Seediq reciprocals and their history

Izumi Ochiai

Abstract: The Atayalic subgroup of the Austronesian language family includes two languages, Seediq and Atayal. This paper focuses on the Paran dialect of Seediq. The first part of this paper introduces the reciprocal constructions in Paran Seediq from a descriptive perspective. Paran Seediq has two pairs of reciprocal forms; one with the reduplication (i) mVCV- → pVCV- which has been reported in previous literature, and (ii) mVsV- → pVsV-; the meanings for which belong to a certain semantic class. The second part argues that the reciprocal prefix (ii) *mVsV-/*pVsV- can be reconstructed in Proto-Atayalic on the basis of evidence from Taroko Seediq, the other Seediq dialect and from Atayal.

Key words: Formosan languages, Seediq, Atayal, reciprocal, historical linguistics

1 Introduction

Reciprocal constructions express a mutual action or situation between two or more participants. However, the semantics and (morpho-)syntax of reciprocal constructions differ from language to language. This section gives a brief overview of the reciprocal constructions discussed in two previous papers: Haspelmath (2007), which focused on a typological explanation of reciprocal constructions, and Lichtenberk (2000), which examined the reciprocal constructions in a particular language subgroup, the Oceanic subgroup of the Austronesian language family.

1.1 Reciprocal typology

Haspelmath (2007:4, 18-19) classified reciprocal constructions as multiclausal or monoclusal, with the latter being further divided into lexical reciprocals and grammatical reciprocals. Lexical reciprocals are non-derived lexemes denoting mutual configurations. Haspelmath noted that “all languages seem to have a substantial number of simple words (verbs, adjectives and nouns) that denote mutual configurations by themselves, without occurring in a special grammatical (morphological or syntactic construction)” and that lexical reciprocals comprise of small sets of semantic classes such as 1. social actions (“marry”); 2. competitions (“quarrel,” “fight,” “negotiate,” “argue”); 3. joint actions (“communicate,” “play chess,” “consult”); 4. connections (“combine,” “unite,” “acquaint,” “compare,” “mix”); 5. division (“separate,” “distinguish”); 6. relations of...
Grammatical reciprocals are divided into anaphoric reciprocals and verb-marked reciprocals. Anaphoric reciprocals introduce anaphoric expressions such as “each other” (1), which refer to the participants in the reciprocal situation.

(1) English (Haspelmath 2007:8)
The friends trust each other.

Rather than using anaphoric expressions, verbs-marked as reciprocals use affixes or clitics to indicate reciprocity. For example, Japanese uses the suffix -at (2).

(2) Japanese (Alpatov and Nedjalkov 2007:1032)
Taroo to Akiko wa aisi-at-te-iru.
Taro and Akiko TOP love-REC-CONT-NPAST
“Taro and Akiko love each other.”

Haspelmath (2007:14) also pointed out that verb-marked reciprocals in all languages have forms derived from transitive bases and that those derived from intransitive bases are rare. From this discussion, Haspelmath gave the following language universal: “If a language has verb-marked reciprocals based on intransitive verbs, it also has verb-marked reciprocals based on transitive verbs.”

1.2 Reciprocal constructions in Oceanic languages
Lichtenberk (2000) detailed the classification of reciprocal constructions in Oceanic languages from the Austronesian language family and identified the following types: reciprocal situations, chaining situations, collective situations, situations where the participants are in a converse relationship to each other, distributed situations, repetitive functions, depatientive functions, noun-based derivations, and middle uses. Depatientive functions mainly concerned with syntax whereas noun-based derivations are mainly concerned with morphology, while others are mainly concerned with semantics. Lichtenberk’s classifications are shown in Table 1 as follows.

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1 The list of semantic classes for lexical reciprocal is mentioned on page 4 and 19 (Haspelmath 2007). In these pages, different semantic classes and example verbs are presented. However, as some semantic classes overlapped and some words belonged to different classes, the author rearranged the list and the example verbs according to my understanding of the paper.
Table. 1: Reciprocals in Oceanic languages (Lichtenberk 2000)

<table>
<thead>
<tr>
<th>Semantics</th>
<th>(3)</th>
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<th>(6)</th>
<th>(7)</th>
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<th>(9)</th>
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<tr>
<td>Reciprocal situations</td>
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<td>Chaining situations</td>
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<td>Collective situations</td>
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<td>Converse relations</td>
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<td>Distributed situations</td>
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<td>Repetitive functions</td>
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<td>Middle uses</td>
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<table>
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<tr>
<th>Syntax</th>
<th>(10)</th>
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<tr>
<td>Depatientive functions</td>
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</table>

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<tr>
<th>Morphology</th>
<th>(11), (12)</th>
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<tbody>
<tr>
<td>Noun-based derivations</td>
<td></td>
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</tbody>
</table>

For each type, the examples cited in Lichtenberk (2000) are given below. For most semantic types, as the meaning of the reciprocal construction is straightforward, only examples are listed and no further explanation is given. Lichtenberk glosses the reciprocal marker as PR or the "plurality of relation"; however, this has been modified to REC in this paper. All examples shown here are verb-marking types.

(3) Reciprocal situations

To‘aba‘ita (Lichtenberk 2000:35)
Roo wane kero kwai-kumu-i.
“Two men are punching each other.”

(4) Chaining situations

To‘aba‘ita (Lichtenberk 2000:35)
Wela kera futa kwai-suli.
“The children (siblings) were born in quick succession (in successive years).”

(5) Collective situations

Hoava (Davis 1997:283)
vari-paqahi-ni-a gami sa gugusu.
“They left the village together.”

In converse relations, both participants in the reciprocal construction are involved in an action where one is the agent and the other is a patient.

(6) Converse relation

Boumaa Fijian (Dixon 1988:177)
Erau sa vei-‘oti ti’o o Sepo vata ‘ei Elia
3DU ASP REC-cut CONT ART Sepo together with Elia
“Sepo and Elia are involved in an activity of (hair) cutting.”
In distributed situations, each event occurs in a different locality or has different directionality.

(7) Distributed situations  
    Fijian (Milner 1972:113)  
    . . . era sā mani vei-suka-yaki ki na nodra koro.  
    3PL ASP then REC-return/disperse-REC to ART their village  
    “(When the ceremonial exchange was over) they then dispersed (and returned) to their villages.”

(8) Repetitive function  
    Mekeo (Jones 1993:494)  
    Go-bi-noi-abala.  
    2PL-REC-request-very  
    “You are always/constantly asking for something.”

The next semantic type, “middle uses” refers to a reflexive use. In the example (9), the prefix glossed as MID is the reciprocal marker.

(9) Middle uses  
    Futunan (Moyse-Faurie 2007)  
    E kay fe-‘umo pe kau moemiti fakatotonu pe le’ai.  
    NS 1SG MID-pinch or 1SG dream really or not  
    “I pinch myself to know if I am dreaming or not.”

In a depatientive function, there is no overt direct object. However, the object is either implied or it typically denotes a general or non-specific object.

(10) Depatientive function  
    Lichtenberk (2000:42)  
    Roo wane kero kwai-laba-ta’i.  
    two man 3DU:NONFUT REC-affect.negatively-VT  
    “The two men harm (people), spoil, damage (things)”

In noun-based derivations, nouns denoting kin-terms or a few other relational nouns such as “friend” are affixed with reciprocal markers. Lichtenberk (2000:44) noted that “they refer to sets of two or more individuals that are in certain converse relations to each other as determined by the base noun.” Some relations are symmetrical (e.g., “spouse” is the relationship of husband to wife and wife to husband) as in (11) and others are asymmetrical (e.g., the relationship between a parent and a child) as in (12).

(11) Noun based derivations (symmetrical)  
    Fijian (Schütz 1985:206)  
    Erāū vēi-wati-ni.  
    3DU REC-spouse-REC  
    “They are husband and wife.”
1.3 Seediq reciprocal overview

Typologically, Paran Seediq has only verb-marked reciprocal constructions. Seediq has no anaphoric reciprocals and the reciprocal constructions are verb-marked with a prefix. Lichtenberk’s (2000) detailed classification of reciprocals in Oceanic languages is applicable to Paran Seediq (an Austronesian language from Taiwan). As these languages all belong to the Austronesian language family, they have some features in common. However, Oceanic languages tend to have more versatile usage of reciprocal constructions than Seediq. In terms of semantics, most Seediq reciprocals are simply the “reciprocal situations” as classified by Lichtenberk, with a few being “collective situation” types. Other types of the semantic category are not observed in Seediq reciprocal constructions; for example, the “depatientive function” in the syntactic category is not seen in Seediq reciprocal constructions, even though Seediq has “noun based derivations” or “kin-term based derivations.”

The purpose of this paper is two-fold: descriptive and historical. First it is proposed that there are two pairs of reciprocal prefixes in Seediq, (i) mVCV-/pVCV- and (ii) mVsV-/pVsV- for which the distinctive features are presented. (i) mVCV-/pVCV- has been reported to be a reciprocal marker in a previous studies (Asai 1953, Holmer 1996); however, (ii) mVsV-/pVsV- has not. This paper proposes that (i) mVCV-/pVCV- has corresponding transitive verbs, so it is a typical reciprocal marker; whereas (ii) mVsV-/pVsV- lacks transitive verbs, therefore it is a less typical reciprocal marker and tends to resemble lexical reciprocals in terms of the semantic classes involved. Another characteristic of (ii) mVsV-/pVsV- is that these pairs are used to express human relationships, which correspond to Lichtenberk’s (2000) “noun-based derivations.”

The second purpose of this paper is to reconstruct a newly recognized reciprocal marker mVsV-/pVsV- in the proto-language (Proto-Atayalic), first by comparing Paran Seediq with Taroko Seediq, then by comparing Seediq with its genealogically closest language, Atayal.

2 Seediq background

Seediq is one of those Austronesian languages spoken in Taiwan that are collectively called Formosan languages. Seediq belongs to the Atayalic subgroup, which is one of the first order branches of Proto-Austronesian (Blust 1999) and includes two languages, Atayal and Seediq, the latter of which can be further divided into two dialects, Paran and Taroko (Ogawa and Asai 1935). The Seediq tribe’s population is about 30,000; however, the number of speakers has been steadily decreasing.

This paper mainly focuses on Paran Seediq. Paran Seediq data in this paper was collected by the author unless otherwise cited. Paran Seediq is also compared to Taroko Seediq to reconstruct the proto-Seediq forms. The Taroko Seediq data is from previous studies such as Pecoraro (1977) and Tsukida (2009). The proto-Seediq forms are then
compared with Atayal, the closest language to Seediq.

