Inclusory constructions in Seediq: Reconstruction

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Abstract: This paper first examines inclusory constructions in Paran Seediq (Atayalic, Austronesian) from a synchronic perspective and then compares them to those inclusory constructions in the Truku Seediq and Atayal dialects. On the basis of this comparison, the inclusory constructions in Proto-Seediq and Proto-Atayal are reconstructed as including pronouns (*yami/ *yamu in Proto-Seediq and *sami/ *simu in Proto-Atayal) followed by a connector (*ka in Proto-Seediq and *ki in Proto-Atayal) followed by an included noun phrase. Further, the description of inclusory constructions in other Formosan languages such as Paiwan, Puyuma, Bunun, and Saisiyat are considered for reconstructing Proto-Atayalic inclusory constructions. As a result, the Proto-Atayalic inclusory construction is reconstructed as an including pronoun (*yami/*yamu) followed by a connector (*ka) followed by a personal marker (*i) followed by an included noun phrase.*

Key words: Atayalic languages, Formosan languages, inclusory construction, descriptive linguistics, historical linguistics

1 Introduction

Lichtenberk (2000) defined the inclusory construction as having two parts: (i) an inclusory pronominal and (ii) an included noun phrase. Example (1) shows an inclusory construction.[1]

(1) Toqabaqita (Oceanic, Austronesian)
Kamareqa doqora-ku   *meki*   *lae ma-i   qusungadi.*
1DU(EXCL) brother-1SG.PERS 1DU(EXCL).FUT go VENIT-at tomorrow
"I and my brother will come tomorrow." (Lichtenberk 2000:2)

Two persons, "I" and "my brother," are involved in this sentence. The pronoun used in (1) is *kamareqa* "we," rather than the singular pronoun "I." The dual pronoun is

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[1] The following abbreviations are used in the examples: AV, actor voice; DU, dual; COMP, complementizer; DIST, distal; EXCL, exclusive; EXIST, existential; FUT, future; GEN, genitive; IMP, imperative; INCL, inclusive; INST, instrumental; IRR, irrealis; LOC, locative; NOM, nominative; STAT, stative; PART, particle; PERF, perfect; PERS.MKR, personal marker; PST, past; PL, plural; Q, question; RCPL, reciprocal; RDP, reduplication; SG, singular; VENIT, venitive.

directly followed by *doqora-ku* "my brother." Literally, the sentence means "We two my brother will come tomorrow." The preverbal element *meki* is a subject marker. According to Lichtenberk, the subject marker agrees with the inclusory pronoun, *kamareqa*, and not with the included noun phrase, *doqora-ku*. Therefore, Lichtenberk analyzed the inclusory pronoun as the head and the included noun phrase as the adjunct.

Lichtenberk called this special type of pronominal structure "inclusory." The inclusory construction has also been referred to by other terms such as a "sylleptic dual" (Plank 1989), "plural pronoun construction" (Schwartz 1988a, 1988b), and "pronominal coordination" (Corbett 2000). Inclusory constructions are seen in a considerable number of languages spoken in different areas and by various groups, including Latvian (Indo-European), Hungarian (Uralic), Kpelle (Niger-Congo), Kanuri (Nilo-Saharan), Tera (Afro-Asiatic), Turkish (Turkic), Pitta-Pitta (Pama-Nyungan), Lavukaleve (Papuan, non-Austronesian), Dakota (Siouan), Woods Cree (Algonquian), Tzotzil (Mayan), Kathlamet (Chinookan), and Tagalog (Austronesian).[2]

The inclusory pronominal (e.g., *kamareqa* in (1)) denotes a total set of participants; hence, a non-singular pronoun is used, whereas the included noun phrase (e.g., *doqora-ku* in (1)) denotes a subset. The two parts form a coordinated constituent. In this paper, the inclusory pronominal and the included noun phrase are referred to as (i) the "including pronoun" and (ii) the "included person," respectively, and the term "inclusory constituents" refers to both (i) and (ii).

Lichtenberk proposed two parameters for defining an inclusory construction: 1) if an overt marker of relation is used or not and 2) if the inclusory constituents form a phrase or not. In other words, an inclusory construction depends on whether the including pronoun is (a) explicit or (b) implicit. In the case of (a), both the including pronoun and included person appear and form a coordinated phrase, whereas, in the case of (b), an including pronoun is omitted but expressed by other elements (e.g., verbal inflection or a bound pronoun), as explained in the next paragraph. In this paper, (a) is referred to as "explicit including pronoun" and (b) is referred to as "implicit including pronoun." These parameters are summarized in Table 1 (each cell shows the corresponding example number). For example (1) contains both an including pronoun and included person; however, there is no connector that relates these inclusory constituents.

Table. 1   Defined parameters in inclusory construction

	Connector	No connector
Explicit including pronoun	(3), (4)	(1)
Implicit including pronoun	(4)	(2)

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[2] These languages that have inclusory constructions were collected from the following articles, but the list is not exhaustive: Aissen (1989); Bhat (2004); Bril (2004); Corbett (2000); Haspelmath (2004); Lichtenberk (2000); Mithun (1988); Schwartz (1988a, 1988b); and Reid (2009). Through the observations of these data, the author got the impression that in languages whose plural pronoun "we" is derived from its singular pronoun "I," there seems to be a lack of the inclusory construction. In languages with distinct singular and plural pronouns, the inclusory construction is possible but not necessary.

In contrast, in a construction that lacks an including pronoun, the pronoun is expressed by some other means, such as through verbal inflection or a bound pronoun. Toqabaqita uses this type of construction, as is exemplified in (2):

(2) Toqabaqita
Kukeqe **nau** *meki* *lae uri Honiara qana wiki loo.*
mature.woman 1SG 1DU(EXCL).FUT go to Honiara at week that.up
"My wife and I will go to Honiara next week." (Lichtenberk 2000:21)

The persons involved in this sentence are "I" and "my wife." The expected inclusory pronoun is *kamareqa*, as in the case of (1); however, this including pronoun is missing in (2), where the pronoun is recoverable by the preverbal subject marker *meki*.

In some cases, the inclusory constituents are coordinated by a connector. For instance, in (3), the Russian example, the including pronoun *my* and the included person *Petej* are intermediated by the connector *s*.[3] In (4), the Bulgarian example also includes a connector; however, the including pronoun *nie* is optional, so it can be omitted (implicit including pronoun).

(3) Russian
my **s** **Petej** *poedem segodnja za gorod.*
1PL.NOM & Peter.INST will.go today beyond city
"Peter and I will go to the country today." (Schwartz 1988a:242)

(4) Bulgarian
(**Nie**) **s** **tebe** *ste stanem dobri prijateli.*
1PL & 2SG will become.PL good.PL friend.PL
"You and I will become good friends." (Schwartz 1988b:66)

Austronesian languages spoken by the Aboriginal peoples of Taiwan are collectively called Formosan languages,[4] among which Saisiyat (Ogawa and Asai 1935), Bunun (De Busser 2009), Puyuma (Teng 2011), and Paiwan (Ogawa and Asai 1935), are known to have the inclusory construction. In addition to these, the Atayalic languages, including Atayal and Seediq, also use the inclusory construction. The purpose of this study is to describe the inclusory constructions in Paran Seediq. These have not, to date, been examined in previous literature. Further, this paper analyzes the inclusory construction in Paran Seediq in light of Lichtenberk's parameters along with other grammatical, phonological, and historical viewpoints. The results are compared with the inclusory constructions in other dialects of Atayalic languages, namely another of the Seediq dialects (Truku Seediq) and two Atayal dialects (Squliq Atayal and C'uli' Atayal). Within C'uli' Atayal, two sub-dialects, Mayrinax and Plngawan (henceforth, Mayrinax Atayal and Plngawan Atayal, respectively) are examined. Then, an inclusory construction in Proto-Atayalic is reconstructed on the basis of the data from modern Seediq and modern Atayal.

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[3] The connector of inclusory construction is indicated by "&," which originally functions as a coordinating conjunction, comitative-like marker, or complementizer, depending on the language.

[4] However, Yami (Malayo-Polynesian) spoken in Orchid Island is not included in Formosan languages.

Section 2 provides an overview of previous descriptions of inclusory constructions in Atayalic dialects in the order of Squliq Atayal, Mayrinax Atayal, Plngawan Atayal, and Truku Seediq. Section 3 examines the inclusory construction in Paran Seediq. Section 4 reconstructs the inclusory construction in Proto-Atayalic. Section 5 presents the conclusions of the study.

2 Inclusory constructions in Atayalic languages

2.1 Squliq Atayal

According to the data presented by Huang and Hayung (2011), the inclusory construction in Squliq Atayal lacks an explicit including pronoun.[5] All examples of inclusory constructions contain the implicit including pronoun as seen in (5–6). However, the pronoun is recoverable by the bound pronouns *sami* (5) and *simu* (6). In these examples, the word final apostrophe indicates a glottal stop.

