[Article]

"River" in Atayalic and "fresh water" in Proto-Austronesian*

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Abstract

As noted in Ogawa and Asai (1935: 7), the forms for "river" in the Atayalic languages, *ləliyuŋ* in Atayal and *yayuŋ* in Seediq, are considered reflexes of *daNum, the form for "water" in Proto-Austronesian. This paper reevaluates this observation in terms of sound correspondences as well as historical sound changes in both Seediq and Atayal, and make the claim that the Seediq form is likely a reflex of *daNum, whereas it is *gauŋ*, another form for "river" in Atayal, that is the reflex of *daNum. Proto-Seediq is reconstructed as *ðaðum and Proto-Atayal as *gagum. Based on these proto-forms *jajum is reconstructed to Proto-Atayalic. This form indicates that the initial and medial consonants underwent irregular sound changes, *d > *j and *N > *j, that were probably triggered by assimilation. In addition, Proto-Atayalic apparently underwent a semantic shift from "fresh water" to "river." However, this paper develops a different point of view with regard to *jajum as well as its origin *daNum, arguing that it could mean both "river" and "fresh water." If the two meanings are separatable, there must have been an independent proto-form of "river." However, the hitherto reconstructed Proto-Austronesian form for "river," *sapaq, is so questionable that it cannot be safely accepted. This paper proposes that Proto-Austronesian *daNum means "river" and "water," and its meaning shifted to "river" in the Atayalic subgroup, while in all other Austronesian languages its meaning shifted to "fresh water."

Keywords: Atayalic, Proto-Austronesian, river, fresh water, *daNum

1. Introduction

According to Blust (1999), the Atayalic subgroup is one of the ten first order branches of Proto-Austronesian. Nine first order branches, including the Atayalic subgroup are spoken on the mainland Taiwan, and are collectively called Formosan languages. There are about twenty Formosan languages including Atayal, Seediq, Saisiyat, Pazih, Thao, Siraya, Tsou, Kanakanabu, Saaroa, Rukai, Paiwan, Puyuma, Amis, Kavalan, Basai, Trobiawan, Hoanya, Taokas, and Favorlang. The other first order branch is Malayo-Polynesian subgroup, which is comprised of the Austronesian languages spoken outside mainland Taiwan.

　　The Atayalic subgroup is comprised of two languages, Atayal and Seediq. Atayal has two dialects, Squliq Atayal and C'uli' Atayal. Seediq also has two dialects, Paran Seediq and Truku Seediq.[1] This paper concerns the forms for "river" in the Atayalic languages and their relation to the Proto-Austronesian form for "fresh water."

　　The form for "fresh water," *daNum, is one of the representative basic vocabulary items reconstructed to Proto-Austronesian. Table 1 shows the partial data for the reconstruction of *daNum by Blust and Trussel (2010). Table 1 includes all the Formosan languages listed by Blust and Trussel (2010). Among the many other Malayo-Polynesian languages, three languages (Yami, Itbayaten, and Ilokano) are also included for the purpose of comparison to the Formosan forms.

Table 1 Proto-Austronesian *daNum "fresh water" and its reflexes (Blust and Trussel 2010)[2]

Language	Form	Meaning
Proto-Austronesian	*daNum	fresh water
Basai	*nanom, ranum*	water
Trobiawan	*zanum*	water
Kavalan	*zanum*	water
Saisiyat	*ralom*	water
Papora	*dom*	water
Pazih	*dalum*	water
Amis	*nanom*	water
Favorlang	*dalom*	water
Thao	*sazum*	water
Bunun	*danum*	water
Hoanya	*zazum, salum*	water
Tsou	*chumu*	water
Kanakanabu	*canúmu*	water
Saaroa	*salhumu*	water
Siraya	*salom*	water
Puyuma	*nanum*	water[3]