Before the discussion, a few phonological and grammatical remarks about Paran Seediq are provided as background information. Paran Seediq has five vowels /a, e, i, o, u/; one diphthong /ui/; two semivowels /j (written as y), w/; and 16 consonants /p, b, t, d, k, g, q, ts (written as c), s, x, h, l, r, m, n, y/. The syllable structure is either CV or CVC; however, CVC is only allowed in final syllables. Words typically have two syllables with a CVC(C) structure and a minimal word (root) has two syllables (Yang 1976).

There is vowel weakening in pre-stress syllables. Stress falls on the penultimate syllable, and the preceding syllables reduce to u in Paran Seediq. For example, títak “cultivate (land)” becomes tuták-i “cultivate! (IMP).” Prefixes also undergo vowel weakening. Because they are attached to roots with two or more syllables, they are always before the accented syllable. For example, the Seediq stative marker is mV-. There is a root tilux “hot,” which is not used independently but must be attached with a stative prefix and hence becomes mu-tilux.

A glottal stop surfaces phonetically before a vowel initial root if it is attached with a prefix. In addition, the glottal stop triggers regressive vowel assimilation: the vowel after the glottal stop, which is also a stressed vowel, is copied to the preceding vowel. For instance, if there is no such phonological rule, icu “fear” surfaces as mu-icu with the application of vowel weakening. However, the vowel initial root, icu, surfaces as ícu if prefixed, so it has to be mu?ícu. But the glottal stop triggers regressive vowel assimilation, so the correct from is mi-ícu (See also (22)). This glottal stop, however, is frequently dropped in natural speech.

Another glottal consonant, h, triggers similar vowel assimilation. If an h stands at the onset of a penultimate vowel of more than two syllable words, the penultimate vowel and the antepenultimate vowel are the same. For example, pehepah “flower,” has two e’s around the h. Nevertheless, this rule is not strictly applied. Sometimes a form that has vowel weakening is another possibility; for example, qubeheni “bird” has vowel assimilation but a form with vowel weakening, qubuheni has also been observed.

In the 1920s, word-final l and r still existed as recorded in Asai (1953). But these segments have now changed to an n. For example, muqedil “woman” in Asai’s transcription is muqedin in modern Paran Seediq.3

Ochiai (2016) noted that Seediq verbs of high transitivity show an alternation between four types of voice; an actor voice and three others are undergoer voices: and verbs with this voice paradigm are treated as transitive. Conversely, verbs with low transitivity such as stative construction, non-volitional construction, and reciprocal construction are not categorized into this voice paradigm. Nonetheless, these constructions all belong to the same type as actor voice in terms of the case-marking of the arguments; therefore, these constructions are treated as a special kind of actor voice in this paper.

Seediq actor voice construction has predicate-initial and subject-final word order

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2 However, I use phonetic transcription for the glottal stop that appears before a vowel initial root when it is prefixed.

3 Throughout this paper, transcriptions of words from previous studies have been slightly modified. When the original work is written in a language other than English, it has been translated into English by the present author.
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(VS or VOA4). There are independent pronouns and corresponding bound pronouns. The bound pronouns appear in a second position as enclitics (indicated by “~”). A typical actor voice marker is <um>. An actor voice construction with a non-pronoun actor is shown in (13a). An example with a pronoun actor is in (13b).

(13) a. d<um>ayo yaku Mona.
   help<AV.PRES> 1SG.PRON Mona
   “Mona helps me.”

b. d<um>ayo =ku Mona.
   help<AV.PRES> =1SG.NOM Mona
   “I help Mona.”

There are four negators in Paran Seediq (Chen 1996). The relevant negators in this paper are ini (verbal negation), uxe (nominal negation, negation of volition), and iya (prohibitive), all of which stand in the clause initial position. The choice of the negators determines the parts of speech for the following word or phrase; for example, the negators ini and the prohibitive iya precede verbs. In addition, negators require a special inflection on the verb, which is referred to as connegative form, which is the same form as the imperative. For verbs with the infix <um>, the connegative is a zero form, meaning that the infix drops. The negative construction for (13a) is shown in (14); if a connegative form is not used, the sentence is unacceptable. For example, the <um> prefixed form cannot be used after ini (15).

(14) ini dayo yaku Mona.
    NEG help<AV.CONNEG> 1SG.PRON Mona
    “Mona does not help me.”

(15) *ini d<um>ayo yaku Mona.
    NEG help<AV.PRES> 1SG.PRON Mona
    “Mona does not help me.”

The negator uxe also precedes the verb but the meaning is not the same with ini. In this case, the verb negated by uxe indicates the speaker has no intention of doing the action. The negator uxe is also different from ini and iya in that it does not precede a connegative form; if the negator in (14) is replaced by uxe, it is unacceptable as shown in (16).

(16) *uxe dayo yaku Mona.
    NEG help<AV.CONNEG> 1SG.PRON Mona
    “Mona does not me.”

This requires the verb to be in an indicative form such as infixation by <um> as in (17).

(17) uxe d<um>ayo yaku Mona.
    NEG help<AV.PRES> 1SG.PRON Mona
    “Mona has no intention to help me.”

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4 S indicates the subject of an intransitive verb and A indicates the subject of a transitive verb.
The negator uxe has another usage as a nominal negator. In this construction, uxe precedes a noun, noun phrase or gerund. In (18), the negator precedes the noun bale “truth.” The sentence is incorrect if the other negator ini is used (19). Suppose the word class for bale is uncertain, the co-occurrence of the negators uxe or ini can determine the class. If uxe is used, it is a noun; if ini is used, it is a verb.

(18) uxe bale kiya.  
NEG truth that  
“That is not true.”

(19) *ini bale kiya.  
NEG truth that  
“That is not true.”

3 Reciprocals with reduplication: mVCV-/pVCV-

3.1 Previous studies

Asai’s (1953:21) data collected in 1927 found that reciprocity was expressed by mutu followed by a reduplication of the first syllable of the root, including its consonant and vowel. Here, Asai’s mutu in the prefix appeared to be a weakened vowel that corresponds to u in modern Paran Seediq. In (20a), the initial syllable do of the root doi is reduplicated and in (20b), the initial syllable qa of the root qapah is reduplicated.

(20) Asai (1953:21)  
a. doi “grasp”  
mutudo-doi “grasp each other’s hands”  
b. qapah “adhere”  
mutuqa-qapah “adhere to each other”

However, modern Paran Seediq further reduces the vowels in the reduplicated syllable: the prefix is schematically presented as mVCV- in this paper in which the C indicates a reduplicated consonant and V indicates a weakened vowel. mVCV- has a pair pVCV-, which is used as an imperative or connegative (the form after a negator) and the prefix mVCV- is used elsewhere (Holmer 1996). The mVCV-/pVCV- pair is in (21) and these contrastive forms are respectively called “indicative” and “non-indicative” in this paper.

(21) Holmer (1996:201)  
cebu “shoot”  
a. mucu-cebu “shoot each other”  
b. pucu-cebu “shoot each other (IMP and CON)”

If a root begins with a vowel, the following consonant is reduplicated after mV- or pV-. In this case, the root begins with a latent glottal stop as vowel assimilation is

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5 The pairing of m and p forms is observed in the grammar of Austronesian languages (Blust 2013). In Paran Seediq, the m/p pairing is particular to reciprocal and some stative forms. The former is used for indicative markers, the latter for non-indicative markers.

6 The forms have been slightly modified by the present author.
The negator uxe has another usage as a nominal negator. In this construction, uxe precedes a noun, noun phrase or gerund. In (18), the negator precedes the noun bale "truth." The sentence is incorrect if the other negator ini is used (19). Suppose the word class for bale is uncertain, the co-occurrence of the negators uxe or ini can determine the class. If uxe is used, it is a noun; if ini is used, it is a verb.

(18) uxe bale kiya .
    NEG truth that "That is not true."
(19) * ini bale kiya .
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(21) Holmer (1996:201)
   a. mucu-cebu “shoot each other”
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3.2 Further description of mVCV-/pVCV-

The reciprocal prefix mVCV-/pVCV- is quite productive as it can attach to verbs when the action is understandable and has mutual meaning in Seediq culture. The verbs that can be attached with the reciprocal prefix mVCV-/pVCV- are shown in the middle column of Table 2. The table includes the forms in (20) and (21). Some forms are from Ochiai (2016:69).

Notably, these verbs with the reciprocal prefix mVCV-/pVCV- have corresponding actor voice forms with the infix <um>. In other words, they have transitive verb forms. The transitive verbs are shown in the right column in Table 2. The transitive counterparts here show the actor voice in the present tense form, which is attached with the infix <um>. The infix, however, undergoes some phonological changes: besides <um>, it appears as <m> before a vowel initial root, an <um> replaces b in a root that begins with b, or it is inapplicable to a historically reduplicated root. These phonological changes are mentioned in the footnote. A typical example of reciprocal construction is in (23), which is an indicative sentence. In this case, the prefix mVCV- is used: the prefix pVCV- is inappropriate in this sentence as in (24). 7

(22) Ochiai (2016:69)
   a. ajan (?ajan) “take”
      mu ?ajan “take each other”
   b. emux (?emux) “embrace”
      mune-?emux “embrace each other”

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7 However, the author has observed that a consultant in the 50s (younger generation of native speakers) tends to use the pVCV- form for both indicative and non-indicative sentences.
Table 2: Verbs with the reciprocal prefix mVCV-/pVCV-

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>an “take”</td>
<td>muja-&lt;m&gt;an</td>
<td>&lt;m&gt;an8</td>
</tr>
<tr>
<td>emux “embrace”</td>
<td>mume-&lt;m&gt;emux</td>
<td>&lt;m&gt;emux</td>
</tr>
<tr>
<td>bari “buy”</td>
<td>mubu-bari</td>
<td>&lt;m&gt;ari9</td>
</tr>
<tr>
<td>ciyuk “respond”</td>
<td>mucu-ciyum</td>
<td>ciyum</td>
</tr>
<tr>
<td>dayo “help”</td>
<td>mudu-dayo</td>
<td>d&lt;um&gt;ayo</td>
</tr>
<tr>
<td>beebu “hit”</td>
<td>mubu-beebu</td>
<td>beebu10</td>
</tr>
<tr>
<td>doi “grasp”</td>
<td>mudo-doi</td>
<td>d&lt;um&gt;oi</td>
</tr>
<tr>
<td>gatuk “peck”</td>
<td>mugu-gatuk</td>
<td>g&lt;um&gt;atuk</td>
</tr>
<tr>
<td>hetun “obstruct”</td>
<td>mhu-hetun</td>
<td>h&lt;um&gt;etun</td>
</tr>
<tr>
<td>lawa “call”</td>
<td>mulu-lawa</td>
<td>l&lt;um&gt;awa</td>
</tr>
<tr>
<td>qapah “stick”</td>
<td>muqu-qapah</td>
<td>q&lt;um&gt;apah</td>
</tr>
<tr>
<td>qita “see”</td>
<td>muqu-qita</td>
<td>q&lt;um&gt;ita</td>
</tr>
<tr>
<td>seli “gather”</td>
<td>musu-seli</td>
<td>s&lt;um&gt;eli</td>
</tr>
<tr>
<td>talañ “compete”</td>
<td>mutu-talañ</td>
<td>t&lt;um&gt;alañ11</td>
</tr>
<tr>
<td>taus “beckon”</td>
<td>mutu-taus</td>
<td>t&lt;um&gt;aus</td>
</tr>
<tr>
<td>teluy “touch”</td>
<td>mutu-teluy</td>
<td>t&lt;um&gt;eluy</td>
</tr>
<tr>
<td>tuujuh “kiss”</td>
<td>mutu-tuujuh</td>
<td>t&lt;um&gt;uguh</td>
</tr>
</tbody>
</table>

(23) **mu**<sub>du</sub>-**dayo** deheya.  
REC-help 3 PL.PRON  
“They help each other.”