(5) *M-qwas* =*sami*   **ki' Ciwas** *krryax.*
    AV-sing =1PL.NOM(EXCL) & Ciwas often
    "I/we often sing with Ciwas." (Huang and Hayung 2011:15)

(6) *Wal*   =*simu*   *mngka'* **ki' yaya'** =**nya'**?
    go.AV =2PL.NOM Taipei & mother =3SG.GEN
    "Did you (all) go to Taipei with her mother?" (Huang and Hayung 2011:15)[6]

In 5 and 6 the connector *ki'* is used. However, Egerod (1980), in the dictionary of Squliq Atayal, demonstrated an example of an inclusory construction without a connector, as in (7), as well as other constructions with the connector *ki'*. Thus, it is likely that the connector *ki'* is optional. Table 2 summarizes the pattern of inclusory constructions in Squliq Atayal.

(7) *Ual* =*sami*   *pt'alax* **kneril maku'**.
    PST =1PL(EXCL) divorce woman 1SG.GEN
    "I have divorced my wife." (= "My wife and I divorced.") (Egerod 1980:595)[7]

2.2 Mayrinax Atayal

As Huang (1995) has described, Mayrinax Atayal exhibits the same pattern as Squliq Atayal. The including pronoun is implicit, as seen in (8), and is similar to Squliq Atayal; there is a connector *ki'*. Table 3 summarizes the pattern of inclusory constructions in Mayrinax Atayal.

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[5] Ogawa and Asai (1935:28) seem to be the first in the literature to mention the inclusory construction in Squliq Atayal. They only presented two examples: *sami ki Taimu* "I and Taimu" and *simu ki yaya* "I and my mother" (the data were slightly modified by the author).

[6] "You" in the translation should also be understood as singular.

[7] Even though the English translation "divorce" is likely to signify a transitive verb, the author of the present paper believes that the Atayal verb *pt'alax* represents an intransitive verb derived from the root *alax*, which is glossed as "to take off, give up, let go" in Egerod (1980:21). The prefix *pt-* [pə-tə-] seems to be composed of *pə-* for reciprocity (Huang and Hayung 2018:31) and *tə-* for spontaneity (Huang and Hayung 2018:31).

Table. 2   Including pronoun and connector in Squliq Atayal

	Connector	No connector
Explicit including pronoun	---	---
Implicit including pronoun	*ki'* (5), (6)	(7)

(8) *Ma-tuting*   *=cami*   **ki' Yumin.**
RCPL.AV-beat =1PL.NOM(EXCL) & Yumin
"I fought with Yumin." (Huang 1995:44)

Table. 3   Including pronoun and connector in Mayrinax Atayal

	Connector	No connector
Explicit including pronoun	---	---
Implicit including pronoun	*ki'* (8)	---

2.3   Plngawan Atayal

As noted by Huang (2006) and Huang and Hayung (2011:43), the including pronoun in the Plngawan dialect is either explicit, as in (9), or implicit, as in (10). The connector *ci'* is used in both examples.[8]

(9) *Ma-m-aha* *=min*   *m-ani* **cami**   **ci' Temu.**
RDP-AV-go =1PL.NOM AV-eat 1PL(EXCL) & Temu
"I will go eat with Temu." (Huang and Hayung 2011:43)

(10) *M<in>babahiy* *=mamu*   **ci' Temu** *hira.*
AV<PERF>fight =2PL.NOM & Temu yesterday
"You fought with Temu yesterday." (Huang 2006:223)

As Huang (2006:223) has observed, in addition to the connector *ci'*, there is a variant *cika'* which is exemplified in (11):[9]

(11) *M-pa-was*   *=min*   *cuxan*   **cika' nabakis.**
AV-IRR-sing =1PL(EXCL).NOM tomorrow &   old.man
'II will sing with the old man tomorrow." (Huang 2006:223)

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[8] *ci'* is less likely to be the cognate with *ki'* in Squliq Atayal and Mayrinax Atayal; Andre Goderich (p.c.) commented that there is no phonological change from *k* to *c* in the Plngawan dialect. This connector seems to have a different origin. One of the possibilities is that it was *ti* before a palatalization was applied. This form is absent in Atayalic languages but is seen in Thao or Siraya. *ti* functions as a personal marker in Thao (Niida 2018:170) and Siraya (Adelaar 2011:89). It could have been borrowed by Atayal from one of such languages with the personal marker *ti*. In this connection, Paiwan also has *ti* as a personal marker (Ogawa and Asai 1935:137); however, it is less likely to have been borrowed from Paiwan because it is geographically remote from the Atayalic areas.

[9] *cika'* is apparently composed of *ci* and *ka'*.

Table 4 summarizes the pattern of inclusory constructions in Plngawan Atayal.

Table. 4   Including pronoun and connector in Plngawan Atayal

	Connector	No connector
Explicit including pronoun	*ci'* (9)	---
Implicit including pronoun	*ci'* (10), *cika'* (11)[10]	---

2.4   Summary of Atayal dialects

Table 5 shows the combined patterns of the inclusory construction in Squliq Atayal, Mayrinax Atayal, and Plngawan Atayal, as displayed in Tables 2, 3, and 4, respectively.

Table. 5   Including pronoun and connector in Atayal dialects

	Squliq	Mayrinax	Plngawan
Explicit/connector	---	---	*ci'*
Explicit/no connector	---	---	---
Implicit/connector	*ki'*	*ki'*	*ci'*, *cika'*
Implicit/no connector	✓	---	---

Squliq Atayal and Mayrinax Atayal exhibit nearly the same pattern: the inclusory pronoun is implicit and the connector is *ki'*; however, the connector seems to be optional in Squliq Atayal. Plngawan Atayal shows both explicit and implicit types. The connector is *ci'* or its variant *cika'*. All three dialects use a connector.

2.5   Truku Seediq

The inclusory constructions in Truku Seediq are described in the studies of Tsukida (2006) and Lee (2011). As far as these descriptions are concerned, the including pronoun is either explicit or implicit in the inclusory constructions of this dialect. When the inclusory pronoun is explicit, the connector *dəha* "two" is sometimes used,[11] as is demonstrated in (12); however, as is shown in (13), the use of the connector is optional.

(12) ***Yami***   ***dəha Ciwang*** *ka*   *m-usa Kalingku.*
      1PL(EXCL) &   Ciwang COMP AV-go Hualian
      "It is two of us, Ciwang and I, that (we) went to Hualien." (Lee 2011:57)

(13) *Məha*   =*namu*   *inu*   *ka*   ***yamu Rubiq***?
      go.FUT =2PL.NOM where NOM 2PL   Rubiq
      "Where will you (sg./pl.) and Rubiq go?" (Tsukida 2009:306)

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[10] There are no data demonstrating *cika'* with an explicit including pronoun in previous studies of Plngawan Atayal. Thus, the author could not determine if *cika'* is available with the explicit including pronoun (e.g., *cami' cika' Temu* [1PL(EXCL) & Temu].)

[11] For *dəha* and its meaning "two," the author referred to Truku Seediq dictionary (Rakaw et al. 2006:202).

If the inclusory pronoun is implicit, then a connector appears to be necessary. However, its connector is not *dəha*, as in (12), but rather *ka*, as seen in (14).[12] Table 6 summarizes the pattern of inclusory constructions in Truku Seediq.

(14) *M\<n\>ke'kan*   *=nami*   *ka*   *hiya*.
     AV\<PERF\>fight =1PL.NOM(EXCL) COMP 3SG
     "I have fought against him." (Lee 2011:59)

Table. 6   Including pronoun and connector in Truku Seediq

	Connector	No connector
Explicit including pronoun	*dəha* (12)	(13)
Implicit including pronoun	*ka* (14)	---

3   Inclusory construction in Paran Seediq

The inclusory construction in Paran Seediq has not previously been described except for one sentence recorded by Asai (1953) in the 1920s, which will be introduced in Section 3.7 in relation to historical analysis. This section describes the inclusory construction in Paran Seediq as observed during the author's fieldwork in 2017. The author conducted fieldwork in a village called Gluban (a Seediq place name), located in Ren'ai Township, Nantou County. There were two informants: a man in his late 50s, who is a part of the last generation of native speakers in Paran Seediq-speaking villages and a woman in her late 70s, the mother of the first informant. The Paran Seediq data in this paper is based on natural speech as well as on elicited sentences.

Table 7 presents pronouns in Paran Seediq, including both independent (in the first line) and bound forms (in the second line).[13] The bound pronouns are second position enclitics. The first person plural pronoun distinguishes between exclusive and inclusive forms. Some bound pronouns distinguish the cases (either nominative or genitive); however, others use the same form for both cases. Third-person bound pronouns lack nominative forms.

