21) \ a. \ \text{m-s'inu'=sami}^{17} \ \text{ki’ yaya'=mu krryax.} \quad \text{Rec.AF-miss=1PE.Nom Com mother=1S.Gen often} \]
\[\quad \text{‘My mother and I often miss each other.’} \]
\[(22) \ a. \ \text{m-rraw=sami ki’ rangi'=mu krryax.} \quad \text{Rec.AF-help=1PE.Nom Com friend=1S.Gen often} \]
\[\quad \text{‘My friend and I often help each other.’} \]

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

\[(21) \ b. \ \text{s<m's'inu'=ku'} \quad \text{miss<AF>miss=1S.Nom mother=1S.Gen often} \]
\[\quad \text{‘I often miss my mother.’} \]
\[(22) \ b. \ \text{r<m>raw=ku'} \quad \text{help<AF>help=1S.Nom friend=1S.Gen often} \]
\[\quad \text{‘I often help my friend.’} \]

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:

<table>
<thead>
<tr>
<th>(23)</th>
<th>Bare verbs</th>
<th>Reciprocal form in AF imperatives</th>
<th>Reciprocal form in AF declaratives</th>
<th>Non-reciprocal form in AF declaratives</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. hili’</td>
<td>phili’/pnhili’</td>
<td>mhili’/mnhili’</td>
<td>to accuse each other’</td>
<td>hmili’</td>
</tr>
<tr>
<td>b. kat</td>
<td>pkat/pkkat</td>
<td>mkat/mkkat</td>
<td>‘to bite each other’</td>
<td>kmat</td>
</tr>
<tr>
<td>c. kayal</td>
<td>pkayal/pkkayal</td>
<td>mkayal/mkkayal</td>
<td>‘to talk to each other’</td>
<td>kmayal</td>
</tr>
</tbody>
</table>

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17 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).
**Syntax and Semantics of** \( p \)- **in** Squiliq Atayal

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td>kut</td>
<td>pkut/pkkut</td>
<td>mkut/mkkut</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘to cut/kill each other’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>kmut ‘to cut’</td>
</tr>
<tr>
<td>e.</td>
<td>kzyap</td>
<td>pkzyap/pkkzyap</td>
<td>mkzyap/mkkzyap</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘to wrestle each other’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>kmzyap ‘to wrestle’</td>
</tr>
<tr>
<td>f.</td>
<td>sayu’</td>
<td>psayu’/pssayu’</td>
<td>msayu’/mssayu’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘to quarrel with each other’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>smayu’ ‘to argue’</td>
</tr>
<tr>
<td>g.</td>
<td>soya’</td>
<td>psoya’</td>
<td>mssoya’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘to be in love with each other; to yearn for each other’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>smoya’ ‘to like’</td>
</tr>
<tr>
<td>h.</td>
<td>spung</td>
<td>pspung/psspung</td>
<td>mspung/mpsspung</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘to compete’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>smpung ‘to measure; to judge’</td>
</tr>
</tbody>
</table>

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’ squiliq 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

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18 It is puzzling that while most reciprocal forms listed here have two alternative forms, the verb soya’ only allows the form psoya’, 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.
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

<table>
<thead>
<tr>
<th>Bare verbs</th>
<th>Reciprocal verbs in AF imperatives</th>
<th>Reciprocal forms in AF declaratives</th>
<th>Non-reciprocal forms in AF declaratives</th>
</tr>
</thead>
<tbody>
<tr>
<td>hili’ ‘to accuse’</td>
<td>phili’/phhili’</td>
<td>mhili’/mhhili’</td>
<td>hnil’</td>
</tr>
<tr>
<td>kat ‘to bite’</td>
<td>pkat/pkkat</td>
<td>mkat/mkkat</td>
<td>kmat</td>
</tr>
<tr>
<td>kayal ‘to talk’</td>
<td>pkayal/pkkayal</td>
<td>mkayal/mkkayal</td>
<td>kmayal</td>
</tr>
<tr>
<td>kut ‘to cut’</td>
<td>pcut/pkkut</td>
<td>mkut/mkkut</td>
<td>kmut</td>
</tr>
<tr>
<td>kzyap ‘to wrestle’</td>
<td>pkzyap/pkkzyap</td>
<td>mkzyap/mkkzyap</td>
<td>kmzyap</td>
</tr>
<tr>
<td>raw ‘to help’</td>
<td>praw/prraw</td>
<td>mraw/mrraw</td>
<td>rmaw</td>
</tr>
<tr>
<td>sayu’ ‘to argue’</td>
<td>psayu’/pssayu’</td>
<td>msayu’/mssayu’</td>
<td>smayu’</td>
</tr>
<tr>
<td>soya’ ‘to like’</td>
<td>pssoya’</td>
<td>mssoya’</td>
<td>smoya’</td>
</tr>
<tr>
<td>spung ‘to judge’</td>
<td>pspung/psspung</td>
<td>mspung/msspung</td>
<td>smung</td>
</tr>
<tr>
<td>s’inu’ ‘to miss’</td>
<td>ps’inu’/pss’inu’</td>
<td>ms’inu’/mss’inu’</td>
<td>sm’inu’</td>
</tr>
<tr>
<td>bihiy ‘to beat’</td>
<td>pbhiyi/pbbhiyi</td>
<td>mbhiyi/mbbhiyi</td>
<td>mhiyi</td>
</tr>
<tr>
<td>biq ‘to give’</td>
<td>pbiq/pbbiq</td>
<td>mbiq/mbbiq</td>
<td>miq</td>
</tr>
<tr>
<td>buling ‘to throw’</td>
<td>pbuling/pbbuling</td>
<td>mbuling/mbbuling</td>
<td>muling</td>
</tr>
<tr>
<td>kita’ ‘to see’</td>
<td>pkita’/pkkita’</td>
<td>mkita’/mkkita’</td>
<td>mita’</td>
</tr>
<tr>
<td>laqux ‘to win’</td>
<td>plaqux/pllaqux</td>
<td>mlaqux/mlaqux</td>
<td>maqux</td>
</tr>
<tr>
<td>lamu’ ‘to choose’</td>
<td>plamu’/pllamu’</td>
<td>mlamu’/mlamu’</td>
<td>mamu’</td>
</tr>
</tbody>
</table>