(24) * **pu**<sub>d</sub>-**dayo** deheya.  
REC-help 3 PL.PRON  
“They help each other.”

If a sentence is non-indicative, the prefix pVCV- is used. A non-indicative sentence in Paran Seediq includes imperative12, prohibitive, and negative constructions. The neg-

---

8 If a root is vowel initial, the infix <um> is attached before the root and the vowel u is deleted (as in <cm>an “take” and <m>emux “embrace”). The expected forms, such as uman or umemux, are excluded due to phonotactics. As Yang (1976) explained, a vowel initial antepenultimate syllable, that is, V.CV.CV(C) is not allowed in Paran Seediq, so the antepenultimate vowel is deleted.

9 Here, nasal substitution, is observed. For a root that has initial labial stops p and b, the labial stops are substituted with a nasal m when it is attached with the infix <um> (Ochiai 2016:126-127).

10 The root is historically reduplicated form. Of the two b’s, the first is reduplicated (Ochiai 2016:110). A historically reduplicated root is inapplicable to affixation with the actor voice present marker <um>.

11 This form is exceptional in that it is used as an intransitive verb regardless of the infix <um> which indicates high transitivity. The verb itself has meanings such as “try,” “taste,” “compete,” and “run.” However, if attached with an actor voice marker <um>, t<um>alañ solely means “run.” If attached with an undergoer voice marker, it means “try.”

12 Undergoer voices have hortative as well as imperative forms.
ative construction for (23) is presented in (25); however, the sentence is unacceptable if mVCV- is used instead, as in (26).

(25) ini *pudu-dayo deheya.
    NEG REC-help 3PL.PRON
    “They do not help each other.”

(26) *ini mudu-dayo deheya.
    NEG REC-help 3PL.PRON
    “They do not help each other.”

In (23) and (25), the participants of helping each other are either actors or patients. There is no object in the reciprocal construction and the subject needs to be plural. It can be a plural form of a pronoun such as deheya (3PL.PRON), personal names in a conjunction such as Mona daha Obi (Mona CONJ Obi) “Mona and Obi,” or a word that has plural connotations (e.g., seediq “a person” or “people”).

Sometimes two participants are solely actors who do something to an object. In this case, an object appears in a reciprocal construction. In (27), a participant is engaged in taking another participant’s louse; here, the object quhi “louse” appears. The two participants’ actions are mutual as they affect each other’s body parts.

(27) muja-?angan quhiïq deheya.
    REC-take louse.on.head 3PL.PRON
    “They take the louse from each other’s heads.”

As example (27) is an indicative sentence, the prefix is mVCV-. The prefix pVCV- is used in a non-indicative sentence (28) with prohibitive construction.

(28) iya *puja-aegan quhiïq.
    PROH REC-take louse.on.head
    “Do not take the louse from each other’s heads.”

The meaning of the reciprocal construction can be collective but it is rare; participants do not affect each other but are engaged in an action together with other participant(s), as shown in (29).

(29) musu-seli =ta uyuy hacuso.
    REC-gather =1INC backyard police.box
    “We (inclusive) gather at the backyard of the police box.”

As example (29) is an indicative sentence, the prefix is mVCV-. A non-indicative counterpart with imperative use is shown in (30) in which the prefix is pVCV-.

(30) pusu-seli =ta uyuy hacuso.
    REC-gather =1INC backyard police.box
    “Let’s gather at the backyard of the police box.”

13 Paran Seediq has no marker that distinguishes plurality for common nouns; however, pronouns have a singular/plural distinction.
14 hacuso is a loanword from Japanese, 派出所 (hashutsusho).
In the examples of reciprocal construction with collective meaning, (29) and (30), there is no object. If participants are collectively doing something to object or objects, the object can appear in the sentence, as in (31) wherein the object is weewa “a girl” or “girls.”

(31) muja-ʔajun weewa deheya waga.
   REC-take girl 3PL.PROX

“They are competing for catching a girl/girls.”

This section briefly described reciprocal constructions with the prefix mVCV-/pVCV-. The prefix mVCV- is used for indicative sentences and pVCV- is used for non-indicative sentences. The reciprocal forms of these prefixes have corresponding transitive forms and, depending on the nature of the verb or the action, these reciprocal constructions indicate mutual or collective situations.

From a historical point of viewpoint, Proto-Austronesian reciprocal prefixes were reconstructed by Zeitoun (2002) with *pa-Ca-*/*ma-Ca- in which C represented a reduced consonant. The pair of reciprocal prefixes in Paran Seediq mVCV-/pVCV- is said to be a descendent from Proto-Austronesian; however, in Paran Seediq, the vowels are no longer a due to the vowel weakening effect.

4 Reciprocal without reduplication: mVsV-/pVsV-

This section proposes that mVsV-/pVsV- is another pair of reciprocal prefixes in Paran Seediq. A similar but different form, sVmV- was also reported to be a reciprocal marker in Asai (1953). The following subsection first explains why Asai’s (1953) reciprocal marker is not used reciprocally.

4.1 Asai’s (1953) reciprocal marker suumu-

Asai (1953) stated that there was a reciprocal prefix suumu- and gave the 12 examples shown in Table 3. If the root is used as a noun, the root is marked with [n] by the present author.

---

15 The author referred to the citation in Ross (2015:336).
16 Paran Seediq mVCV-/pVCV- is also segmentable as mV-CV-/pV-CV-.
17 The glosses in Asai (1953) have been cited here without modification.
In the examples of reciprocal construction with collective meaning, (29) and (30), there is no object. If participants are collectively doing something to object or objects, the object can appear in the sentence, as in (31) wherein the object is weewa “a girl” or “girls.”

(31) 

mu N a- P a N an weewa deheya waga .

REC -take girl 3 PL .PRON that

“They are competing for catching a girl/girls.”

This section briefly described reciprocal constructions with the prefix mVCV-/pVCV-. The prefix mVCV- is used for indicative sentences and pVCV- is used for non-indicative sentences. The reciprocal forms of these prefixes have corresponding transitive forms and, depending on the nature of the verb or the action, these reciprocal constructions indicate mutual or collective situations.

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4.1 Asai’s (1953) reciprocal marker s

Asai (1953) stated that there was a reciprocal prefix s and gave the 12 examples shown in Table 3. If the root is used as a noun, the root is marked with [n] by the present author.

15 The author referred to the citation in Ross (2015:336).
16 Paran Seediq mVCV-/pVCV- is also segmentable as mV-CV-/pV-CV-.
17 The glosses in Asai (1953) have been cited here without modification.

Table 3: Reciprocal forms in Asai (1953)

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>pakon</td>
<td>sumsu-paka</td>
</tr>
<tr>
<td>“a thing cut”</td>
<td>“to cut with one another”</td>
</tr>
<tr>
<td>telun</td>
<td>sumsu-telun</td>
</tr>
<tr>
<td>“to touch”</td>
<td>“to go to meet someone”</td>
</tr>
<tr>
<td>micu</td>
<td>sumsu-icu</td>
</tr>
<tr>
<td>“to fear”</td>
<td>“to threaten”</td>
</tr>
<tr>
<td>hiti</td>
<td>sumsu-hiti</td>
</tr>
<tr>
<td>“behind”</td>
<td>“to leave”</td>
</tr>
<tr>
<td>muduraq</td>
<td>sumsu-duraq</td>
</tr>
<tr>
<td>“to hunt”</td>
<td>“to run after game”</td>
</tr>
<tr>
<td>rai [n]</td>
<td>sumsu-rai</td>
</tr>
<tr>
<td>“a match-maker; a relative”</td>
<td>“to act as a middle-man”</td>
</tr>
<tr>
<td>gadana [n]</td>
<td>sumsu-gadana</td>
</tr>
<tr>
<td>“customary laws”</td>
<td>“to break the laws”</td>
</tr>
<tr>
<td>gadaan [n]</td>
<td>sumsu-gadaan18</td>
</tr>
<tr>
<td>“name”</td>
<td>“to give a name to”</td>
</tr>
<tr>
<td>ratut [n]</td>
<td>sumsu-ratut</td>
</tr>
<tr>
<td>“a farm”</td>
<td>“to observe the ritual for the good growing of the crops”</td>
</tr>
<tr>
<td>daaji [n]</td>
<td>sumsu-daaji</td>
</tr>
<tr>
<td>“a friend”</td>
<td>“to make one’s acquaintance”</td>
</tr>
<tr>
<td>kuxul [n]</td>
<td>sumsu-kuxul</td>
</tr>
<tr>
<td>“a delight”</td>
<td>“to have delight in, to be fond of”</td>
</tr>
<tr>
<td>birac [n]</td>
<td>sumsu-birac</td>
</tr>
<tr>
<td>“ear”</td>
<td>“to make a noise”</td>
</tr>
</tbody>
</table>

Based on the author’s data, some of Asai’s glosses require correction. For example, Asai’s glosses included a reciprocal meaning only for sumsu-paka “to cut with one another”; however, the corresponding form in modern Paran Seediq is s<um>ipaq “to murder, kill.” This form lacks not only reciprocal meaning but also includes the marker for high transitivity; the actor voice present tense <um>. By way of illustration, a transitive sentence with s<um>ipaq “to murder, kill” is in (32).