For ease of comparison, a non-inclusory construction with a plural pronoun is shown in (15). The referents are expressed by the bound pronoun *=miyan*. The sentence is also acceptable with an explicit independent pronoun, *yami*, as exemplified in (16).[14] In these sentences, an included person is not expressed.

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[12] In this example, a more appropriate translation would be "We, including him/her, fought each other" or "He/she and I fought each other." The reciprocity is likely to be indicated in the verb *mnke'kan*, which is derived from a root *ʔkan* (or *əkan* in Rakaw et al. (2006:230)), "to eat." The complex prefix *mnke-* [mənəkə- (speculated phonetic representation)] is likely to include the reduplicated consonant *k*, which resembles the reciprocal prefix *mə-Cə-* involving the reduplicated consonant *C* seen in Tsukida (2009:267); however the *n* in the middle of the complex prefix is unexplained.

[13] The table is based on Asai (1953:41-42), Holmer (1996:32), and Ochiai (2016a:38).

[14] However, (15) is more natural than (16); the latter is somewhat emphatic.

Table. 7 Pronouns in Paran Seediq

	Singular	Plural
1	*yaku*	*yami* (EXCL), *ita* (INCL)
	=*ku* (NOM), =*mu* (GEN)	=*miyan*/=*nami* (EXCL), =*ta* (INCL)
2	*isu*	*yamu*
	=*su*	=*namu*
3	*heya*	*deheya*
	=*na* (GEN)	=*daha* (GEN)

(15) *M<un>-osa =miyan   Hori.*
    AV<PST>-go =1PL(EXCL) Hori
    "We went to Hori."

(16) *M<un>-osa =miyan   Hori yami.*
    AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL)
    "We went to Hori."

The following subsections discuss the inclusory construction in Paran Seediq with the viewpoints of the including pronoun and connector (Section 3.1), stress pattern (Section 3.2), constraint on person (Section 3.3), constraint on grammatical function (Section 3.4), relation between inclusory constituents (Section 3.5), and condition on predicates (Section 3.6). The data on inclusory construction in this section through Section 3.6 were provided by the speaker in his 50s. Section 3.7 introduces the data provided by the speaker in her 70s, and the structural changes between these two generations are analyzed historically. Section 3.8 summarizes the findings from Paran Seediq and Truku Seediq.

3.1 Including pronoun and connector

The connector is optional. However, in natural speech, the author has only heard inclusory constructions without a connector and with the explicit including pronoun, *yami* or *yamu*, as demonstrated in (17).

(17) *M<un>-osa =miyan   Hori **yami**   **Obing**.*
    AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL) Obing
    "We, including Obing, went to Hori." (= "Obing and I went to Hori.") [The speaker and Obing are husband and wife.]

The inclusory pronoun is *yami*, and the included noun phrase is *Obing*, a female personal name. Among the inclusory constituents *yami Obing*, the head is *yami*, which is reflected in the bound pronoun =*miyan*. The order of *yami Obing* is not reversible; *Obing yami* results in an ungrammatical sentence. This order reflects the head-initial structure of this language: verb-initial order prevails in a verb phrase and noun-initial order is used in a noun phrase.

That *yami Obing* constitutes a phrase is evidenced by their movement. When inclusory referents are focused, they move together to the clause-initial position, being a nominal predicate as seen in (18):

(18) **Yami**   **Obing** *ka m<un>-osa*   *Hori.*
     1PL(EXCL) Obing ka AV<PST>-go Hori
     "[Those who] having gone to Hori are we, including Obing." (= "It is we, including Obing, that went to Hori.")

The subject of this sentence is the verb phrase *munosa hori* "having gone to Hori," which functions as a nominalized phrase or gerund meaning "those who went to Hori." The nominal predicate is *yami Obing*.[15] Incidentally, the bound pronoun *=miyan*, which would be expected to appear after *munosa*, does not appear when the corresponding independent pronoun is the nominal predicate.[16]

In (17), if the including pronoun *yami* is changed into the singular form, *yaku*, then the sentence becomes ungrammatical (* denotes an unaccepted or ungrammatical phrase/sentence) as is shown in (19):

(19) **M<un>osa =miyan*   *Hori yaku Obing.*
     AV<PST>-go =1PL(EXCL) Hori 1SG Obing
     "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

However, an additive interpretation is not excluded for (17) and (18). In other words, the plural pronoun *yami* can refer to two (or more people), with *Obing* being an additional member. Thus, there can be three (or more) total referents.

A connector is not seen in the examples above; however, it appears in elicitation in the form of *daha(ka)*, (either *daha* or *dahaka*), as exemplified in (20). This connector derives from *daha*, the numeral "two," similar to Truku Seediq connector *dəha*. The connector *daha* is optionally followed by a relational marker *ka*.[17]

(20) *M<un>-osa =miyan*   *Hori* **yami**   **dahaka Obing**.
     AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL) & Obing
     "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

The explicit inclusory construction behaves differently when a single pronoun is used. In the explicit type, an inclusory pronoun is replaceable with a singular pronoun as is demonstrated in (21); however, this construction is not inclusory. In this case, the connector *dahaka* is used simply as an additive marker rather than an inclusory marker. In fact, *daha(ka)* functions as a coordinator of noun phrases (e.g., *Obing daha(ka) Mona* "Obing and Mona"; however, there can be no more than two arguments; therefore, it is **Obing daha(ka) Mona daha(ka) Pawan*).

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[15] This structure is used as a kind of topicalization, as the noun phrase *yami Obing* is contrasted with other referents meaning "not anyone else but we, including Obing." However, the author does not consider this structure to represent a topicalization or cleft sentence, although it appears so in the English translation. Additionally, in this sentence, *yami Obing* is replaceable with *yami daha(ka) Obing* [1PL(EXCL) & Obing].

[16] The analogous structure of (18) is also seen in the study by Huang and Hayung (2011:42), where they have inclusory pronouns as the nominal predicate.

[17] This relational marker *ka* acts as a marker for a grammatical subject in its typical usage. However, it usually does not appear in natural speech unless used in an emphatic sense.

(21) Non-inclusory

    M<un>-osa =miyan   Hori yaku daha(ka) Obing.

    AV<PST>-go =1PL(EXCL) Hori 1SG and   Obing

    "Obing and I went to Hori."

The author heard only the inclusory construction with explicit including pronoun such as in (17) in the natural speech. However, the following constructions were given in the elicitation:

(22) *M<un>-osa =miyan   Hori **dahaka Obing**.*

    AV<PST>-go =1PL(EXCL) Hori &   Obing

    "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

In (22), the inclusory pronoun *yami* is missing; however, it is reflected as the bound pronoun *=miyan*. The connector is necessary because the sentence is ungrammatical without it, as is exemplified in (23):

(23) **M<un>-osa =miyan   Hori Obing.*

    AV<PST>-go =1PL(EXCL) Hori Obing

    "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

Thus, the including pronoun is either explicit or implicit; however, the explicit type is likely to be unmarked. The connector *daha(ka)* is optional in the explicit type, but it is obligatory in the implicit type. These findings are summarized in Table 8.

Table. 8   Including pronoun and connector in Paran Seediq

	Connector	No connector
Explicit including pronoun	*daha* (20)	(17), (18)
Implicit including pronoun	*daha* (22)	---

3.2 Stress pattern

The stress pattern exhibited in phrases comprised of inclusory constituents is similar to that of a compound. In Paran Seediq, the stress of a word falls on the penultimate syllable (Asai 1953), i.e., *quti* [qú.ti] "feces" and *rodux* [ró.dux] "chicken" (the stress is indicated with the acute accent). In compounds, only the rightmost word is stressed (Ochiai 2016a:14). In other words, the compound as a whole is a domain of the instance stress assignment. For example, *quti ródux* is a compound meaning *guava* (literally "dung of chicken"). It is incorrect to stress each word as shown in (24d):

(24) a. *qúti* "feces"

      b. *ródux* "chicken"

      c. *quti ródux* "guava"

      d. **qúti ródux* "guava"

The same stress pattern as that exhibited in compounds is used in phrases comprised of inclusory constituents. For example, in *yami obing* "we, including Obing," the stress is only on *Obing* as is shown in (25a), and (25b) is unaccepted. The inclusory constituents

are a single phonological unit:

(25) a. *yami Óbing* "we, including Obing"
   b. **yámi Óbing* "we, including Obing"

In contrast, as is demonstrated in (26a), each constituent receives a stress in phrases of inclusory constructions with the connector *daha(ka)*. It is unacceptable if only the right constituent receives a stress. Thus, the two constituents are phonetically independent.[18]

(26) a. *yámi dahaka Óbing* "we, including Obing/we and Obing"
   b. **yami dahaka Óbing* "we, including Obing/we and Obing"

In short, the inclusory constituents without a connector form a single prosodic word similar to compounds, whereas a phrase of inclusory constituents with a connector is phonetically independent, such that each constituent is assigned a stress.