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1) The classification of Atayalic dialects is based on Ogawa and Asai (1935: 21, 559). Based on my field notes, Squliq Atayal has the following phonemes: the vowels /a e i o u ə/, and the consonants /p β t k ɣ q ʔ s x h z̠ r l m n ŋ y w/. The consonants /β/ and /ɣ/ are written orthographically as *b* and *g*. Among these vowels, *e* and *o* are observed to date back to the diphthongs *ay* [aj] and *aw*. According to Huang (1995: 16–17), C'uli' Atayal has the same phoneme inventories except that it adds /ʦ/ (written as *c* in this paper) and lacks the /ə/. As for Seediq, Paran Seediq has five vowels /a e i u o/, 18 consonants /p b t d ʦ k g q s x h m n ŋ l r w j/, and the diphthong /uj/ (Ochiai 2016a: 19). Truku Seediq has the four vowels /a i u ə/ and three diphthongs /aw/ /aj/ /uj/ (Tsukida 2009: 56–62). The consonants are the same as those in Paran Seediq, except for /ʦ/, which becomes /s/ in Truku Seediq. Throughout this paper, /r/, /j/, and /ʦ/ are transcribed as *r*, *y* and *c*, respectively. According to Tsukida (2009), *l* is [ɮ] and *g* is [ɣ] in Truku Seediq.

2) It seems that Blust and Trussel (2010) reconstructed the meaning of *daNum as "fresh water" not just "water," as many Malayo-Polynesian languages shows its reflexes to mean "fresh water." On the other hand, "saltwater" is likely expressed by a form meaning "sea." For example, *tasik, as reconstructed in Proto-Malayo-Polynesian means "sea" and "saltwater," according to Blust and Trussel (2010).

Paiwan	*zalʸum*	water
Yami	*ranom*	water
Itbayaten	*ranom*	water
Ilokano	*danúm*	water

As Table 1 shows, all forms in the listed daughter languages of Proto-Austronesian mean "(fresh) water." Blust and Trussel (2010) do not include any form from the Atayalic languages as reflexes of *daNum. The form for "fresh water" in Atayalic languages is *qəsiya* in both Atayal and Seediq.[4] However, Ogawa and Asai (1935: 7) identifies reflexes of *daNum as shown in Table 2.

Table 2 Reflexes of *daNum "fresh water" in Atayalic languages (Ogawa and Asai 1935: 7)[5]

Language	Form	Meaning
Atayal	*ləliuŋ*[6]	river
Seediq	*yayuŋ*	river

As noted in Ogawa and Asai (1935: 7) and shown in Table 2, the forms for "river," not for "fresh water," in the Atayalic languages, *ləliyuŋ* for Atayal and *yayuŋ* for Seediq, are considered reflexes of *daNum, the form for "fresh water" in Proto-Austronesian. This paper reevaluates this observation in terms of sound correspondences as well as historical sound changes both in Seediq (Section 2) and Atayal (Section 3), and claims that the Seediq form is likely a reflex of *daNum whereas the Atayal form is not likely the reflex of *daNum. Instead, *gauŋ*, another form for "river" in Atayal, is the reflex of *daNum. Based on the two Atayalic cognates, *yayuŋ* and *gauŋ*, together with their earlier forms, *ðaðum is reconsructed to Proto-Atayalic in Section 4. This form indicates that the initial and medial consonants underwent irregular sound changes from Proto-Austronesian. In addition, it apparently underwent a semantic shift from "fresh water" to "river." Section 5 develops a different viewpoint on *daNum, arguing that it could mean both "river" and "fresh water." If the two meanings are separatable, there must have been an independent proto-form of "river." However, the Proto-Austronesian form for "river" reconstructed to date, *sapaq, is so uncertain that it cannot be safely reconstructed. If *daNum means "river; water," its meaning in the Atayalic subgroup shifted to

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3) In Blust and Trussel (2010), it is noted that this form of "water" in Puyuma is used as a ritual term.

4) The Atayal form is taken from Egerod (1980: 538) and the Seediq form is taken from Rakaw et al. (2006: 613). See also Section 5.

5) In Seediq, *ruru* is another form for "river," but it refers to a river smaller than that referred to by *yayuŋ*. In Atayal, *goŋ* or *gauŋ* are other forms for "river." These are the cognates of *yayuŋ* in Seediq as discussed in Section 4. According to Ogawa (2006: 274–275), *goŋ* or *gauŋ* refers to a smaller river than what is referred to by *ləliuŋ*. The cognates *yayuŋ* in Seediq and *goŋ/gauŋ* in Atayal differ in terms of river size; the former is a large river but the latter is a small river.

6) Ogawa and Asai (1935: 7) has this form as *lelʸuŋ*. However, it appears as *ləlyuŋ* in Ogawa (1931: 91). These forms are modified to *ləliuŋ* as the consonant *lʸ* or the cluster *ly* is not included in the Atayal phoneme inventory.