(32) s<um>ipaq =ta babuy.
kill<AV.PRES> =1 INC pig
“Let’s kill a pig.”

Further, Asai used the root pakon, which corresponds to paq-un (kill-UVP.PRES) in modern Paran Seediq with the root of this verb being sipaq; however, this verb requires a reduplicative prefix to obtain the reciprocal form (e.g., musu-sipaq19 “murder

18 This form, sumu-gaday in modern Paran Seediq, means “insult.”
19 The prefix is musu- and the root initial consonant is s in this form. There are two possible origins of the prefix: one is the reciprocal with reduplication mVCV- and the other is mVsV-; however, the reduplicated form is chosen here as the reciprocal verb has the transitive form
each other”). The second item sumun-telun “to go to meet someone” appears to have a reciprocal meaning. The corresponding modern Paran Seediq is s<um>uteru, with this verb meaning that an actor goes to a certain place to meet someone and then take them to a village or a house. This verb form is used transitively as in (33).

(33) s<um>uteru =ku Lubi hako.
meet<AV.PRES> =1SG.NOM Lubi bridge
“I will meet Lubi at the bridge (and bring her to the house).”

Asai also glosses the root telun with “touch”; however, the root and its gloss should be corrected to teru “meet” as there is a minimal pair with a different consonant, telu “touch.”

Three forms (from the third to the fifth item in the table) are transitive verbs marked with the infix <um>. The corresponding forms in modern Paran Seediq are s<um>i-Picu “threaten,” s<um>u-hiti “leave something behind,” and s<um>u-duriq “drive (animals)” respectively. These transitive forms have the intransitive counterparts, mi-Picu “fear,” mu-hiti “fall behind,” and qu-duriq “escape,” respectively. Example (34) shows the transitive usage of sumuduiq (also in Table 3) in which the subject is huli “dog” and the patient is boyak “boar.”

(34) ga s<um>uduriq boyak huli
PROG chase<AV.PRES> boar dog
“Dogs are chasing a boar.”

Next, seven forms are derived from a noun. In Paran Seediq, the prefix used for denominal derivation is su-. In several cases, only su- attaches to a nominal root but sometimes the infix <um> is further attached, becoming s<um>. Asai’s gloss did not hint at the possible reciprocity in these denominal verbs and in modern Paran Seediq they are not used as reciprocal verbs.

To sum up, Asai’s examples with sumun- in (3) are either transitive verbs or denominal verbs.

4.2 Asai’s (1953) form similar to a reciprocal marker
Asai reported the correct reciprocal prefix but gave it a different meaning. Asai (1953:36) observed that there was a prefix musu-, which, when added to nouns and active verbs, means “to attain to,” “to change into,” and gave the three examples shown in (35).

(35) a. musu-muqedil “a married couple”
   (muqedil “a woman, a wife”)
 b. musu-dadal “brothers or sisters having the same father but different mother; cousins of the same sex, (because they cannot marry one another, that is, they are in the relation of friends.)”
   (dadal20 “a friend”)

[20] This form in modern Paran Seediq is dadan, which it means “a relative.”

as in s<um>ipaq “murder.” The correspondence with the transitive verbs is characteristic of the reciprocal forms with mVCV-/pVCV-.
Seediq reciprocals and their history

c. *musu*-telun “to meet”
   (telun “to touch”)

Examples (35a-35b) have a meaning of reciprocal relationship. Example (35c) appears to refer to a mutual action, with the prefix *mVsV-* being a marker of reciprocity.

4.3 The reciprocal prefix *mVsV-/pVsV-

Verbs with *mVsV-/pVsV-* denote a mutual situation as shown in Table 4, in which only the *mVsV-* form is shown. Most examples in Table 4 and Table 6 were taken from Ochiai (2016:67-68). Some of the verbs are derived from a nominal root, which is indicated by [n].

Similar to the distinction for *mVCV-* and *pVCV-* (Section 3), the prefix *mVsV-* is used in indicative sentences and the prefix *pVsV-* is used in non-indicative sentences. A pair of examples shows this pattern, where example (36a) is an indicative sentence and example (36b) is a non-indicative sentence (here, a negative construction).

Table. 4: *mVsV-/pVsV-* forms

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>barux</td>
<td><em>musu</em>-barux “exchange labor”</td>
<td>---</td>
</tr>
<tr>
<td>daliq</td>
<td><em>musu</em>-daliq “be near each other”</td>
<td>---</td>
</tr>
<tr>
<td>dehu</td>
<td><em>musu</em>-dehu “agree, be engaged”</td>
<td>---</td>
</tr>
<tr>
<td>edan</td>
<td><em>muse</em>-edan “stick to each other”</td>
<td>---</td>
</tr>
<tr>
<td>liway</td>
<td><em>musu</em>-liway “be in an adulterous relationship”</td>
<td>---</td>
</tr>
<tr>
<td>teheya</td>
<td><em>musu</em>-teheya “be far from each other”</td>
<td>---</td>
</tr>
<tr>
<td>teru</td>
<td><em>musu</em>-teru</td>
<td><em>musu</em>-teru “marry, meet” (s&lt;um&gt;uteru “meet”)</td>
</tr>
<tr>
<td>tu?uqu</td>
<td><em>musu</em>-tu?uqu “misunderstand each other”</td>
<td>---</td>
</tr>
<tr>
<td>waye</td>
<td><em>musu</em>-waye “be separated, to say good-bye”</td>
<td>---</td>
</tr>
<tr>
<td>bais [n]</td>
<td><em>musu</em>-bais “be in the relationship with neighbors”</td>
<td>---</td>
</tr>
<tr>
<td>“window”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bale [n]</td>
<td><em>musu</em>-bale “be on good terms with each other”</td>
<td>---</td>
</tr>
<tr>
<td>“truth”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kuxun [n]</td>
<td><em>musu</em>-kuxun “love each other”</td>
<td>*s&lt;um&gt;ukuxun “like, be fond of”</td>
</tr>
<tr>
<td>“feeling”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>muqedin [n]</td>
<td><em>musu</em>-muqedin “fight to gain a woman”</td>
<td>---</td>
</tr>
<tr>
<td>“woman”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rai [n]</td>
<td><em>musu</em>-rai “be in the relationship by marriage”</td>
<td>*&lt;um&gt;u-rai “propose”</td>
</tr>
<tr>
<td>“in-law”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sipo [n]</td>
<td><em>musu</em>-sipo “be on the two sides of a river”</td>
<td>---</td>
</tr>
<tr>
<td>“across river”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reciprocal verbs can be used adverbially, preceding a main vowel as in (37). The prefix used for this purpose is mVsV-.

(37) **musu-dali** me-ʔepah.
REC-near AV.PRES-work
“They work side by side in the field.”

The difference between mVsV-/pVsV- and mVCV-/pVCV- is that most verbs derived using mVsV-/pVsV- do not have transitive forms, so for these roots, there is no form with the infix <um>. For example, the root barux does not have b<um>arux (or <m>arux if nasal substitution applies). For the root bale, there is no form such as b<um>ale (or <m>ale if nasal substitution applies). For the root telug, there is the form s<um>uteru, as mentioned in Section 4.1; the transitive form means “to meet someone at a place and bring that person to another place.” The mVsV-/pVsV- form means that more than two people meet accidentally or by appointment. The mVsV-/pVsV- form also means “to marry,” which appears to be an extension of the meaning “to meet.” The forms musu-teru/pusu-teru and s<um>teru refers to slightly different situations in terms of mutuality and transitivity (therefore, the transitive form in the parenthesis).

Other roots which has transitive forms are s<um>u-kuxun “to like” and s<um>u-rai “to propose.” The reciprocal and transitive examples of the root kuxun are presented in (38).

(38) a. **musu-kusun** Mona daha Obiŋ.
REC-like Mona CONJ Obiŋ
“Mona and Obiŋ like each other.”

b. s<um>ukuxun =ku Mona.
like<AV.PRES> =1SG.NOM Mona
“I like Mona.”

Therefore, there are two pairs of prefixes, the reciprocal with reduplication mVCV-/pVCV- (Section 3) and mVsV-/pVsV-, with the choice of the latter pair being lexically determined and nonproductive. The root in Table 4 is unable to take the reciprocal prefix with reduplication mVCV-/pVCV-. There are no forms such as *mu-bu-barux “to exchange labor” or *mu-du-daliŋ “to be near each other.”

In addition, the roots in Table 4 have some restrictions. Roots other than those used as nouns cannot be used independently. For example, barux cannot appear by itself and its meaning is somewhat obscure; however, the form is complete when it is attached to a reciprocal prefix. Although musubarux “exchange labor” can be separated into two parts:

21 If there is no pronoun in an utterance, the subject is understood to be third person, unless the topic is specified in the context.
the prefix mVsV- and the root barux: together, they form one meaning unit.22

The exceptions are tu?uqu “to misunderstand each other” and teheya “to be far from each other,” which can stand alone as verbs as in (39) and (40).

\[(39)\] tu-uqu hari seediq gaga.
NONV-mistake more.or.less that
“That person makes mistakes.”

\[(40)\] te-heya riyu Paran.
NONV-far very Paran
“Paran village is very far.”

However, here, it is suggested that these two words are derived from smaller roots, uqu and heya, respectively as these are typical two-syllable roots and, hence, are more suitable in terms of syllable structure, with the remaining parts tu in tu?uqu and te in teheya being non-volitional prefixes. Ochiai (2016) proposed that the Paran Seediq non-volitional prefix is tu-. Therefore, the root uqu is attached to this prefix and a glottal stop is inserted phonetically before the root initial vowel. The root uqu also appears without any prefix in interjections – uqu =naq (mistake =self) ‘leave it, give it up, never mind,’ and this root has another derivation qunu-Puqu “mistake (verb).”

When the root heya is prefixed with tu-, the vowel in the prefix becomes e due to regressive vowel assimilation triggered by the glottal consonant h. The root heya is possibly related to heya (3SG.PRON) “he, she, that person.” If so, the root itself was originally a noun and not a non-nominal root. In short, most roots in Table 4 cannot be used independently except for special cases; therefore, they need the prefix mVsV-/pVsV-.

Further, the meaning derived using mVsV-/pVsV- appears to belong to a certain semantic class. Most examples in Table 4 share a similarity with lexical reciprocals (Section 1.1). Table 5 shows the semantic categories for the lexical reciprocals and the corresponding Paran Seediq forms with mVsV-/pVsV-.