3.3 Constraint on persons

The person combinations in inclusory constructions are limited to 1+3 and 2+3. These examples are in (27), which restates (17), and (28).

(27) 1+3

   M<un>-osa   =miyan   Hori yami   Obing.
   AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL) Obing
   "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

(28) 2+3

   Asi   buleyaq   mutu-bale, yamu Iyung.
   simply well.AV.IMP STAT-flat   2PL   Iyung
   "Get along with each other! You two, including Iyung." (= "Get along with each other! You (sg.) and Iyung") [The listener and Iyung were friends in the past, but detest each other now due to different political interests.]

For example (27), the including pronoun *yami* is exclusive and cannot be replaced by its inclusive counterpart *ita* as shown in (29). The phrase *ita Obing* itself is unacceptable because *ita* is incompatible with the addition of a third person. This pronoun assumes that a speaker (first person) and a listener or listeners (second person) make the full set of participants. A third person, such as *Obing*, cannot be further included through this pronoun.

(29) (1+2)+3

   **M<un>-osa =ta   Hori ita   Obing.*
   AV<PST>-go =1PL(INCL) Hori 1PL(INXCL) Obing
   "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

Next, the inclusory construction of 1+2 is also impossible. Theoretically, the combination of these pronouns is expected to be *yami isu*. However, as explained above, this personal relationship is assumed by the inclusive pronoun (i.e., *ita*, =*ta*), as is demonstrated in (30). The ungrammatical sentence (31) is intentionally provided to represent

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[18] The connector *daha(ka)* is not assigned a stress.

the inclusory construction encompassing the participants of 1+2.

(30) 1+2 (non-inclusory)
    M<un>-osa =ta   *Hori (ita).*
    AV<PST>-go =1PL(INCL) Hori (1PL(INCL))
    "We (you and I) went to Hori."

(31) 1+2
    *M<un>-osa =ta   *Hori yami*   *isu.*
    AV<PST>-go =1PL(EXCL)/=1PL(INCL) Hori 1PL(EXCL) 2SG
    "You and I went to Hori."

Other combinations, such as 3+3 and 1+2 are not available in inclusory construc-tions, but rather are expressed by different structures. For instance, an example of 3+3 is shown in (32):

(32) 3+3 (non-inclusory)
    Wada Iyung deheya di   *wa.*
    left   Iyung 3PL   PERF PART
    "Iyung 'n 'em left."

In this sentence, the words referring to participants are *Iyung deheya*. It is also acceptable to add the connector daha e.g., *Iyung daha(ka) deheya*.

In the inclusory construction, an including pronoun, i.e., the head of the phrase, comes first, e.g., *yami Obing*. However, in (32), the order is opposite to this; the pronoun comes second and is preceded by the personal name *Iyung*. This order cannot be reversed, as is demonstrated in (33):

(33) **Wada deheya Iyung di*   *wa.*
    left   3PL   Iyung PERF PART
    "Iyung 'n 'em left."

In addition to this syntactic distinction, the stress pattern is also different from that of the inclusory constituents, that is, *yami Óbing*, in which only the rightmost word is stressed. In contrast, in (32), both constituents are stressed: *Íyung dehéya*. In conclu-sion, the structure of 3+3 is syntactically and phonetically different from the inclusory construction. This structure of 3+3 is likely to be categorized as an associative plural (Mithun 1988). In the structure of the associative plural, a set of participants comprises a representative nominal (*Iyung* in (32)) and one or more additional members (*deheya* in (32)).

Additionally, the included noun phrase can be an interrogative, *ima* "who." In this case, the including pronoun appears in second-person as in (34), in which a speaker asks the listener on the other side of the phone-line who the listener is with.

(34) 2 + interrogative
    Yamu ima ga   *hiya?*
    2PL   who EXIST there
    "Who are you with?"

Furthermore, an indefinite pronoun *ani ima* "anyone" can be used as an included noun phrase as shown in (35-36).

(35) 2 + indefinite pronoun
    yamu ani ima, *uxe* =*namu au.*
    2PL anyone NEG =2PL in.harmony
    "You (sg.) will not get along with anyone."[19]

(36) 1 + indefinite pronoun
    yami   **ani ima**, *dekiru* =*miyan*   *mehedu qupahun ni.*
    1PL(EXCL) anyone can   =1PL(EXCL) finish work   this
    "With the help of anyone, I can finish this work."[20]

3.4 Constraint on grammatical functions

In a discussion on the typological tendencies of the inclusory construction in relation to its grammatical functions, Schwartz (1988a:241) explained that in some languages, inclusory phrases have no constraints on grammatical functions, and they can appear in both subject and non-subject positions. However, in languages that do have restrictions on their grammatical functions, the inclusory phrase tends to appear in the subject position.

This tendency is also observed in Paran Seediq. The subject position is the typical position for inclusory constituents, as is demonstrated in (37) (repeated from (17)) and in (38).

(37) Subject
    M<un>-osa =*miyan*   *Hori* **yami**   **Obing**.
    AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL) Obing
    "We, including Obing, went to Hori." (= "Obing and I went to Hori.")

(38) Subject
    Ye =*namu mutu-bale* **yamu Iyung**?
    Q =2PL STAT-flat 2PL Iyung
    "Are you two, including Iyung, get along with?"

An inclusory phrase is accepted as an object, as in (39):

(39) Object
    H<umun>etun **yami**   **Iyung** *laqi Nakahara.*
    <AV.PST>hinder 1PL(EXCL) Iyung child Nakahara
    "The children of the Nakahara village obstructed Iyung and I." [The speaker and Iyung are brothers who are elementary school students from Gluban village. Children from the Nakahara village usually ambush them on their way home from school.]

In this sentence, the subject is the thematic agent *laqi Nakahara* and its object is thematic patient *yami Iyung* "Iyung and I," the inclusory constituents. Use of the connector is also acceptable between the constituents, as is exemplified in (40):

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[19] The verb *au* is a Japanese loanword.

[20] The verb *dekiru* is a Japanese loanword.

(40) Object

H<umun>etun **yami** *daha(ka)* ***Iyung*** *laqi Nakahara.*
<AV.PST>hinder 1PL(EXCL) &   Iyung child Nakahara
"The children of the Nakahara village obstructed Iyung and I."

The following examples show an inclusory phrase as a possessor. There is an includ-ing pronoun in (41); however, as presented in (42), the construction without the explicit including pronoun is also accepted:[21]

(41) Possessor/phrasal

Wada gedang   huling =namu   ***yamu Obing****.*
PST   lose.the.way dog   =2PL.GEN 2PL   Obing
"You and Obing's dog died." [The hearer and Obing are husband and wife.]

(42) Possessor/split

Wada gedang   huling =namu   ***dahaka Obing****.*
PST   lose.the.way dog   =2PL.GEN &   Obing
"You and Obing's dog died."

In summary, the inclusory phrase typically appears as a grammatical subject as is observed cross-linguistically by Schwartz (1988a). Although appearances in non-subject positions such as objects and possessors are not excluded, they are scarcely heard in spontaneous speech.

3.5   Relationship between inclusory constituents

Schwartz (1988b:67) pointed out that inclusory constructions in the world's languages "almost invariably identify the overt participant with a kinship term or proper name, sug-gesting a familiar relationship among the participants." Likewise, in Paran Seediq, there is an intimate relationship between inclusory constituents, such as husband and wife (17), brothers (39), or friends (28). A word indicating a less intimate person, such as *okyaku* "guest"[22] sounds inappropriate as an included noun phrase (# indicates that the sentence is pragmatically incorrect) as is exemplified in (43):

(43) *#M<un>-osa =miyan   Paran yami okyaku =mu.*
AV<PST>-go 1PL(EXCL) Paran 1PL guest =1SG.GEN
"We, including my guest, went to Paran." (= "My guest and I went to Paran.")

3.6   Condition on predicates

Schwartz (1988b:69) observed that cross-linguistically, the predicates in inclusory con-structions "tend to involve reciprocal or mutual activities or motion." Specifically, such activities include reciprocal situations such as "to do something to each other" and collec-tive situations such as "to do something simultaneously, to be in a state simultaneously." This tendency is also seen in Paran Seediq. An example of a collective situation is (44), repeated from (17). In this sentence, the referents undertake the action together. This structure cannot be used if the two undertook the action independently at different times.

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[21] See (22) for a construction without the explicit including pronoun in the subject position.

[22] *Okyaku* is a Japanese loanword.

(44) *M<un>-osa* *=miyan* *Hori* **yami** **Obing**.
AV<PST>-go =1PL(EXCL) Hori 1PL(EXCL) Obing
"We, including Obing, went to Hori." (= "Obing and I went to Hori.")