"river" while that in all other Austronesian languages shifted to "water."

2. Seediq

2.1 Reconstruction of "river" in Proto-Seediq

The form for "river" in Paran Seediq is *yayuŋ*.[7] The Truku Seediq form for "river" is also *yayuŋ* (Yuanzuminzu yuyan yanjiu fazhen jijinhui 2021). However, in Torii (1900b: 100), one of the earliest glossaries of Paran Seediq, the form appears as "jajum." However, the writing system used by Torii (1900a, 1900b) was an approximation of the sound. Thus, Ochiai (2018) investigated the first two of glossaries provided by Torii (1900a, 1900b) and undertook phonemic analysis of the vocabularies. Ochiai (2018: 141) analyzed this form "jajum" to be phonetically represented as *ðaðum*, which became *yayuŋ* in modern Paran Seediq. Early Paran Seediq had the consonant *ð*, which changed to *y* in modern Paran Seediq, as described in Ochiai (2016b: 319−320). Truku Seediq seems to have undergone this change earlier than did Paran Seediq, as no remnants of *ð* can be found in the existing data for Truku Seediq. In short, this consonant *ð can be reconstructed to Proto-Seediq.

Table 3 shows the forms for "river" in Paran Seediq in two other glossaries (Bullock 1874, Arao 1898) of nearly the same period as that of Torii (1900b).

Table 3 "River" in Paran Seediq in the early documents

Reference	Recorded form	Phonetic analysis[8]
Bullock (1874: 41)	dzadzung	[ðaðuŋ]
Arao (1898)	yayun	[yayuŋ]
Torii (1900b: 100)	jajum[9]	[ðaðum]

With regard to the final consonant, the forms in Bullock (1874: 41) and Arao (1898) are indicated as *ŋ*. However, Torii (1900b: 100) suggest it to be *m*.[10] Diachronically, Paran Seediq has undergone a phonological change in which a final labial consonant such as *p* (as well as *b*) or *m* is changed into their velar counterparts *k* and *ŋ* (Li 1981: 245, 267). Torii's (1900) form with the final *m* presents the earlier stage before this phonological change occurred. Torii's (1900b: 100) form was recorded later than Bullock (1874: 41) and Arao (1898), but it retains the original final consonant.[11] Therefore,

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7）Data for Paran Seediq is based on the author's fieldnote unless cited otherwise.

8）For the phonetic representation of the forms in Bullock (1874: 41) and Arao (1898), Ochiai (2016b: 320) and Ochiai (2020b: 20) are referenced.

9）Torii (1900b: 100) provides a variant of this form as "jayum," which can be phonetically represented as [ðayum] (However, Ochiai (2018: 123) wrongly provided the form as [ðayuŋ]). This [ðayum] shows the transitional stage of *ð* to *y*. The medial consonant underwent this change earlier than did the initial consonant.

10）Furthermore, Torii (1900b: 100) listed this form three times among the items for "river," "lake," and "riverbank." In all cases, the final consonant is "m."

11）The form in Arao (1898) is the most innovative. Both *ð* and the final *m* underwent changes to *y* and *ŋ*, respectively.

"river" in early Paran Seediq is inferred to be *ðaðum*. Together with *yayuŋ*, the modern form in Paran Seediq as well as the cognate in Truku Seediq, *ðaðum can be reconstructed as Proto-Seediq as seen in Table 4.

<div align="center">Table 4 "River" in Seediq dialects and its reconstruction</div>

Truku Seediq	*yayuŋ*
Modern Paran Seediq	*yayuŋ*
Early Paran Seediq	*ðaðum*
Proto-Seediq	*ðaðum

2.2 Proto-Seediq *ðaðum and Proto-Austronesian *daNum

This paper considers the Proto-Seediq form for "river," *ðaðum, to be a reflex of the Proto-Austronesian for *daNum "fresh water" as is suggested by Ogawa and Asai (1935: 7) for its later form *yayuŋ*. However, both the initial and medial consonants likely underwent irregular sound changes, which greatly obscure its origin.