22 For edan and teru, a prefix other than a reciprocal is also observed: edan has kuse-?edan “a lump [n].” teru has s<um>uteru “meet.”
Table. 5: Lexical reciprocals and similarity in mVsV-/pVsV- forms

1. Social actions
   - musu-dehu “agree, be engaged”
   - musu-teruf “marry, meet”
2. Competitions
   - musu-muqedin “fight to get a woman”
3. Joint actions
   - musu-bale “be on good terms to each other”
4. Connection
   - muse-?edan “stick to each other”
5. Division
   - musu-waye “be separated”
6. Relations of (non-)identity
7. Spatial relations
   - musu-bais “be in a relationship with neighbors”
   - musu-dali “be near each other”
   - musu-sipo “be on the two sides of a river”
   - musu-teheya “be far from each other”
8. Relationship nouns

Section 4.4 Nonetheless, these examples are not lexical reciprocals, as in a lexical reciprocal, a word does not undergo derivation by definition. The examples in Table 4 are derived using the reciprocal prefix mVsV-/pVsV-. These forms are lexically determined and small in number compared to another pair of reciprocal prefixes, mVCV-/pVCV-.

4.4 The reciprocal prefix mVsV-/pVsV-: Derivations with kin-terms
Some of the reciprocal verbs with mVsV-/pVsV- are derived from nouns as in Table 4. There are more examples of noun-derived reciprocals with mVsV-/pVsV-, which form a special semantic class, kin-terms, which are similar to Lichtenberk’s (2000) “noun-based derivations” in Oceanic languages (Section 1.2). In addition to kin-terms, relational nouns such as “friend” and “enemy” belong to this class. Table 6 gives a range of examples. These are similar to “relationship nouns” of lexical reciprocals (Table 5). The mVsV-/pVsV- forms could be seen as a special kind of lexical reciprocal even though they are attached with a prefix.
Table. 5: Lexical reciprocals and similarity in mVsV-/pVsV- forms

1. Social actions
   - musu-dehu “agree, be engaged”
   - musu-teru “marry, meet”

2. Competitions
   - musu-muqedin “fight to get a woman”

3. Joint actions
   - musu-bale “be on good terms to each other”

4. Connection
   - muse-Pedan “stick to each other”

5. Division
   - musu-waye “be separated”

6. Relations of (non-)identity
   -

7. Spatial relations
   - musu-bais “be in a relationship with neighbors”
   - musu-dali “be near each other”
   - musu-sipo “be on the two sides of a river”
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8. Relationship nouns

Section 4.4

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<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ane [n]</td>
<td>musa-ane</td>
</tr>
<tr>
<td>“a man’s sister’s husband” or a man’s wife’s brother</td>
<td>“be anes to each other”</td>
</tr>
<tr>
<td>dadan [n]</td>
<td>musu-dadan</td>
</tr>
<tr>
<td>“relative”</td>
<td>“be relatives to each other”</td>
</tr>
<tr>
<td>hulumadan [n]</td>
<td>musu-hulumadan</td>
</tr>
<tr>
<td>“sibling of the opposite sex”</td>
<td>“be siblings of the opposite sex to each other”</td>
</tr>
<tr>
<td>mawan [n]</td>
<td>musu-mawan</td>
</tr>
<tr>
<td>“man’s wife’s sister’s husband”</td>
<td>“be in mawan-relation”</td>
</tr>
<tr>
<td>dayi [n]</td>
<td>musu-dayi</td>
</tr>
<tr>
<td>“friend”</td>
<td>“be friends to each other,” “to hold each other’s shoulder”</td>
</tr>
<tr>
<td>pais [n]</td>
<td>musu-pais</td>
</tr>
<tr>
<td>“enemy”</td>
<td>“be enemies with each other”</td>
</tr>
<tr>
<td>laqi [n]</td>
<td>musu-laqi</td>
</tr>
<tr>
<td>“child”</td>
<td>‘be in a parent/child relationship’</td>
</tr>
<tr>
<td>suwai [n]</td>
<td>mutu-suwai23</td>
</tr>
<tr>
<td>“younger sibling”</td>
<td>“be in a relationship with siblings”</td>
</tr>
<tr>
<td>qedin [n]</td>
<td>musu-qedin</td>
</tr>
<tr>
<td>“wife”</td>
<td>‘be in a husband/wife relationship’</td>
</tr>
</tbody>
</table>

The reciprocal forms derived from these kin-terms indicate a relationship between two people. The kin-terms are divided into two categories: bidirectional relationships and unidirectional relationships. In bidirectional relationships, the kin-term denotes the relationship of one party to the other and the same kin-term also denotes the opposite direction. These bidirectional kin-terms are ane “a man’s sister’s husband or a man’s wife’s brother,” dadan “relative,” hulumadan “sibling of the opposite sex,” mawan “man’s wife’s sister’s husband,” dayi “friend,” and pais “enemy.”

For example, if a man has a sister, he calls his sister’s husband ane and the sister’s husband calls his wife’s brother ane. If the man wants to express that “He is my ane,” the sentence (41) is used.

(41) ane =mu heya.
    male.relative =1SG.GEN 3SG.PRON
    “He is my (male person) sister’s husband” or “He is my (male person) wife’s brother.”

The example (41) does not have a reciprocal construction. In this structure, the subject is the singular heya (3SG.PRON); however, a reciprocal construction needs a plural subject. In a non-reciprocal construction such as (41), the relational noun ane is not attached with reciprocal prefix; else, it would be ungrammatical (42).

23 This form seems to have undergone a sporadic change of the segment s into t.
(42) *musa-?ane =mu heya.
    REC-male.relative =1SG.GEN 3SG.PRON
    “He is my (male person) sister’s husband” or “He is my (male person) wife’s
    brother.”

    If the subject includes both sides, a prefixed form must be used. The structure (43)
    is used to express “we are ane’s.”

(43) musa-?ane yami daha.
    REC-ane 1EXC.PRON two
    “We two are anes.”

    If a kin-term is used without the prefix in (43), the sentence is unacceptable.

(44) *ane yami daha.
    ane 1EXC.PRON two
    “We two are anes.”

    The other type of kin-terms is unidirectional. The kin-term used for reciprocal
derivation is the word one side calls the other side; however, the same word cannot be
used inversely; for example, laqi “child” is a word parents call their children not vice
versa. Other unidirectional kin-terms are suwai “younger sibling” and qedin “wife.” For
relationships such as parent and child, elder sibling and younger sibling, and husband
and wife, Paran Seediq chooses the female side, or the younger side for the relational
derivation.

    The reciprocal constructions for a unidirectional kin-term is in (45). Here, as the
sentence is indicative, the prefix mVsV- is used as the prefix pVsV- is inappropriate as in
(46).

(45) musu-qedin yami daha.
    REC-wife 1EXC.PRON two
    “We two are husband and wife.”

(46) *pusu-qedin yami daha.
    REC-wife 1EXC.PRON two
    “We two are husband and wife.”

    If a sentence is non-indicative, pVsV- is used instead of mVsV- as in (48). Example
(47) shows the negative construction with pVsV-. In (48), the prefix is replaced by mVsV-,
which is unacceptable.

(47) ini pusu-qedin yami daha.
    NEG REC-wife 1EXC.PRON two
    “We two are not husband and wife.”

(48) *ini musu-qedin yami daha.
    NEG REC-wife 1EXC.PRON two
    “We two are not husband and wife.”

    In (47), pusu-qedin is preceded by the negator ini, which means that pusu-qedin is
a verb. However, these reciprocal expressions with mVsV-/pVsV- also show a nominal feature. This is evidenced by the co-occurrence with the nominal negator uxe. Example (49) shows that not only ini in (47) but also uxe can be used for the negative constructions; however, the verb form after uxe is mVsV-, not pVsV- (50).

(49) uxe musu-qedin yami daha.
    NEG REC-wife 1EXC.PRON two
    “We two are not husband and wife.”

(50) *uxe pusu-qedin yami daha.
    NEG REC-wife 1EXC.PRON two
    “We two are not husband and wife.”

The two negative constructions, (47) and (49), however, slightly differ in meaning. If the negator is uxe as in (49), the sentence means that the two people are not husband and wife; if the negator is ini, the sentence implies that the two people were going to marry and become husband and wife, but did not in the end.

Similarly, some reciprocal forms in Table 4 are used as nouns. These include musu-bais “be next door to each other,” musu-sipo “be on the two sides of a river,” musu-daliq “be near each other,” musu-teheya “be far from each other,” and musu-liwaj “be in an adulterous relationship.” These words are characterized by spatial or social relationships. Examples of the root bais [n] “window” are given below: (51a) is an affirmative sentence, (51b) is a negative construction with ini, and (51c) is a negative construction with uxe. Example (51b) shows the verbal usage and (51c) shows the nominal usage.

(51) a. musu-bais sapah =miyan.
    REC-window house =1EXC
    “We are next door.”

 b. ini pusu-bais sapah =miyan.
    NEG REC-window house =1EXC
    “We are not next door.”

c. uxe musu-bais sapah =miyan.
    NEG REC-window house =1EXC
    “We are not next door.”

5 Interim summary: Two reciprocals

The similarities and differences between the two pairs of reciprocal prefixes, (i) mCVC-/pCVC- and (ii) mVsV-/pVsV- are summarized in Table 7.
Paran Seediq has a pair of reciprocal prefixes mVsV-/pVsV- (Section 4) and there is a
typeological viewpoint. Although

Both reciprocals are in common in that they have m- forms and p- forms; the former is used indicatively, the latter non-indicatively. However, the two reciprocals differ in productivity, the pairing with transitive verbs, derivation with kin-terms and typological type. The prefix (i) mCVC-/pCVC- is a typical reciprocal marker. Derived reciprocals have the transitive forms derived from the same root and the prefix attaches to verbs related to mutual situations. The prefix (ii) mVsV-/pVsV-, on the contrary, is an atypical reciprocal as the forms derived by this prefix do not have transitive verbs derived from the same root, the root (other than nominal roots) cannot stand alone, and the affixation is unproductive and lexically determined. Roots need the prefix (ii) mVsV-/pVsV- to become full verbs and the derived verbs form one meaning unit. It is characteristic of (ii) mVsV-/pVsV- to attach to kin-terms for deriving a relational meaning. The roots attached with (ii) mVsV-/pVsV- show a limited semantic class range. This semantic class is distinctive of a lexical reciprocal (a reciprocal without a verbal marker) from a typological viewpoint. Although these forms in Paran Seediq are attached with (ii) mVsV-/pVsV-, they could be said to be a special kind of lexical reciprocal.