The inclusory construction is also compatible with reciprocal predicates as in (45) and (46).[23]

(45) *Mudu-dayo* *=miyan* **yami** **Iyung**.
RCPL.RDP-help =1PL(EXCL) 1PL Iyung
'We, including Iyung, help each other' (= 'Iyung and I help each other.')

(46) *Musu-barux* *=miyan* **yami** **Iyung**.
RCPL-exchange.labor =1PL(EXCL) 1PL Iyung
"We including Iyung help working in the each other's field."

In short, in alignment with Schwartz's (1998b) generalization, inclusory constructions in Paran Seediq are compatible with reciprocal or collective predicates.

3.7 Inclusory constructions in earlier forms of Paran Seediq
The data in this section have been provided by the informant in her 70s. The author searched for the inclusory constructions in earlier documents of Paran Seediq and one example was found in Asai's (1953) fieldwork, conducted in 1927. This single example, which is presented in (47), is critical for the analysis in this paper.

(47) *M-usa* *=nami* *r<um>igaw* *alang* **yami** **ka** *laqi* *dadal* *=mu*.
AV-go =1PL(EXCL) <AV>travel village 1PL(EXCL) & child relative =1SG.GEN
"We went to see the sight of the town; (those who went are) we including my friends." (Asai 1953:45)

In (47), the inclusory pronoun is *yami* and the included noun phrase is *laqi dadal =mu* "a child who is a relative of mine." What is important in this sentence is the presence of connector *ka*, which was not observed in the informant in his 50s, rather than *daha(ka)*.

The author specifically elicited the inclusory construction from an older speaker in order to observe if she used the connector *ka*, and it turned out that she had indeed retained that form, as is shown in (48); however, the connector is optional as shown in *yami Pawan* in (49).

(48) *Maha* *=miyan* *Hori* **yami** **ka** **Pawan**.
go.AV.FUT =1PL(EXCL) Hori 1PL(EXCL) & Pawan
"We, including Pawan, went to Hori." (= "Pawan and I went to Hori.")

(49) *Maha* *=miyan* *Hori* **yami** **Pawan**.
go.AV.FUT =1PL(EXCL) Hori 1PL(EXCL) Pawan
"We, including Pawan, went to Hori." (= "Pawan and I went to Hori.") [The speaker and Pawan (male name) are husband and wife]

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[23] There are two types of reciprocal markers: a prefix *muCu-* (C indicates a reduplicated consonant) and *musu-* (Ochiai 2016b).

Example (52) shows another connector *daha(ka)* used by the older speaker, which is the identical connector used by the younger speaker.

(50) *Maha*   *=miyan*   *Hori* **yami**   **daha(ka)** **Pawan**.
     go.AV.FUT =1PL(EXCL) Hori 1PL(EXCL) &   Pawan
     "We, including Pawan, went to Hori." (= "Pawan and I went to Hori.")

In the older speaker's inclusory construction, the including pronoun tended to be explicit, and she did not accept the inclusory construction without an including pronoun, as exemplified in (51) and (52).

(51) **Maha*   *=miyan*   *Hori ka Pawan.*
     go.AV.FUT =1PL(EXCL) Hori & Pawan
     "We, including Pawan, went to Hori." (= 'Pawan and I went to Hori.')

(52) **Maha*   *=miyan*   *Hori daha(ka) Pawan.*
     go.AV.FUT =1PL(EXCL) Hori &   Pawan
     "We, including Pawan, went to Hori." (= 'Pawan and I went to Hori.')

In (47–50), the inclusory phrases correspond to the grammatical subject; however, the older speaker also accepted the sentence with inclusory constituents placed in the object position. In such cases, if the connector was explicit, only *ka* was accepted as exemplified in (53), and the use of *daha(ka)* shown in (54) was rejected.

(53) *H<um>etun* **yami**   **(ka)** **Iyung** *seediq Nakahara.*
     <AV>obstruct 1PL(EXCL) &   Iyung people Nakahara
     "People of the Nakahara village obstruct us, including Iyung."

(54) **H<um>etun yami*   *daha(ka) Iyung seediq Nakahara.*
     <AV>obstruct 1PL(EXCL) &   Iyung people Nakahara
     "People of the Nakahara village obstruct us, including Iyung."

The older speaker rejected the sentence with inclusory phrases in the possessor position such as in (55); however, the non-inclusory sentence presented in (56) was acceptable.

(55) **Wada gedang*   *huling =namu yamu Obing.*
     PST   lose.the.way dog   =2PL   2PL   Obing
     "You (sg.) and Obing's dog died." [The hearer and Obing are husband and wife.]

(56) Non-inclusory
     Wada gedang   *huling =namu Obing.*
     PST   lose.the.way dog   =2PL   Obing
     "You (sg.) and Obing's dog died." [The hearer and Obing are husband and wife.]

The data given by the older speaker are summarized in Table 9.

Differences in the use of inclusory construction between the younger speaker and the older speaker are summarized in Table 10 with regard to the including pronoun and connector.

Table. 9   Including pronoun and connector in Paran Seediq: older speaker

	Connector	No connector
Explicit including pronoun	*daha(ka)* (50), *ka* (48)	(49)
Implicit including pronoun	---	---

Table. 10   Use of including pronoun and connector among speakers from different generations

	Younger speaker	Older speaker
Explicit/connector	✓ *daha(ka)*	✓ *daha(ka)*, *ka*
Explicit/no connector	✓	✓
Implicit/connector	✓ *daha(ka)*	---
Implicit/no connector	---	---

Table 11 shows the distribution of available connectors in different grammatical functions as represented by the two speakers. Notably, examples with inclusory constituents as object, (53) and (40), and possessor (42) were only obtained in elicitation. The author has not heard such sentences in natural speech.

Table. 11   Distribution of the connector

	daha(ka): younger	*daha(ka)*: older	*ka*: older
Subject	(20)	(50)	(48)
Object	(40)	---	(53)
Possessor	(42)	---	---

Table 10 shows that the inclusory construction of the older speaker is more restricted than that of the younger speaker with respect to the use of including pronouns. For the older speaker, an including pronoun has to be explicit, whereas for the younger speaker, it is either explicit or implicit. Table 11 shows that the two connectors used by the older speaker behave differently; *ka* has a wider distribution than *daha(ka)*, which is unavailable in the object position. Furthermore, the older speaker rejected the structure that had including constituents as the possessor.

The inclusory construction shown by Asai (1953) and that of the older speaker suggest that *ka* was the connector previously used in Paran Seediq; however, it is gradually being replaced by *daha(ka)*, which is probably an innovative form. The new form is also used as a coordinator. Stassen's (2003:775) cross-linguistic research on the direction of grammaticalization seems to support this interpretation: "[t]here are languages in which a coordinating particle for NPs [noun phrases] clearly arises from numerals or quantifies like 'two,' 'both' or 'all'...." In later forms of Paran Seediq, the numeral *daha* "two," is grammaticalized not only as a coordinator but also as a connector for inclusory constructions.

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3.8 Summary of Seediq dialects

Table 12 summarizes the comparison between Truku Seediq and Paran Seediq. A critical element of this discussion is that the connector *ka*, which I reconstructed as the original connector in Paran Seediq, is also used in Truku Seediq, albeit its distribution is limited to inclusory constructions without an including pronoun. The attestation of *ka* in Truku Seediq is another piece of evidence that this is a more archaic connector than *daha(ka)/dəha*.

Table. 12   Including pronoun and connector in Seediq dialects

	Paran (older)	Paran (younger)	Truku
Explicit/connector	*daha(ka)*, **ka**	*daha(ka)*	*dəha*
Explicit/no connector	✓	✓	✓
Implicit/connector	---	*daha(ka)*	**ka**
Implicit/no connector	---	---	---

4   Reconstruction

4.1 Inclusory construction in Proto-Atayal and Proto-Seediq

The findings with regard to the use of including pronouns and connectors in Atayalic languages (Atayal dialects and Seediq dialects) are summarized in Table 13.

Table. 13   Including pronouns and connectors in Atayal dialects and Seediq dialects

	Explicit / connector	Explicit/ no connector	Implicit/ connector	Implicit/ no connector
Squliq A.	---	---	*ki'*	✓
Mayrinax A.	---	---	*ki'*	---
Plngawan A.	*ci'*	---	*ci', cika'*	---
Truku S.	*dəha*	✓	*ka*	---
Paran S. (younger)	*daha(ka)*	✓	*daha(ka)*	---
Paran S. (older)	*daha(ka)*	✓	---	---

The following can be summarized: (i) In Atayal dialects, the connector is obligatory, whereas it is optional in Seediq dialects; (ii) The Proto-Atayal connector can be reconstructed as **ki*,[24] and the Proto-Seediq connector can be reconstructed as **ka*. The other connector, *daha(ka)/dəha*, is a later development from the numeral "two"; (iii) All of the Atayal dialects exhibit a structure not containing including pronouns. Only Plngawan Atayal also has a structure with an including pronoun. Conversely, all of the Seediq dialects exhibited a structure featuring an explicit including pronoun; however, speakers of

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[24] The author considers the glottal stop to be phonetic realization that appears after the word-final vowel. In evidence, the glottal stop disappears if followed by another segment as in *cika'* (not *ci'ka'*) of the Plngawan connector.