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 \( \textit{musa’} ‘to go’/ \textit{mwah} ‘to come’ \) and existential verbs \( \textit{nyux}/\textit{cyux} ‘to exist; to possess’ \).\(^{20}\) 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. \( p^-\text{qwax}=\text{ku’} \) pyatu’ qani.
   Irr-wash.AF=1S.Nom bowl this
   ‘I will wash this bowl.’

\(^{20}\) While existential verbs \( \textit{nyux}/\textit{cyux} ‘to exist; to possess’ \) do not have irrealis forms, the irrealis forms of motion verbs \( \textit{musa’} ‘to go’/\textit{mwah} ‘to come’ \) are made with the addition of the vowel \( a \); hence, \( \textit{mausa’} ‘will go’ and \textit{mawah} ‘will come’ \).
The irrealis marker $p$- only co-occurs with AF verbs; it disappears in NAF constructions. Consider:

(28) a. $p$-tngasal=sami kira'.
Irr-build:house.AF=1PE.Nom later
‘We will build a house later.’

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.’

(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.)’

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**

<table>
<thead>
<tr>
<th>Bare verbs / Denominal verbs</th>
<th>AF</th>
<th>NAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>qwax ‘to wash’</td>
<td>p-qwax</td>
<td>q&lt;-&gt;wax</td>
</tr>
<tr>
<td>biru’ ‘to write’</td>
<td>p-biru’</td>
<td>m-iru’</td>
</tr>
<tr>
<td>tngsal ‘to build a house’</td>
<td>p-tngsal</td>
<td>t&lt;-&gt;ngasal</td>
</tr>
<tr>
<td>skilux ‘to heat’</td>
<td>p-skilux</td>
<td>Ø-skilux</td>
</tr>
</tbody>
</table>

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.’
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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 papaquwas in (31a) are identical, papaquwas in (31a) and papaquwas in (31a’-a’) 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-. 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 Squliq 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:

<table>
<thead>
<tr>
<th>Bare verbs</th>
<th>Irrealis verbs / Future events</th>
<th>Nominals / Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. baziy ‘to buy’</td>
<td>p-baziy ‘will buy’</td>
<td>pbaziy ‘merchant’</td>
</tr>
<tr>
<td>b. hgup ‘to perform magic’</td>
<td>p-hgup ‘will perform magic’</td>
<td>phgup ‘witch; shaman’</td>
</tr>
<tr>
<td>c. luhuw ‘to string; to recite’</td>
<td>p-luhuw ‘will recite’</td>
<td>pluhuw ‘storyteller’</td>
</tr>
<tr>
<td>d. qalup ‘to hunt’</td>
<td>p-qalup ‘will hunt’</td>
<td>pqalup ‘hunter’</td>
</tr>
<tr>
<td>e. qul ‘to snatch’</td>
<td>p-qul ‘will snatch’</td>
<td>pqul ‘robber’</td>
</tr>
<tr>
<td>f. qumah ‘to cultivate’</td>
<td>p-qumah ‘will cultivate’</td>
<td>pqumah ‘farmer; peasant’</td>
</tr>
<tr>
<td>g. quriq ‘to steal’</td>
<td>p-quriq ‘will steal’</td>
<td>pquriq ‘thief’</td>
</tr>
</tbody>
</table>

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

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, Squliq 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.22

### 3. Identification of *p*-

As discussed above, there are five homophonous *p*-prefixes in Squliq 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:

<table>
<thead>
<tr>
<th>(34)</th>
<th>Original form</th>
<th>Verbalizer</th>
<th>Causativizer</th>
<th>Reciprocal</th>
<th>Irrealis</th>
<th>Nominalizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>qwas ‘song’</td>
<td>pqwas</td>
<td>p(p)qwas</td>
<td>--</td>
<td>pqwas</td>
<td>p(p)qwas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘to sing’</td>
<td>‘to make … sing’</td>
<td></td>
<td>‘will sing’</td>
<td>‘singer’</td>
</tr>
<tr>
<td>b.</td>
<td>qaniq ‘to eat’</td>
<td>--</td>
<td>pqaniq</td>
<td>--</td>
<td>pqaniq</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘to feed’</td>
<td>‘will eat’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>baziy ‘to buy’</td>
<td>--</td>
<td>pbaziy</td>
<td>--</td>
<td>pbaziy</td>
<td>pbaziy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘to make … buy’</td>
<td></td>
<td></td>
<td>‘will buy’</td>
<td>‘merchant’</td>
</tr>
</tbody>
</table>

22 In Squliq Atayal, case markers are often omitted, especially in young people’s speech.
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’.
    \(\text{Irr-eat.AF=1S.Nom\ fish\ this\ later}\)
    ‘I will eat (this fish) later.’

b. \(p\)-qaniq=saku’ laqi’=su’ kira’.
    \(\text{Cau-eat.AF=1S.Nom\ child=2S.Gen\ later}\)
    ‘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.
    \(\text{eat-NAF=1S.Gen\ later\ fish\ this}\)
    ‘I will eat the fish later. (The fish will be eaten by me later.)’

b’. p-niq-an=maku’ kira’ laqi’=su’.
    \(\text{Cau-eat-NAF=1S.Gen\ later\ child=2S.Gen}\)
    ‘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’.
    \(\text{Irr-cultivate=1S.Nom\ later}\)
    ‘I will cultivate (farms) later.’

b. lokah (qu’) pqumah qani.
    \(\text{diligent.AF\ Nom\ farmer\ this}\)
    ‘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 Squliq 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:

<table>
<thead>
<tr>
<th></th>
<th>Inflectional</th>
<th>Derivational</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>relevant to the syntax</td>
<td>not relevant to the syntax</td>
</tr>
<tr>
<td>2</td>
<td>obligatory</td>
<td>optional</td>
</tr>
<tr>
<td>3</td>
<td>not replaceable by simple word</td>
<td>replaceable by simple word</td>
</tr>
<tr>
<td>4</td>
<td>same concept as base</td>
<td>new concept</td>
</tr>
<tr>
<td>5</td>
<td>relatively abstract meaning</td>
<td>relatively concrete meaning</td>
</tr>
</tbody>
</table>
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.\(^{23}\) However, in reality, it is also possible to involve

\(^{23}\) 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’ $squilq $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. 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.’

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

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

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

<table>
<thead>
<tr>
<th>Surface form</th>
<th>Meanings</th>
<th>Derivation</th>
<th>Functions of $p$-</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 plukus</td>
<td>‘to dress’</td>
<td>p-lukus</td>
<td>Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘will dress’</td>
<td>p-p-lukus</td>
<td>Irrealis-Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘make s.o. dress’</td>
<td>p-p-lukus</td>
<td>Causativizer-Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘will make s.o. dress’</td>
<td>p-p-p-lukus</td>
<td>Irrealis-Causativizer-Verbalizer</td>
</tr>
<tr>
<td>2 ptara’</td>
<td>‘to fish with a net’</td>
<td>p-tara’</td>
<td>Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘will fish with a net’</td>
<td>p-p-tara’</td>
<td>Irrealis-Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘to make s.o. fish with a net’</td>
<td>p-p-tara’</td>
<td>Causativizer-Verbalizer</td>
</tr>
<tr>
<td></td>
<td>‘will make s.o. fish with a net’</td>
<td>p-p-p-tara’</td>
<td>Irrealis-Causativizer-Verbalizer</td>
</tr>
</tbody>
</table>
Syntax and Semantics of $p$- in Squliq Atayal

5. Conclusion

In this paper, we have investigated the syntactic distributions and semantic functions of five homophonous prefixes $p$- in Squliq 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 Squliq Atayal

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

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
References


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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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泰雅語是台灣南島語的一支，本篇論文主要探討賽考利克方言中同音詞綴 $p$- 的語法及語意特質。文中發現詞綴 $p$- 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

Syntax and Semantics of $p$- in Squiliq Atayal

赛考利克泰雅语前缀 $p$- 之语法及语意研究

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泰雅语是台湾南岛语的一支，本篇论文主要探讨该语言之赛考利克方言中同音词缀 $p$- 的语法及语意特质。文中发现词缀 $p$- 有时为动词化词缀、使役词缀、相互词缀、未实现貌词缀、或表主事者之名物化词缀。这些歧异功能可藉由词缀 $p$- 出现在不同语法结构中而区别之。本篇论文亦针对这些词缀 $p$- 同时出现时之限制加以探讨。

关键词：泰雅语，南岛语，同音词，前缀，动词化，使役词，相互词，未实现貌，名物化