In the remainder of this paper, the prefix (ii) mVsV-/pVsV- is discussed from a historical perspective. Section 6 investigates this prefix in Taroko Seediq, the other Seediq dialect, followed by an analysis of Atayal in Section 7.

6 The reciprocal prefix mVsV-/pVsV- in Taroko Seediq

Paran Seediq has a pair of reciprocal prefixes mVsV-/pVsV- (Section 4) and there is a cognate prefix in Taroko Seediq. Tsukida (2009:259-260) stated that msa- and its imperative/connegative form pas- denote reciprocity in Taroko Seediq (the pre-stress vowels are also weakened). In Taroko Seediq, the schwa is chosen to show weakened vowel, so the prefix can be rewritten as mVsV-/pVsV-, wherein V represents a weakened vowel.

Tsukida noted that the prefix mVsV-/pVsV- attached to kinship terms such as dayi “fiancé” or anay “son-in-law.” Tsukida’s examples are given in (52-53).26

(52) Tsukida (2009:259)

m soirée-dayi ka  Lawkiŋ  ni  Rubiq.
REC-fiancé SUB Lawking(male.name) CONJ Rubiq(female.name)
“Lawkiŋ and Rubiq are fiancés (to each other).”

(53) Tsukida (2009:260)

26 The glosses have been slightly modified by the author.
Paran Seediq has a pair of reciprocal prefixes mVsV-/pVsV- (Section 4) and there is a reciprocal with these forms in Paran Seediq. The prefix (i) mCVC-/pCVC- is a typical reciprocal marker. Derived reciprocals have the derived verbs form one meaning unit. It is characteristic of (ii) mVsV-/pVsV- to show a special kind of lexical reciprocal.

The prefix (i) mCVC-/pCVC- is in common in that they have m- forms and p- forms; the former is used indicatively and the latter non-indicatively. However, the two reciprocals differ in productive/connegative forms. The prefix (ii) mVsV-/pVsV-, on the contrary, is an atypical reciprocal as transitive forms derived from the same root and the prefix attaches to verbs related to movement. It is used indicatively, the latter non-indicatively. Although the root (other than nominal roots) cannot stand alone, and the affixation is unproductive, the forms derived by this prefix do not have transitive verbs derived from the same root.

In the remainder of this paper, the prefix (ii) mVsV-/pVsV- is discussed from a typological viewpoint. Although the reciprocal form corresponds to mutu-suawai “be in a relationship with siblings” in Paran Seediq, this form seems to be used as a kind of vocative expression for greetings in this sentence.

Tsukida (2009:291) gives another expression for a relational noun as in (54), in which a sporadic sound change from s to n seems to have occurred in the prefix. This form seems to be used as a kind of vocative expression for greetings in this sentence.

(54) Tsukida (2009:291)
kana ita man-sowayi all 1NC brothers.and.sisters “All of us brothers and sisters.”

More examples identified in the Taroko Seediq dictionary (Pecoraro 1977) are listed in Table 8 with slight modifications. The original transcriptions are in parentheses.

Table. 8: Examples with masa- from Pecoraro (1977)

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>barux (sbalox)</td>
<td>masa-barux (msbalox)</td>
</tr>
<tr>
<td>“change a place”</td>
<td>“come and go, respond to each other”</td>
</tr>
<tr>
<td>dayi (dangi)</td>
<td>masa-dayi (msdangi)</td>
</tr>
<tr>
<td>“fiancé/fiancée”</td>
<td>“meet, have a friendship, engage”</td>
</tr>
<tr>
<td>dawin (dawin)</td>
<td>masa-dawin (msdawin)</td>
</tr>
<tr>
<td>“friend”</td>
<td>“hold tightly by the arm or neck” “show friendship”</td>
</tr>
<tr>
<td>dujus (dungus)</td>
<td>masa-dujus (msdungus)</td>
</tr>
<tr>
<td>“evident, normal, suitable, decent, agree”</td>
<td>“agree, conscientious, harmonized”</td>
</tr>
<tr>
<td>qapah (qapax)</td>
<td>masa-qapah (msqapah)</td>
</tr>
<tr>
<td>“stick”</td>
<td>“adhesive”</td>
</tr>
<tr>
<td>wayai (swayai)</td>
<td>masa-wayai (mswayai)</td>
</tr>
<tr>
<td>“separate”</td>
<td>“be separated”</td>
</tr>
<tr>
<td>lutut (lutut)</td>
<td>masa-lutut (mslutut)</td>
</tr>
<tr>
<td>“relative”</td>
<td>“be a relative”</td>
</tr>
<tr>
<td>manu (manu)</td>
<td>masa-manu (msmanu)</td>
</tr>
<tr>
<td>“what”</td>
<td>“in what relationship with each other”</td>
</tr>
<tr>
<td>bulaig (blaeq)</td>
<td>masa-so-bulaig (msblaig)</td>
</tr>
<tr>
<td>“good”</td>
<td>“do something good for each other”</td>
</tr>
<tr>
<td>kuxul (kuxul)</td>
<td>masa-so-kuxul (mskuxul)</td>
</tr>
<tr>
<td>“feeling, joy”</td>
<td>“love each other”</td>
</tr>
<tr>
<td>lapoŋ (l’pong)</td>
<td>masa-so-lapoŋ (msl’pong)</td>
</tr>
</tbody>
</table>

27 The reciprocal form corresponds to mutu-suawai “be in a relationship with siblings” in Paran Seediq.
28 Pecoraro designated sbarux as the root. However, Paran Seediq (e.g., kun-barux “borrow”) shows that the root is barux.
29 Pecoraro designated swayay as the root. However, Paran Seediq has the cognate waye as the root. Therefore, I considered the root in Taroko to also be wayay.
ever, the reason for this is not clear. An example with m
other” is (55) 32.

Table 9. In Paran Seediq mVsV-/pVsV- forms lack a transitive derivation of the root dayaw “to help.” The reciprocal forms are m
reciprocal form is (56).

prefix with the reduplication (i) mVCV-/pVCV- or as the prefix (ii) mVsV-/pVsV-. As
“do good to each other,” m
applicable to Taroko Seediq. The reciprocals in Table 9 has transitive forms, which were

These forms with mVsV-/pVsV-in Table 8 can be said to represent reciprocal meanings. Of these forms, the last six have the prefix msa-sa- instead of msa- (msa-sa-balaq “do good to each other,” msa-sa-kuxul “love each other,” msa-sa-lapoy “show friendship to each other,” msa-sa-sapoy “compete with each other,” msa-sa-riyux “exchange” and msa-sa-taruy “meet marry”). In these words, sa in the prefix is reduplicated; however, the reason for this is not clear. An example with msa-sa-balaq “do good for each other” is (55) 32.

(55) Pecoraro (1977:23)

\[
g a \ m s a - s a - b a l a q \ p a x \ s u x a l \ d a h a \ p a i \ h i n \ b a k i \ n i i .
\]

PROG REC-RED-good since past two grandmother CONJ grandfather this
“The old woman and the old man have been taking care of each other for a long time.”

Notably, the interrogative manu “what” is used as a root. The example using this reciprocal form is (56).

(56) Pecoraro (1977:166)

\[
msa-\text{manu} = \text{ta} \ \text{ka} \ \text{ita}?
\]

REC-what =1INC SUB 1INC.PRON
“What is the relationship between us?”

In fact, there are more forms with the prefix msa-sa- which also seem to indicate reciprocity in Pecoraro (1977). However, as these have the s segment as the root initial consonant, it is not clear whether the prefix msa- should be analyzed as a reciprocal prefix with the reduplication (i) mVCV-/pVCV- or as the prefix (ii) mVsV-/pVsV-. As for (i) mVCV-/pVCV- in Taroko Seediq, Tsukida (2009:267) explained that there was a reciprocal pair mVCV-/pVCV- that indicates reciprocity and gave an example with the root dayaw “to help.” The reciprocal forms are mدو-dayaw and pدو-dayaw “help one another.”

The ambiguous examples between (i) mVCV-/pVCV- and (ii) mVCV-/pVCV- are given in Table 9. In Paran Seediq mVsV-/pVsV- forms lack a transitive derivation of the same root (Table 7) with some small exceptions. Therefore, it is supposed that this is also applicable to Taroko Seediq. The reciprocals in Table 9 has transitive forms, which were

30 Pecoraro designated sariyux as the root. However, Paran Seediq has the cognate riyux as the root. Therefore, I considered the root in Taroko to also be riyux.
31 Pecoraro designated s*xaruy as the root. However, Paran Seediq has the cognate teruy as the root. Therefore, I consider the root in Taroko to also be teruy.
32 For Pecoraro’s data, the interlinear glosses are added by the present author.
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also taken from Pecoraro (1977). Hence, they are considered to belong to a reciprocal prefix with the reduplication (i) mVCV-/pVCV-.

Table. 9: mVsV- and transitive forms in Taroko Seediq

<table>
<thead>
<tr>
<th>Root Reciprocal</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>səbu (sbru)</td>
<td>mə-səbu (mssbru)</td>
</tr>
<tr>
<td>“throw”</td>
<td>“throw things to each other”</td>
</tr>
<tr>
<td>səli (sli)</td>
<td>mə-səli (mssli)</td>
</tr>
<tr>
<td>“gather”</td>
<td>“gather all around”</td>
</tr>
<tr>
<td>sikul (sikul)</td>
<td>mə-sikul (mssikul)</td>
</tr>
<tr>
<td>“shove”</td>
<td>“shove each other”</td>
</tr>
<tr>
<td>siliq (siliq)</td>
<td>mə-siliq (mssiliq)</td>
</tr>
<tr>
<td>“ask”</td>
<td>“ask each other”</td>
</tr>
<tr>
<td>sipaq (sipaq)</td>
<td>mə-sipaq (mssipaq)</td>
</tr>
<tr>
<td>“cut off a head”</td>
<td>“cut off each other’s head”</td>
</tr>
<tr>
<td>siyuk (siyuk)</td>
<td>mə-siyuk (mssiyuk)</td>
</tr>
<tr>
<td>“respond”</td>
<td>“respond to each other”</td>
</tr>
<tr>
<td>sanugul (snugul)</td>
<td>mə-sanugul (mssanugul)</td>
</tr>
<tr>
<td>“follow”</td>
<td>“follow each other”</td>
</tr>
</tbody>
</table>

Next, it is characteristic of Paran Seediq that mVsV-/pVsV- attaches to kin-terms including words such as pais “enemy” (Table 4). mVsV-/pVsV- also attaches to nouns denoting spatial relationship such as sipo “the other side of the river” (Table 6). However, Pecoraro’s (1970) data shows that Taroko Seediq kin-terms and other nouns are attached with prefixes other than mVsV-/pVsV- (Table 10) such as m-, mə-, or məC-  (C is a reduplicated consonant).