Truku Seediq and the younger speaker of Paran Seediq also demonstrated the implicit including pronoun.

Typological studies on inclusory constructions provide no clues for resolving the complex pattern of Atayalic languages in Table 13. Schwartz (1988b:62-63) commented that some languages have both structures with explicit and implicit including pronoun, others only show the explicit type, and still others only show the implicit type; she commented further that "there is apparently no necessary cross-linguistic correspondence between these structures." As such, we cannot generalize structures to state that "if a language has a phrasal type, then it also has the split type" and vice versa.

In the case of the Atayalic languages, the structural differences between older and younger speakers of Paran Seediq are important to diachronic analysis. The older speaker only accepted the structure with explicit including pronouns, whereas the younger speaker accepted both explicit and implicit types. In the implicit structure of the younger speaker, the connector used was not *ka* but rather the innovative *daha(ka)*. It follows that the structure with explicit including pronouns preceded the structure with implicit including pronouns, and that the connector *ka* represents an earlier form than *daha(ka)*. In the history of inclusory constructions in Seediq, there may have been a change from the explicit including pronoun to the implicit including pronoun.

Accordingly, the Proto-Atayalic and Proto Seediq inclusory constructions could be reconstructed, as shown in Table 14.[25]

Table. 14   Inclusory construction in Proto-Atayal and Proto-Seediq

Proto-Atayal: including pronoun (*sami, *simu) + *ki + included person
Proto-Seediq: including pronoun (*yami, *yamu) + *ka + included person

In the case of Proto-Atayal, the structure of the implicit including pronoun in Squliq Atayal and Mayrinax Atayal is problematic. However, a possible explanation may be found by examining their pronominal system (Table 15). In the two dialects, independent pronouns used in inclusory constructions (first person plural, exclusive and second person plural) are identical to those of bound pronouns. Squliq Atayal uses *sami* and *simu* as both independent and bound forms. Likewise, Mayrinax Atayal uses *cami* and *cimu* for both forms, whereas Plngawan Atayal uses different forms for independent pronouns (*cami*, *cimu*) and bound pronouns (=*min*, =*mamu*).

Table. 15   Atayal pronouns (Ross 2006:549)

	Squliq Atayal	Mayrinax Atayal	Plngawan Atayal
1PL(EXCL), independent	*sami*	*cami*	*cami*
1PL(EXCL), bound	=*sami*	=*cami*	=*min*
2PL, independent	*simu*	*cimu*	*cimu*
2PL, bound	=*simu*	=*cimu*	=*mamu*

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[25] The reconstruction for Proto-Atayal pronouns is based on Ross (2006:549).

A possible inclusory construction in Squliq Atayal is presented in (57). This example is tentatively constructed from (5) by adding an independent pronoun; the two pronominals appear in the same form. It is likely that this repetitive structure was avoided, leading to the deletion of one of the pronouns, the independent one, i.e., the including pronoun.

(57) Squliq Atayal (tentative reconstruction)
    M-qwas =*sami*   *sami*   *ki' Ciwas krryax.*
    AV-sing =1PL.NOM(EXCL) 1PL.NOM(EXCL) & Ciwas often
    "I/we often sing with Ciwas."

4.2 Inclusory construction in other Formosan languages

A comparison of the inclusory constructions in other Formosan languages will shed light on the more accurate reconstructions in the Atayalic subgroup. Among Formosan languages, Paiwan (58), Puyuma (59–61), Bunun (62–63), and Saisiyat (64) are described as having inclusory constructions. Examples from previous literature (Ogawa and Asai 1935; Teng 2011; De Busser 2009; and Zeitoun et al. 2015) are shown below with slight modifications.

(58) Paiwan
    ti-anum   *a ti*   ***Kuljiu***
    PERS.MKR-1PL(EXCL) & PERS.MKR Kuljiu
    "Kuljiu and I" (Ogawa and Asai 1935:14)

The inclusory construction in Paiwan is different from that of Atayalic languages in that the included person, *Kuliju*, is preceded by a personal marker *ti*. This kind of personal marker was not seen in the inclusory constructions in Atayalic languages (however, see Section 4.3 for further analysis on the connector *ki* in Atayal).

(59) Tamalakaw Puyuma
    m-uka =*mi*   *i*   *zenan*   ***iniyam***   *i*   ***Senayan.***
    AV-go =1PL(EXCL).NOM LOC mountain 1PL(EXCL) PERS.MKR Senayan
    "Senayan and I went to the mountains." (Teng 2011:185)

The inclusory construction inTamalakaw Puyuma is similar to that of Paiwan. There is a personal marker *i* preceding the included person *Senayan*. Additionally, examples (58) and (59) show the explicit including pronoun, *ti-anum* and *iniyam*, respectively. However, there is no connector in Tamalakaw Puyuma.

(60) Katripul Puyuma
    m-ukuwa =*mi*   ***za i***   ***Senayan** i*   *zenan*
    AV-go   =1PL(EXCL).NOM & PERS.MKR Senayan LOC mountain
    "Senayan and I went to the mountains." (Teng 2011:182)

In the inclusory construction in Katripul Puyuma, there is also a personal marker *i* before the including pronoun. However, the including pronoun is implicit. Katripul Puyuma also differs from Tamalakaw Puyuma in that a connector *za* is used.

(61) Nanwang Puyuma
    m-uka =mi   **kay nanali**
    AV-go =1PL(EXCL).NOM & my.mother
    "I went with my mother." (Teng 2011:178)

The inclusory construction in Nanwang Puyuma is similar to that of Katripul Puyuma. Both have a structure with implicit including pronouns. A connector *kay* is also used in Nanwang Puyuma; however, it differs in form from that of Katripul Puyuma. Nanwang Puyuma differs from other two Puyuma dialects in that a personal marker is not used. However, it seems probable that the connector *kay* is further divided into *ka* and *y*, such that the former would be a proper connector, and the latter is derived from the personal marker *i*. This analysis is built on the Teng's (2008:276) comment that *kay* only precedes personal nouns. *kay* is composed of a connector *ka* and a personal marker *i* from a diachronic perspective, that represents the identical pattern as seen in *za i* (a connector followed by a personal marker). This construction is evident in Katripul Puyuma (60). This pattern is also attested as *a ti* (a connector followed by a personal marker) in Paiwan (58). It is likely that the connector *ka* in Nanwang Puyuma merged with the following personal marker to became a portmanteau connector *kay*.

The following examples (62-63) shows the inclusory construction in Bunun reported in De Busser (2009). In (62), there is no connector relating the including pronoun *zami* and included person *istun=a*. In (63), there is no including pronoun; rather, it is expressed by a bound pronoun *=am*. In (63), there is a connector *dusa* before the included person *Uli*. This form is identical to the numeral "two" in Bunun. Therefore, the grammaticalization from "two" to the connector in the inclusory construction is suspected to have emerged in a similar process as the one resulting in the same grammaticalization in Seediq.

(62) Takivatan Bunun
    zami   **istun=a**
    1PL(EXCL) 3SG=DIST
    "He/she and I" (De Busser 2009:9)

(63) Takivatan Bunun
    mun-Taihuku =ʔam   **dusa Uli** *han lihai.*
    go.to-Taihoku =1PL(EXCL) &   Uli LOC *Sunday*
    "The two of us, me and Uli, are going to Taipei on Sunday." (De Busser 2009:9)

Ogawa and Asai (1935:113) provided the following examples of the inclusory construction in Saisiyat: (i) *yami ki Bong* (1PL.(EXCL) & Bong) "Bong and I" and (ii) *moyo ki tamah* (2PL & father) "your father and you (sg.)." Another example is in (64).

(64) Saisiyat
    yami   **ki yaba'** *rima' 'oes'oeso'an pash-raromaeh.*
    1PL(EXCL) & father go   mountain   *chop-bamboo*
    "I went with Father to the mountain to chop bamboo." (Zeitoun et al. 2015:69)

The data of inclusory constructions from Formosan languages introduced above are summarized in Table 16. There is a connector, *ki*, in Saisiyat, which is identical to the

connector reconstructed for Proto-Atayal. This connector is discussed further in the next section.