In Proto-Seediq, the expected reflex of Proto-Austronesian *daNum is *dalum as the Proto-Austronesian *d and *N correspond to *d and *l in Proto-Seediq (see Table 5).[12] In the expected form, the initial consonant is *d and the medial consonant is *l; however, in the reconstructed form, both the initial and medial consonants are *ð. Superficially, the initial *d changed to *ð, and the medial *l changed to *ð. However, Section 4 reconstructs the Proto-Atayalic form as *jajum, through which the Proto-Seediq *ðaðum is obtained. Therefore, it was in the Proto-Atayalic stage that the sporadic consonant changes from the initial *d and medial *N to *j were triggered.

Section 3 reconstructs the Proto-Atayal form for "river," which in turn provides the basis for the Proto-Atayalic reconstruction.

3. Atayal
3.1 Reconstruction of "river" in Proto-Atayal

The previous section argued that the Seediq form for "river," *yayuŋ*, can be connected to the Proto-Austronesian *daNum, as suggested by Ogawa and Asai (1953: 7). According to them, the Atayal cognate is *ləliuŋ*. However, this form is difficult to relate to the Proto-Austronesian *daNum.

First, the number of syllables is different. The Proto-Austronesian from *dalum has two syllables while the Atayal form *ləliuŋ* has three syllables. The first syllable could be regarded as a reduplicative segment of a hypothetical root, *liuŋ*. Even so, the quality of the first vowels is different. The first vowel is *a in Proto-Austronesian, while it is *i* in the hypothetical Atayal root.

This paper proposes that *gauŋ,* another form for "river" in Atayal, is the cognate of its Seediq counterpart *yayuŋ.* According to the Languages Research and Development Foundation (2020), two forms, *gauŋ* and *goŋ*, are listed from five Atayal dialects.[13] The vowel in the latter form, *o*, shows the

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12)　These sound correspondences are based on Li (1981: 253−254, 274), who presents *d* and *l* as Seediq reflexes of the Proto-Austronesian *d and *N.

monophthongization of the vowel sequence *a* and *u* in the former form.[14] Therefore, the earlier form is thought to be *gauŋ*.

Ogawa (2006: 274–275) listed many forms for "river" in Atayal (and other Formosan languages) collected from his own fieldwork in the early 20ᵗʰ century as well compiled from the previous published literature. In the list compiled by Ogawa (2006), *gauŋ* sometimes appears as "gaum."[15] This paper regards *gaum* as the earlier form of *gauŋ*. The final consonant *m* seems to have changed to *ŋ* as is the case for the final consonant in *yayuŋ*, the reflex of Proto-Seediq *ðaðum.

However, this change from the final *m* to *ŋ* in *gaum* requires further explanation. According to Li (1981: 267), Atayal retains the final consonant *m in Proto-Atayalic as opposed to Seediq, where it is changed to *ŋ*. This retention in Atayal can be observed in words such as *si(y)am* "pork," for whcih Seediq has *siyaŋ*.

Still, the early documents cited in Ogawa (2006: 274–275) give the form *gaum* with a final *m*. Thus, it has changed to *ŋ* in the modern Atayal dialects for this word, at least. Likely, *gaum* is one of the earlierst words to have undergone the change from a final *m* to *ŋ*.

This paper regards *gaum* in early Atayal as the cognate of the Proto-Seediq *ðaðum. If so, there must have been a medial consonant in the Atayal cognate which was later lost. In the Seediq form, the initial and medial consonants are identical. It is possible that this was also the case in the Atayal form. The initial consonant is *g*, so a hypothetical form is **gagum. In addition, the consonant *g* in Atayal is sometimes lost. Ochiai (2020a: 66–67) shows a few Atayal words which the word-initial *g* was dropped such as *atuk* "to peck" in Atayal and its cognate *gatuk* in Seediq.[16] There is another case of medial consonant loss in the reflex of *daNum in Table 1. The Papora form for "water" is *dom*, which shows no remnant of a medial consonant. Based on the above, this paper reconstructs *gagum as a word for "river" in Proto-Atayal.

3.2 Proto-Atayal *gagum and Proto-Austronesian *daNum

The previous section reconstructed *gagum, "river," in Proto-Atayal as a cognate of *ðaðum in Proto-Seediq. As proposed in Section 2. 2, the Proto-Seediq form is a reflex of the Proto-Austronesian *daNum "water." Thus, the form in Proto-Atayal is also a reflex of this form.