Table. 10: Taroko Seediq kin-terms with prefixes

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>anay (anai)</td>
<td>mə-anay (m’anai)</td>
</tr>
<tr>
<td>“sister’s husband”</td>
<td>“be male-relatives to each other”</td>
</tr>
<tr>
<td>xəmadan (xmadan)</td>
<td>mə-homadan (mxmadan)</td>
</tr>
<tr>
<td>“relatives”</td>
<td>“be relatives to each other”</td>
</tr>
<tr>
<td>sipaw (sipao)</td>
<td>məko-sipaw (mxsipao)</td>
</tr>
<tr>
<td>the other side</td>
<td>“be face to face”</td>
</tr>
<tr>
<td>pais (pais)</td>
<td>məko-pais (mppais)</td>
</tr>
<tr>
<td>“enemy”</td>
<td>“be enemies to each other”</td>
</tr>
<tr>
<td>bais (bais)</td>
<td>məko-bais (mbbais)</td>
</tr>
<tr>
<td>“partner”</td>
<td>“be companions to each other”</td>
</tr>
</tbody>
</table>

Nonetheless, Tsukida’s (2009) description and Pecoraro’s data (Table 8) show that Taroko Seediq has a reciprocal prefix mVsV-/pVsV-. Therefore, this prefix is reconstructed for Proto-Seediq.
7 The reciprocal prefix mVsV-/pVsV- in Atayal

Ogawa and Asai (1953:23) described the function of the prefix m\textit{a}sa\textit{-} in Atayal (Squiliq dialect) as reciprocal and gave the two examples in (57).

(57) Ogawa and Asai (1953:23)
\begin{itemize}
  \item a. \textit{ma}-tanaq “same”
  \item \textit{ma}-tanaq “meet each other”
  \item \textit{jaqeh} “bad”
  \item \textit{ma}-\textit{jaqeh} “be on bad terms”
\end{itemize}

Ogawa (1930:4) discussed the accent and vowel weakening in Atayal, saying that “the accent falls on the second syllable, but the position of the syllable moves backwards if a prefix is attached to a word. In either event, the vowels before the accented syllable usually become schwa.”\textsuperscript{33} Vowels in the pre-stress position undergo weakening as in Seediq.

The Atayal dictionary (Egerod 1980) includes words with the reciprocal meaning which are prefixed with \textit{mVsV-} or \textit{pVsV-}. Table 11 lists these roots and prefixed forms.\textsuperscript{34}

For each root, either a \textit{m-} form or a \textit{p-} form or both are obtained in the dictionary. The distribution pattern for \textit{m-} forms and \textit{p-} forms in Atayal are not clear from this data.

<table>
<thead>
<tr>
<th>Root</th>
<th>Reciprocal \textit{m-} form</th>
<th>Reciprocal \textit{p-} form</th>
</tr>
</thead>
<tbody>
<tr>
<td>bayux</td>
<td>\textit{masa}-bayux\textsuperscript{35}</td>
<td>\textit{pas\textsuperscript{-}}-bayux</td>
</tr>
<tr>
<td>“cooperate”</td>
<td>“exchange labor”</td>
<td>“be on bad terms”</td>
</tr>
<tr>
<td>balay</td>
<td>\textit{masa}-balay</td>
<td>\textit{pas\textsuperscript{-}}-balay</td>
</tr>
<tr>
<td>“true”</td>
<td>“reconcile”</td>
<td>\textit{pas\textsuperscript{-}}-liq\textsuperscript{36}</td>
</tr>
<tr>
<td>gluu</td>
<td>\textit{masa}-gluu</td>
<td>\textit{pas\textsuperscript{-}}-gluu</td>
</tr>
<tr>
<td>“be with”</td>
<td>“work together”</td>
<td>\textit{pas\textsuperscript{-}}-liq</td>
</tr>
<tr>
<td>yaqeh</td>
<td>\textit{masa}-yaqeh</td>
<td>\textit{pas\textsuperscript{-}}-yaqeh</td>
</tr>
<tr>
<td>“bad”</td>
<td>“not agree”</td>
<td>“be on bad terms”</td>
</tr>
<tr>
<td>bulaq</td>
<td>\textit{masa}-liq\textsuperscript{36}</td>
<td>\textit{pas\textsuperscript{-}}-liq</td>
</tr>
<tr>
<td>“good”</td>
<td>“love each other”</td>
<td>“love each other”</td>
</tr>
<tr>
<td>sali</td>
<td>\textit{masa}-sali</td>
<td>\textit{pas\textsuperscript{-}}-sali\textsuperscript{37}</td>
</tr>
<tr>
<td>“gather”</td>
<td>“gather”</td>
<td>“gather”</td>
</tr>
<tr>
<td>sapua</td>
<td>\textit{masa}-supua</td>
<td>\textit{pas\textsuperscript{-}}-supua</td>
</tr>
</tbody>
</table>

\textsuperscript{33} Ogawa (1930:4) discussed the accent and vowel weakening in Atayal, saying that “the accent falls on the second syllable, but the position of the syllable moves backwards if a prefix is attached to a word. In either event, the vowels before the accented syllable usually become schwa.”

\textsuperscript{34} Egerod designated the root as \textit{siau} “quarrel with each other.” Egerod designated the root as \textit{siau} “quarrel with each other.” If so, the prefix for reciprocity would be \textit{pa} in this form, instead of \textit{pas\textsuperscript{-}}.

\textsuperscript{35} Egerod does not provide the meaning for this form; he cites from Ogawa (1931).

\textsuperscript{36} The first syllable of the root \textit{ba} is deleted and the final vowel changes into \textit{i}.

\textsuperscript{37} This form might have undergone haplology (\textit{pas\textsuperscript{-}}-\textit{sali} > \textit{pas\textsuperscript{-}}-\textit{sali}).
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<table>
<thead>
<tr>
<th>“measure”</th>
<th>“compete”</th>
</tr>
</thead>
<tbody>
<tr>
<td>caqun</td>
<td>mosa-qun[^38]</td>
</tr>
<tr>
<td>“marry”</td>
<td>“marry”</td>
</tr>
<tr>
<td>siyuk[^39]</td>
<td>mosa-siyuk</td>
</tr>
<tr>
<td>“turn off”</td>
<td>“tell each other”</td>
</tr>
<tr>
<td>alu</td>
<td>mosa-alu</td>
</tr>
<tr>
<td>“loan”</td>
<td>“loan, borrow”</td>
</tr>
<tr>
<td>sāʔinu[^40]</td>
<td>mosa-ʔinu</td>
</tr>
<tr>
<td>“miss, long for”</td>
<td>“miss each other”</td>
</tr>
<tr>
<td>sāsue</td>
<td>mota-sāsue[^41]</td>
</tr>
<tr>
<td>“younger sibling”</td>
<td>“siblings”</td>
</tr>
</tbody>
</table>

As the items in Table 11 show forms with mVsV-/pVsV- indicate reciprocity. Therefore, Atayal as well as Seediq (both Paran Seediq and Taroko Seediq) have the reciprocal prefix mVsV-/pVsV-.

8 Interim summary: Reconstruction of *mVsV-/*pVsV-

Paran Seediq has mVsV-/pVsV- “reciprocity,” Taroko Seediq has mVsV-/pVsV- “reciprocity,” so Proto-Seediq is reconstructed as *mVsV-/*pVsV- “reciprocity.” Seediq and Atayal form the Atayalic subgroup, one of the first-order branches of Proto-Austronesian (Blust 1999). Atayal has mVsV-/pVsV- “reciprocity,” so Proto-Atayalic is reconstructed as *mVsV-/*pVsV- “reciprocity.”

A further question is whether this reciprocal prefix is found in other Formosan languages. According to Zeitoun (2007:107-109), for example, Rukai (Mantauran dialect) uses prefix maʔa- and paʔa- as a reciprocal relationship marker (e.g., maʔa-ʔina (REC-mother) “mother and daughter”). Atayalic (Atayal and Seediq) and Rukai data alone suggest that the prefix is reconstructable as the Proto-Austronesian *maSa-, with the second consonant here being *S, which becomes s in Atayalic and ? in Mantauran Rukai. In addition, Pazih has maa- and paa- as reciprocal markers (Li and Tsuchida 2001). If it is a cognate, the expected form in Pazih would be masa- and pasa-. The loss of s, however, needs further explanation. More research across Formosan and extra-Formosan (Malayo-Polynesian languages) is required to verify the possibility of these being cognate with the Proto-Atayalic *mVsV-/*pVsV-.

Proto-Austronesian reciprocals have been reconstructed with (A) *maCa-/*paCa- and (B) *maR(a)-/maR(a)- by Zeitoun (2002) and this paper suggests that (C) *maSa-/*paSa- is another possibility if other Formosan data supports this supposition. The distribution of reciprocals (A) (B) and (C) in the Proto-Austronesian (Table 12) needs further

[^38]: The initial syllable of the root is deleted by prefixation.
[^39]: Egerod designated ssiuk [sasiyuk] as the root. However, this has the cognate ciyuk “respond” in Paran Seediq.
[^40]: Egerod gives this as the root; however, the author believes that (ʔ)inu is the root, as this root is compatible with a typical two syllable structure in Atayalic languages. The extra element s may be the second syllable of the prefix mVsV-/pVsV-.
[^41]: The prefix seems to have undergone sporadic sound change (mota-sāsue > mota-sāsue). This change (from s to t) is similar to the near cognate in Paran Seediq (musu-suawai > mutu-suawai).
research as it is not plausible that three reciprocal forms synchronically exist in a language. Ross (2015) cited Zeitoun (2002) and stated that (A) is used with a class of verbs called zero verbs (which, in this paper, are the verbs with high transitivity that are typically infixed with <um>) and (B) is used with a class of verbs that Ross (2015) called K verbs (or stative verbs), indicating that (A) and (B) were complementary.