Table. 16   Inclusory constructions: Paiwan, Puyuma, Bunun, and Saisiyat

	Paiwan	Puyuma	Bunun	Saisiyat
Explicit/connector	(58) *a*	---	---	(64) *ki*
Explicit/no connector	---	(59)	(62)	---
Implicit/connector	---	(61) *kay* (diachronically *ka*), (60) *za*	(63) *dusa*	---
Implicit/no connector	---	---	---	---

4.3   Proto-Atayalic connector

In Ogawa and Asai (1935:26-28), the connector *ki* is described as a kind of article-like marker in Squliq Atayal. In their study, they classify article-like markers into two types: personal and common. The personal markers include *i*, *ni*, and *ki*, and they are placed before personal names or kin-terms. On the other hand, Huang (1995) analyzed these as case markers. Table 17 shows the reorganization of Ogawa and Asai's classification and Huang's analysis as case markers. The marker *i* denotes the nominative case, and *ni* denotes the genitive case. The common markers for the nominative and genitive cases are *qu* and *naqu*, respectively.

Table. 17   Cases in Squliq Atayal

	nominative	genitive	comitative
personal	i^{26}	*ni*	*ki*
common	*qu*	*naqu*	---

The personal category is characterized by the segment *i*. For the genitive case, Proto-Austronesian case markers are reconstructed as *na, *nu, and *ni (Ross 2002:35). These forms show that the segment indicating the genitive case is the segment "n." Ross observes that among these forms, *na and *nu are used as a common marker; whereas *ni is used as a personal marker. Thus, *ni (genitive case and personal) is a portmanteau form including the two types of information, that is, the case type and the distinction of personal or common. The same reasoning can be applied to *ki*. The segment *k* denotes that it is a connector, and the vowel *i* denotes that the following noun is personal.

A similar composition was observed in portmanteau connector *kay* in Nanwang Puyuma, which was analyzed as a composite of a diachronic connector *ka* and a personal marker *i*. This connector *ka* in Nanwang Puyuma is likely to be cognate with the connector **ka* in Proto-Seediq as seen in Table 14. For the sake of illustration, the connectors

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[26] However, Ogawa and Asai explain that this marker is hardly used. Since then, the markers *ni* as well as *i* have been lost in Squliq Atayal. Huang (1995:111) records only *ki* as a personal case marker in Squliq Atayal (Wulai area).

available in inclusory constructions in five Formosan languages (Atayal, Seediq, Saisiyat, Puyuma, Paiwan) are listed in Table 18 regardless of whether they are optional or not in the inclusory constructions. Atayal and Seediq connectors represent reconstructed forms. Bunun is excluded because its only connector *dusa*, originally meaning "two," is evidently not cognate with the connectors in other languages.

Table. 18   Connectors in inclusory constructions in five Formosan languages

Atayal	Seediq	Saisiyat	Puyuma	Paiwan
*ki	*ka	ki	kay (diachronically ka), za	a

The vowel seen in these connectors is *a*, other than Atayal and Saisiyat, which have the vowel *i*. It can be inferred that the connector to be reconstructed for these languages is *ka, which probably reflects the Proto-Austronesian *ka reconstructed as a conjunctive particle by Blust and Trussel (2013). In Atayal, *ka followed by the personal marker *i* seems to have become *ki* through the deletion of the vowel *a* (i.e., *ka + i > ki*). The same process is likely to have happened in Saisiyat. In Atayal, there actually exists a function word *ka* recorded in Egerod (1980:256–257), which behaves like a complementizer.[27] In Saisiyat, there is also a function word *ka*, that Zeitoun et al. (2015:168) describe as ligature. Further, in Atayal and Saisiyat, the connecor *ki* is a portmanteau marker derived from the connector *ka* and the personal marker *i*, in the same manner as Nanwang Puyuma *kay*. In this case, Nanwang Puyuma did not delete the vowel *a*. The next section discusses the personal marker used in the inclusory constructions in Paiwan, Puyuma, Atayal, and Saisiyat.

4.4   Proto-Atayalic personal marker

Among six Formosan languages reported to incorporate inclusory constrictions (Atayal, Seediq, Paiwan, Puyuma, Bunun, and Saisiyat), four languages other than Seediq and Bunun use a personal marker in the included noun phrase. In Paiwan example (58), the personal marker in the inclusory construction is *ti*. This marker is *i* in Tamalakaw Puyuma and Katripul Puyuma as seen in (59) and (60), respectively. In Nanwang Puyuma, it appears as *y*, which originates in *i*, in the portmanteau connector *kay* as seen in (61). Likewise, in Atayal and Saisiyat, it appears as *i* in the pormanteau connector *ki*. The use of a personal marker in included noun phrases is widespread in Formosan languages. Even though Seediq does not use it, it is likely that a personal marker was utilized in the included noun phrase at the time of Proto-Atayalic.

As explained in section 4.3, *i* denotes the personal marker (or the nominative case marker for person) in Atayal. In contrast, Seediq does not possess a personal marker preceding personal nouns. However, the form exists in three Seediq pronouns, *yaku* (1SG), *yami* (1PL(EXCL)), and *yamu* (2PL) as fossilized versions of *y* in the initial segment (*i-*

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[27] One of the connectors in Plngawan Atayal was *cika'* as shown in Table 4. This term seems to include the original connector *ka*. Footnote 8 elucidated that the first element *ci* (or *ci'*) may be derived from the borrowed personal markers *ti*. If so, the order of the personal pronoun and the connector is the opposite of the commonly observed pattern seen in Paiwan, Puyuma, Atayal, and Saisiyat in which the connector is followed by a personal marker.

aku > yaku; *i-ami > yami*; *i-amu > yamu*) as pointed out in Ross (2006:549).[28] Then, the personal marker in Atayalic can be reconstructed as *i, which reflexes the Proto-Austronesian *i "personal article" reconstructed by Blust and Trussel (2013).

4.5 Proto-Atayalic including pronouns

This section attempts to reconstruct Proto-Atayalic including pronouns: 1PL(EXCL) and 2PL. In Atayal and Seediq, the 1SG pronoun shows a parallel phonological development with 1PL(EXCL) and 2PL. Therefore, the three pronouns (1SG, 1PL(EXCL), 2PL) are compared for the purpose of reconstruction. Atayal pronouns are *saku*, *sami*, and *simu* (Huang and Hayung 2018:67), in that order. The initial segments share *s*. Seediq pronouns are *yaku*, *yami*, and *yamu*. The initial segments share *y*. The first vowels are different in 2PL: Atayal has *i* in *simu* and Seediq has *a* in *yamu*. However, the Atayal second person plural has another form *mamu* as its genitive, which corresponds to the Seediq *yamu* except for the initial segment. Then, the shared part *amu* is chosen as an archaic segment. The initial segment is indecisive just by looking at Atayalic internal data. In Saisiyat, these pronouns are *yako*, *yami*, and *moyo*, respectively (Zeitoun et al. 2015:213), among which the first two are recognized as cognates with Atayalic languages. Saisiyat data indicates that the initial segment in Proto-Atayalic is more likely to be *y* than *s*. It follows that the older segment *y* underwent sporadic changes to *s* in the Atayal pronouns. Table 19 shows the pronouns concerned in this reconstruction for including pronouns *yami (1PL(EXCL)) and *yamu (2PL) as well as *yaku (1SG). These reconstructed pronouns can be further divided into the initial y which originates in the personal marker *i and the rest, e.g., *i-aku, *i-ami and *i-amu.[29]

Table. 19   Data sets for the reconstruction of Proto-Atayalic including pronouns

	Atayal	Seediq	Proto-Atayalic	Saisiyat
1SG	*saku*	*yaku*	*yaku (< *i-aku)	*yako*
1PL(EXCL)	*sami*	*yami*	***yami** (< *i-ami)	*yami*
2PL	*simu* (GEN *mamu*)	*yamu*	***yamu** (< *i-amu)	*moyo*

4.6 Proto-Atayalic inclusory construction

Summarizing the discussion developed in section 4.3, 4.4, 4.5, the Proto-Atayalic inclusory construction can be reconstructed as the "including pronoun *yami or *yamu followed by the connector *ka followed by the personal marker *i followed by an included person." This construction is illustrated in Table 20 along with the Proto-Atayal and the

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[28] Ross (2006:549) provided these segmented forms for one set of Proto-Atayalic pronouns, that I have understood as representing the Proto-Seediq pronouns. Note that "Proto-Atayalic" is called "Proto-Atayal" in his paper.

[29] These forms using the personal marker *i* preceding the diachronic pronouns *aku, *ami, and *amu coincide with one of the Proto-Atayalic pronoun sets reconstructed by Ross (2006:549). He provided two pronoun sets for Proto-Atayalic. One data set is based on Atayal pronouns; the other is based on Seediq pronouns. However, this paper argues that the two sets of Proto-Atayalic pronouns can be combined into one.