However, as was the case in Proto-Seediq, both the initial and medial consonant likely underwent

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13）The first form was transcribed as *gawŋ*; however, it is modified by the present author to *gauŋ* so as to show that the two vowels belong to different syllables, composing a two-syllable word, which is a typical word form in Austronesian languages.

14）A similar monophthongization is reported in Li (1981: 270), where the non-final Proto-Atayalic diphthong *aw became *o* in some Atayal dialects.

15）In Ogawa (2006: 274–275), three references to *gaum* are cited from sources numbered as 1b (Marui 1915), 5b, and 13b. For the sources 5b and 13b, the accurate source is unknown but it is noted that the family name of the author is Iijima. Ogawa (2006: xi) states that source 5b records the Atayal dialect of Yilan (宜蘭) area, and source 13b records that of Dafu (written as 太湖, but today's 大湖) area.

16）Ochiai (2020a: 66–67) presents Atayal words which lost the word-initial *R, which supposedly becomes *g* in Atayal according to Li (1981: 275). However, in the case of *gagum*, it is not the initial *g* which is lost, but the medial *g*.

irregular sound changes, which greatly obscures its origin. In Proto-Atayal, the expected reflex of the Proto-Austronesian *daNum is *ralum, as the Proto-Austronesian *d and *N corresponds to *r and *l in Proto-Atayal (see Table 5).[17] In the expected form, the initial consonant is *r and the medial consonant is *l; however, in the reconstructed form, both the initial and medial consonants are *g. Superficially, the initial *r changed to *g, and the medial *l to *g.

However, Section 4 reconstructs Proto-Atayalic as *jajum, through which the Proto-Atayal *gagum is obtained. Therefore, it was in the Proto-Atayalic stage that the sporadic consonant changes from initial *r and medial *N to *g were triggered.

4. Proto-Atayalic

The forms for "river" are reconstructed as *ðaðum in Proto-Seediq (Section 2) and *gagum in Proto-Atayal (Section 3). The initial and medial consonants are *ð and *g, respectively. This consonant is reconstructed as *j in Proto-Atayalic. The consonant *ð in Proto-Seediq shows a regular reflex of *j in Proto-Atayalic; whereas, the consonant *g* in Atayal is one of the reflexes of *j in Proto-Atayalic (Ochiai 2022: 8–9, Ochiai 2023). The *j in Proto-Atayalic appears as various consonants, such as *s*, *g*, and *r*, in Atayal dialects (Blust 2013: 578–579, Li 1981: 258–259), and their appearances seem not to be fully conditioned.[18]

Table 5 shows the expected and reconstructed reflexes of the Proto-Austronesian *daNum. If this form observes sound correspondences, it would be **dalum, **ralum, and **dalum in Proto-Atayalic, Proto-Atayal, and Proto-Seediq, respectively. On the other hand, the Proto-Atayalic form is reconstructed as *jajum and, from this form, *gagum in Proto-Atayal and *ðaðum in Proto-Seediq are obtained.

Table 5 Expected versus reconstructed reflexes of Proto-Austronesian *daNum in Atayalic proto-forms

Proto-language	Expected form	Reconstructed form
Proto-Atayalic	**dalum	*jajum
Proto-Atayal	**ralum	*gagum
Proto-Seediq	**dalum	*ðaðum

Proto-Austronesian *daNum became Proto-Atayalic *jajum with the initial and medial consonants undergoing irregular changes, *d to *j and *N to *j.[19] The two distinct consonants *d and *N in Proto-Austronesian changed to the same consonant *j in Proto-Atayalic in this case. This change can be regarded as assimilation to either consonant after one of the changes to *j.

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17) These sound correspondences are based on Li (1981: 253–254, 265, 274–275), who shows that the Proto-Austronesian *d and *N are reflected as *r* and *l*, respectively, in Atayal.

18) Blust (2013: 578–579) states that *j becomes *r* in Squliq Atayal while *g* and *s* are observed sporadically. Reflexes of *j in Atayal are more complicated than this. It becomes *y* in the case of *hiya* (3rd person singular pronoun) in both Atayal dialects (Ochiai 2022: 6–7), while it became *s* in the case of the middle consonant in *sasan* "morning" in both Atayal dialects (Ochiai 2023).

19) It is unclear which irregular sound change occurred earlier than the other.