The first part of this paper described reciprocals in Paran Seediq. Reciprocals with reduplication (i) mVCV-/pVCV- were introduced followed by reciprocals without reduplication (ii) mVsV-/pVsV-. Next, the two pairs were compared in terms of the existence of verbs (or stative verbs), indicating that (A) and (B) were complementary. However, the prefix (ii) mVsV-/pVsV- is an atypical reciprocal marker as it is not productive and has no (or few) transitive forms. Roots (that are not originally nouns) are dependent on the prefix as they need the reciprocal marker to be a full verb. It is also a characteristic of (ii) mVsV-/pVsV- that it attaches to kin-terms. Forms derived by (ii) mVsV-/pVsV- belong to a semantically small set that coincides the lexical reciprocals from a typological perspective. These can be said to be a special kind of lexical reciprocal, although they are attached with prefixes and in this sense, not purely lexical.

The second part of this paper examined (ii) mVsV-/pVsV- forms in other dialects and languages closely related to Paran Seediq. Taroko Seediq and Atayal both have mVsV-/pVsV-. These three pieces of data reconstruct the Proto-Atayal reciprocal prefix *mVsV-/pVsV-.

Table 12: Reciprocal forms in Proto-Austronesian (tentative)

<table>
<thead>
<tr>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>maCa-/paCa-</td>
<td>*maR(a)-/ma-R(a)-</td>
<td>*maSa-/paSa-</td>
</tr>
</tbody>
</table>

In addition, the existence or non-existence of the reciprocals (A), (B) and (C) in each Formosan language needs to be verified. As far as Seediq is concerned, (A) and (C) exist in both the Paran and Taroko dialects. However, there is no (B). However, (B) is seen in a few Formosan languages such as Amis maro-/mari- (Ogawa and Asai 1953), Puyuma mari- (Ogawa and Asai 1953) and Paiwan mari- (Ogawa and Asai 1953). (B) is also wide spread in Malayo-Polynesian subgroups, as it is seen in the examples from Oceanic languages in Section 1.2 wherein the prefix glossed with REC is the descendant of reciprocal (B), as Lichtenberk (2000) noted in passing.

9 Conclusion

The first part of this paper described reciprocals in Paran Seediq. Reciprocals with reduplication (i) mVCV-/pVCV- were introduced followed by reciprocals without reduplication (ii) mVsV-/pVsV-. Next, the two pairs were compared in terms of the existence of transitive forms, productivity, and the occurrence with kin-terms. The prefix (i) mVCV-/pVCV- is a typical reciprocal marker as it is productive and have transitive forms. However, the prefix (ii) mVsV-/pVsV- is an atypical reciprocal marker as it is not productive and has no (or few) transitive forms. Roots (that are not originally nouns) are dependent on the prefix as they need the reciprocal marker to be a full verb. It is also a characteristic of (ii) mVsV-/pVsV- that it attaches to kin-terms. Forms derived by (ii) mVsV-/pVsV- belong to a semantically small set that coincides the lexical reciprocals from a typological perspective. These can be said to be a special kind of lexical reciprocal, although they are attached with prefixes and in this sense, not purely lexical.

The second part of this paper examined (ii) mVsV-/pVsV- forms in other dialects and languages closely related to Paran Seediq. Taroko Seediq and Atayal both have mVsV-/pVsV-. These three pieces of data reconstruct the Proto-Atayal reciprocal prefix *mVsV-/pVsV-.

List of abbreviations

<table>
<thead>
<tr>
<th>AP: applicative</th>
<th>CONJ: conjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART: article</td>
<td>CONT: continuative</td>
</tr>
<tr>
<td>ASP: aspect</td>
<td>DU: dual</td>
</tr>
<tr>
<td>CONNEG: connegative</td>
<td>EXC: exclusive plural</td>
</tr>
</tbody>
</table>
next the two pairs were compared in terms of the existence of *mVsV-/*pVsV-.

However, the prefix (ii) mVsV-/pVsV- is an atypical reciprocal marker as it is not productive in each Formosan language needs to be verified. As far as Seediq is concerned, (A) and (C) belong to a semantically small set that coincides the lexical reciprocals from a typological perspective. These can be said to be a special kind of lexical reciprocal, although they are attached with prefixes and in this sense, not purely lexical.

The second part of this paper examined (ii) mVsV-/pVsV- forms in other dialects and languages closely related to Paran Seediq. Taroko Seediq and Atayal both have reciprocal (B), as Lichtenberk (2000) noted in passing. However, (B) is used with a class of verbs that Ross (2015) called K zero verbs (which, in this paper, are the verbs with high transitivity that are typi-

The first part of this paper described reciprocals in Paran Seediq. Reciprocals with reduplication (i) mVCV-/pVCV- were introduced followed by reciprocals without reduplication (ii) mVsV-/pVsV-. These three pieces of data reconstruct the Proto-Atayal reciprocal pre-

The following table shows the cognate sets of forms with mVsV-/pVsV- in Paran Seediq or Taroko Seediq presented in this paper. This table only lists the m-forms. Taroko Seediq data are from Pecoraro (1977) unless cited otherwise. The cognate sets are shown first, followed by the prefix mismatch between Paran Seediq and Taroko Seediq. Next, the reciprocal forms attested in Paran Seediq are given, followed by those attested in Taroko Seediq.

Table. 13: Cognate sets for *mVsV- in Seediq

<table>
<thead>
<tr>
<th>Paran Seediq</th>
<th>Taroko Seediq</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>musu-bale</strong></td>
<td><strong>masc-bolaq</strong></td>
</tr>
<tr>
<td>“be on good terms with each other”</td>
<td>“do good to each other”</td>
</tr>
<tr>
<td><strong>musu-barux</strong></td>
<td><strong>masc-barux</strong></td>
</tr>
<tr>
<td>“exchange labor”</td>
<td>“come and go, respond to each other”</td>
</tr>
<tr>
<td><strong>musu-kuxun</strong></td>
<td><strong>masc-so-kuxul</strong></td>
</tr>
<tr>
<td>“love each other”</td>
<td>“love each other”</td>
</tr>
<tr>
<td><strong>musu-seli</strong></td>
<td><strong>masc-soli</strong></td>
</tr>
<tr>
<td>“gather”</td>
<td>“gather all around”</td>
</tr>
<tr>
<td><strong>musu-teruŋ</strong></td>
<td><strong>masc-so-teruŋ</strong></td>
</tr>
<tr>
<td>“marry”</td>
<td>“meet, marry”</td>
</tr>
<tr>
<td><strong>musu-waye</strong></td>
<td><strong>masc-wayay</strong></td>
</tr>
<tr>
<td>“be separated from each other”</td>
<td>“be separated”</td>
</tr>
<tr>
<td><strong>mutu-suwäi</strong></td>
<td><strong>masc-suwayi</strong></td>
</tr>
<tr>
<td>“be siblings to each other”</td>
<td>“brothers and sisters”</td>
</tr>
<tr>
<td><strong>musu-day</strong></td>
<td><strong>masc-day</strong></td>
</tr>
<tr>
<td>“be friends to each other,”</td>
<td>“be fiancés (to each other) (Tsukida 2009)”</td>
</tr>
<tr>
<td>“hold each other’s shoulders”</td>
<td>“meet, have a friendship, engage”</td>
</tr>
<tr>
<td><strong>musu-daliŋ</strong></td>
<td><strong>masc-dalih</strong></td>
</tr>
<tr>
<td>“be near each other”</td>
<td>“approach one another” (Tsukida 2009)</td>
</tr>
<tr>
<td><strong>musa-ane</strong></td>
<td><strong>mo-anay</strong></td>
</tr>
</tbody>
</table>
“be male relatives to each other”  “be male relatives to each other”  
musu-hulumadan  mə-homadan

“be siblings to each other”  “be siblings to each other”  
musu-pais  məpa-pais

“be enemies to each other”  “be enemies to each other”  
musu-bais  məba-bais

“be next door to each other”  “be companions to each other”  
musu-sipo  məko-sipaw

“live across rivers”  “be face to face”  

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>musu-dehu</td>
<td>---</td>
</tr>
<tr>
<td>“agree, be engaged”</td>
<td></td>
</tr>
<tr>
<td>muse-ʔedan</td>
<td>---</td>
</tr>
<tr>
<td>“stick together”</td>
<td></td>
</tr>
<tr>
<td>musu-muqedin</td>
<td>---</td>
</tr>
<tr>
<td>“fight to gain a woman”</td>
<td></td>
</tr>
<tr>
<td>musu-tuʔuqu</td>
<td>---</td>
</tr>
<tr>
<td>“misunderstand each other”</td>
<td></td>
</tr>
<tr>
<td>musu-mawan</td>
<td>---</td>
</tr>
<tr>
<td>“be male relatives to each other”</td>
<td></td>
</tr>
<tr>
<td>musu-laqi</td>
<td>---</td>
</tr>
<tr>
<td>“be parent and child”</td>
<td></td>
</tr>
<tr>
<td>musu-teheya</td>
<td>---</td>
</tr>
<tr>
<td>“be far from each other”</td>
<td></td>
</tr>
<tr>
<td>musu-liwa</td>
<td>---</td>
</tr>
<tr>
<td>“be in an adulterous relationship”</td>
<td></td>
</tr>
</tbody>
</table>

---  məsq-dawin
“hold tightly to show friendship”

---  məsq-duys
“agree, conscientious, harmonize”

---  məsq-sə-ləpoŋ
“to show friendship to each other”

---  məsq-qapah
“adhesive”

---  məsq-manu
“in what relationships with each other”

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セデック語の相互形とその歴史的背景

落合 いずみ

要旨
本稿前半はセデック語バラン方言（オーストロネシア語族アタヤル語群）の相互形を記述する。先行研究において報告されている相互形はmCVC-/pVVCV-であった。これは語根の初頭子音の重複を取り入れた接頭辞である。本稿ではこの接頭辞が類型論的に見ても典型的な相互形標識であることを述べる。しかし、セデック語バラン方言にはもう一つ相互形が存在する。これはmVSV-/pVSV-という形式であり、親族名称に付加することなどが主だった特徴である。この接頭辞が付加する語の数は少なく、この接頭辞を持つ形式が表す意味も限られた範囲のものである。この意味範疇は、類型論に言える相互形と重なる部分が多い。セデック語バラン方言においては接頭辞が付加しているため完全に語彙的には言えないが、語彙的相互形の特殊な部類として含めることができるだろう。本稿後半ではこの接頭辞mVSV-/pVSV-がセデック語タロコ方言とアタヤル語（セデック語同様アタヤル語群に属する言語）に見られることを述べ、アタヤル語群相互形として*mVSV/*pVSV-を再建する。

キーワード
台湾オーストロネシア諸語 セデック語 アタヤル語 相互形 歴史言語学