Proto-Seediq inclusory constructions shown in Table 14. For instance, Proto-Atayalic probably expressed "We, including Watan (Watan and I)" as *yami ka i Watan. With regard to the sequences *ka + *i, Atayal merged them and deleted the vowel *a* to obtain *ki. Seediq omitted the personal marker *i.

Table. 20   Proto-Atayalic inclusory construction

Proto-Atayal: including pronoun (*sami, *simu) + *ki + included person
Proto-Seediq: including pronoun (*yami, *yamu) + *ka + included person
Proto-Atayalic: including pronoun (*yami, *yamu) + *ka + *i + included person

5   Conclusion

In this paper, the inclusory construction in Paran Seediq was synchronically described in terms of Lichtenberk's (2000) parameters along with other grammatical or phonological viewpoints. A structural change exhibited between younger and older generations of Paran Seediq speakers was also introduced. The Paran Seediq data were compared against other Atayalic dialects, Truku Seediq, Squliq Atayal, Mayrinax Atayal, and Plngawan Atayal to reconstruct inclusory construction in Proto-Seediq and Proto-Atayal. Through comparative analyses with other Formosan languages such as Paiwan, Puyuma and Saisiyat, the inclusory construction in Proto-Atayal was finally reconstructed as "including pronoun + connector *ka + *i + included person."

Formosan languages are on the verge of extinction and are under the pressure of prestigious languages such as Mandarin or Southern Hokkien, which belong to the Sinitic group. These prestigious languages lack inclusory construction. It is likely that inclusory construction in Formosan languages will be sooner or later replaced by a non-inclusory structure as part of the process of grammatical assimilation to Sinitic languages.

References

Adelaar, Alexander (2011)   *Siraya: retrieving the phonology, grammar and lexicon of a dormant Formosan language*. Berlin: De Gruyter Mouton.

Aissen, Judith L. (1989)   Agreement controllers and Tzotzil comitatives. *Language* 65:518–536.

Asai, Erin (1953)   *The Sedik language of Formosa*. Kanazawa: Cercle Linguistique de Kanazawa.

Bhat, D. N. S. (2004)   Conjunction and personal pronouns. *Coordinating constructions*, ed. by Martin Haspelmath, 89–108. Amsterdam: John Benjamins.

Blust, Robert and Stephen Trussel (2013)   *The Austronesian comparative dictionary: A work in progress, web edition*.   http://www.trussel2.com/acd/ Retrieved 2019/08/15.

Bril, Isabelle (2004)   Coordination strategies and inclusory constructions in New Caledonian and other Oceanic languages. *Coordinating Constructions*, ed. by Martin Haspelmath, 499–533. Amsterdam: John Benjamins.

De Busser, Rik (2009)   Doing things together in Takivatan Bunun. In Proceedings of the

workshop on coordination and comitativity in Austronesian languages, 249–260. Taipei: Institute of Linguistics, Academia Sinica.

Corbett, Greville (2000) *Number*. Cambridge: Cambridge University Press.

Egerod, Søren (1980) *Atayal-English dictionary*. London: Curzon.

Haspelmath, Martin (2004) Coordinating constructions: An overview. In *Coordinating constructions*, ed. by Martin Haspelmath, 3–40. Amsterdam: John Benjamins.

Holmer, Arthur (1996) *A parametric grammar of Seediq*. Lund: Lund University Press.

Huang, Lillian M. (2006) Case marking system in Plngawan Atayal. In *Streams converging into an ocean: festschrift in honor of Professor Paul Jen-kuei Li on his 70th birthday*, ed. by Henry Y. Chang, Lillian M. Huang and Dah-an Ho, 205–238. Taipei: Institute of Linguistics, Academia Sinica.

Huang, Lillian M. (1995) *A study of Mayrinax syntax*. Taipei: Crane.

Huang, Lillian M. and Tali' Hayung (2011) Coordination and comitativity in Squliq Atayal. *Language and Linguistics* 12(1):1–47.

Huang, Lilian M. and Tali' Hayung (2018) *Taiyayu yufa gailun* [Introductory grammar of Atayal]. 2nd edition. New Taipei: Council of Indigenous Peoples. [In Mandarin]

Lee, Amy Pei-jung (2011) Comitative and coordinate constructions in Truku Seediq. *Language and Linguistics* 12(1): 49–75.

Li, Paul Jen-kuei (1981) Reconstruction of Proto-Atayalic phonology. *Bulletin of the Institute of History and Philology, Academia Sinica* 52(2): 235–301.

Lichtenberk, Frantisek (2000) Inclusory pronominals. *Oceanic Linguistics* 39(1):1–32.

Mithun, Marianne (1988) The grammaticization of coordination. In *Clause Combining in Grammar and Discourse*, ed. by John Haiman and Sandra A. Thompson, 331–359. Amsterdam: John Benjamins.

Niida, Sumino (2018) *Endangered language Thao*. Taipei: Dahhsin.

Ochiai, Izumi (2016a) Sedekkugo Paran hōgen no bunpō kijutsu to hiishisei settōji no hikaku gengogakuteki kenkyū, Ph. D. dissertation, Kyoto University.

Ochiai, Izumi (2016b) Seediq reciprocals and their history. *Kyoto University Linguistic Research* 35:161–193.

Ogawa, Naoyoshi and Asai Erin (1935) *The myths and traditions of the Formosan native tribes*. Taipei: Taihoku Imperial University.

Plank, Frans (1989) On Humboldt on the dual. In *Linguistic categorization*, ed. by Roberta Corrigan, Fred Eckman, and Frans Plank, 293–333. Amsterdam: John Benjamins.

Rakaw, Lowsi, Jiru Haruq, Yudaw Dangaw, Yuki Lowsing, Tudaw Pisaw, and Iyuq Ciyang ed.(2006) *Tailugezuyu jianyi zidian* [Concise Dictionary of Taroko Seediq]. Hualian: Xiulin Township Administrative Office. [In Mandarin]

Reid, Lawrence A. (2009) Inclusory construction and their development in Philippine languages. In *Austronesian historical linguistics and culture history: A festschrift for Robert Blust*, ed. by Alexander Adelaar and Andrew Pawley, 267–294. Canberra: The Australian National University.

Ross, Malcolm (2002) The history and transitivity of western Austronesian voice and voice-marking. In *The history and typology of western Austronesian voice systems*, ed. by Fay Wouk and Malcolm Ross, 17–62. Canberra: Pacific Linguistics.

Ross, Malcolm (2006) Reconstructing the case-marking and personal pronoun systems

of Proto Austronesian. In *Streams converging into ocean: festschrift in honor of professor Paul Jen-kuei Li on his 70th birthday*, ed. by Chang, Yung-li, Lillian M. Huang and Dah-an Ho, 521–624. Taipei: Institute of Linguistics, Academia Sinica.

Schwartz, Linda (1988a) Asymmetric feature distribution in pronominal 'coordinations.' In *Agreement in natural language: approaches, theories, descriptions*, ed. by Michael Barlow and Charles F. Ferguson, 237–249. Stanford, Calif.: Center for the Study of Language and Information.

Schwartz, Linda (1988b) Conditions for verb-coded coordinations. In *Studies in syntactic typology*, ed. by Michael Hammond, Edith Moravcsik, and Jessica Wirth, 53–73. Amsterdam: John Benjamins.

Stassen, Leon (2003) Noun phrase conjunction: the coordinative and the comitative strategy. *Noun phrase structure in the languages of Europe*, ed. by Frans Plank, 761–817. Berlin: Mouton de Gruyter.

Teng, Stacy Fang-Ching(2008) *Reference grammar of Puyuma, an Austronesian language of Taiwan*. Canberra: Pacific Linguistics, Research School of Pacific and Asian Studies, Australian National University.

Teng, Stacy Fang-ching (2011) Noun phrase conjunction in three Puyuma dialects. *Language and Linguistics* 12(1): 171–204.

Tsukida, Naomi (2009) Sedekkugo (Taiwan) no bunpo. Ph.D. dissertation, The University of Tokyo.

Zeitoun, Elizabeth, Tai-hwa Chu, and Lalo a tahesh Kaybaybaw (2015) *A study of Saisiyat morphology*. Honolulu: University of Hawaii.

セデック語の伴連れ代名詞構文

【要旨】本稿の主眼はセデック語パラン方言（オーストロネシア語族アタヤル語群）の連れ込み代名詞構文を共時的に記述し、かつ通時的に分析を加えることにある。さらにセデック語パラン方言のデータをほかのアタヤル語群の諸方言（セデック語トゥルク方言、アタヤル語スコレック方言、アタヤル語マリナハ方言、アタヤル語プルガワン方言）と比較し、各言語での祖形再建、さらにアタヤル語群での祖形再建を試みる。

【キーワード】アタヤル語群，台湾オーストロネシア諸語，伴連れ代名詞構文[a]，記述言語学，歴史言語学

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[a] Inclusory construction の筆者による和訳（意訳）。