The same type of assimilative changes accompanied by irregular sound change are also observed in Hoanya, Amis, and Puyuma (Table 1). Their forms for "water" are *zazum*, *nanom*, and *nanum*, respectively. In the Amis and Puyuma forms, *nanom* and *nanum*, the initial consonant *n* shows irregular sound changes as the Austronesian *d is expected to be *r* or *l* in Amis and *d* in Puyuma, but appears as *n*. The medial consonant *n* also shows irregular sound changes as the Austronesian *N is expected to be *d* in Amis and *l* in Puyuma.[20] Therefore, the expected forms are **radom or **ladom in Amis and *dalum in Puyuma. In the actual forms, *nanom* in Amis and *nanum* in Puyuma, the initial *n* and the medial *n* show assimilative influences between the one consonant position and the other.

There are two forms for "fresh water" in Hoanya shown in Table 1, *zazum* and *salum*. The initial consonant, however, is expected to be *d*. The medial consonant is expected to be *s*. Thus, the expected form is **dasum. The latter form likely underwent metathesis of the initial and medial consonants, becoming **sadum, and the consonant *d* is sporadically changed to *l*. The former form *zazum* is similar to the forms in Amis and Puyuma in that it has the identical consonant in the initial and medial position and the consonant does not reflect regular sound changes. The expected initial consonant *d* appears as *z* and the expected medial consonant *s* appears as *z*. This shows the assimilative influences between the one consonant position to the other.[21]

5. Forms for "river" and "fresh water" in Proto-Atayalic

Section 4 reconstructed the Proto-Atayalic form for "river" as *jajum, which is a reflex of the Proto-Austronesian *daNum, "fresh water." Apparently, the meaning has shifted from Proto-Austronesian "fresh water" to Proto-Atayalic "river."

In Proto-Atayalic, the form for "fresh water" could be reconstructed as *qəsiya based on Atayal and Seediq cognates in Li (1981: 296).[22] As this has no cognates outside the Atayalic languages, this form is regarded as an innovation in Proto-Atayalic. If so, in early Proto-Atayalic, there must have been a form for "river," *jajum, but no form for "fresh water." In later Proto-Atayalic, the form for "fresh water," *qəsiya, was innovated as illustrated in Table 6. However, given that fresh water is indispensable to life, it is unnatural for any language to lack a word for "fresh water" while having a word for "river."

20）Ross (2015: 31 32) is referred to for the sound correspondences in Amis, Puyuma and Hoanya.

21）This form *zazum* in Hoanya is the phonetically closest to the Proto-Atayalic *jajum as the consonant *z* in Hoanya and *j in Proto-Atayalic are likely fricatives or affricates.

22）Li (1981: 296) reconstructed this form as *qusiya. However, it can be argued that he placed too much weight on the Mayrinax Atayal form with the vowel *u* in the first syllable, whereas the other cognates indicate *ə* instead. Thus, the present author modified this to *qəsiya.

Table 6 Tentative forms for "river" and "fresh water" in (Early-)Proto-Atayalic

	river	fresh water
Early Proto-Atayalic	*jajum	---
	↓	↓
Proto-Atayalic	*jajum	*qəsiya

Rather, it seems reasonable to assume there was a form for "fresh water" in Early-Proto-Atayalic, and that the form was *jajum, the identical form for "river," as its Proto-Austronesian form *daNum also means "fresh water" as shown in Table 1. In line with this, Table 6 is modified so that *jajum is shown to mean both "river" and "fresh water" in Early-Proto-Atayalic. Later, the meaning "fresh water" is replaced by an innovative form *qusiya, probably to semantically disambiguate "fresh water" from "river."

Table 7 Forms for "river" and "fresh water" in (Early-)Proto-Atayalic

	river	fresh water
Early Proto-Atayalic	*jajum	*jajum
	↓	↘
Proto-Atayalic	*jajum	*qusiya

6. Forms for "river" and "fresh water" in Proto-Austronesian

As *jajum meant "river" and "fresh water," it comes to be uncertain as to whether Proto-Austronesian *daNum meant "fresh water" only or both "fresh water" and "river" as in the case of Proto-Atayalic in Table 7. According to Blust and Trussel (2010), the form for "stream, river" in Proto-Austronesian is reconstructed as *sapaq as shown in Table 8.

Table 8 Forms for "stream, river" and "fresh water" in Proto-Austronesian (Blust an Trussel 2010)

	stream, river	fresh water
Proto-Austronesian	*sapaq	*daNum

The reconstruction of *sapaq by Blust and Trussel (2010) is shown in Table 9. The basis for this reconstruction, however, is rather weak as there is but a single form from the Formosan languages among its reflexes on which the reconstructed form is based. This form is *sapā* from Favorlang, a dormant language once spoken around the mid-west coast of Taiwan. All the other reflexes are Malayo-Polynesian forms. It seems strange that a form that can be reconstructed to Proto-Austronesian is not retained in other Formosan languages apart Favorlang. It is possible that the form in Favorlang could be a chance resemblance or borrowing. If this is possible, *sapaq is not reconstructed to Proto-Austronesian but it is a later innovation.

Table 9 Proto-Austronesian *sapaq "stream, river" and its reflexes in Blust and Trussel (2010)

Language	Form	Meaning[23]
Proto-Austronesian	*sapaq	steram, river
Favorlang	*sapā*	river
Casiguran Dumagat	*sapa*	pond
Ayta Abellan	*hapa*	small stream
Tagalog	*sápaʔ*	brook
Bikol	*sápaʔ*	stream
Hanunóo	*sápaʔ*	river
Aklanon	*sapáʔ*	pond
Hiligaynon	*sapáʔ*	pond
Cebuano	*sápaʔ*	overflooded in areas
Mamanwa	*sapaʔ*	creek
Tausug	*sapaʔ*	brook
Samal	*sapaʔ*	river
Ida'an Begak	*sapaʔ*	water
Mongondow	*tapaʔ*	brook

Then, there could be no form for "river" in Proto-Austronesian. It seems unreasonable considering that rivers form indispensable part of our natural environment. This paper suggests that *daNum in Proto-Austronesian meant not only "fresh water" but also "river," just as in the case of early Proto-Atayalic in Table 7. Later, *daNum shifted its meaning to "fresh water" only, and *sapaq was innovated as a form for "river," probably to semantically disambiguate "river" from "fresh water." Table 10 shows the proposed forms for "river" and "fresh water" in Proto-Austronesian and their respective changes. In Table 10, the stage at which *sapaq is innovated is called the Post-Proto-Austronesian.[24]

Table 10 Proposed forms for "river" and "fresh water" in Proto-Austronesian

	river	fresh water
Proto-Austronesian	*daNum	*daNum
Post-Proto-Austronesian	*sapaq	*daNum

7. Conclusion

This paper identified cognates designating "river" in the Atayalic languages: *yayuŋ* in Seediq and *goŋ* or *gauŋ* in Atayal. Based on these forms and other forms recorded in early documents, Proto-

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23) More than one meaning is listed for most forms in Blust and Trussel (2010). However, Table 9 lists only the firstly listed meaning for each form.

24) The author considers the innovation of *sapaq is later than Post-Proto-Austronesian. It is probably innovated in or after Proto-Malayo-Polynesian. However, there is not enough data to determine the time of its innovation. Therefore, this paper tentatively calls this stage as Post-Proto-Austronesian.

Seediq was reconstructed as *ðaðum and Proto-Atayal was reconstructed as *gagum. By comparing these two proto-forms, *jajum was reconstructed in Proto-Atayalic, which in turn dates back to the Proto-Austronesian *daNum, "fresh water." This paper further argued that *jajum in early Proto-Atayalic meant both "river" and "fresh water." However, it came to mean "river" only in a later stage. Then, *qusiya, a new form for "fresh water," was innovated.

Likewise, the Proto-Austronesian *daNum could mean both "river" and "fresh water." In languages other than Proto-Atayalic, the reflexes of *daNum came to mean "fresh water" only. In other Austronesian languages, *sapaq, a new form for "river" was likely innovated.

Figure 1 Meaning shifts in the reflexes of Proto-Austronesian *daNum

Proto-Austronesian "river" and "fresh water"

Proto-Atayalic "river"   Other Austronesian "fresh water"
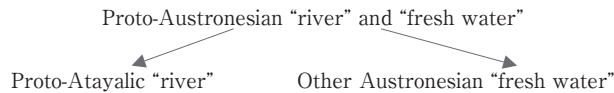
Meaning shifts in the reflexes of Proto-Austronesian *daNum, "river" and "fresh water," are shown in Figure 1. Proto-Atayalic chose "river," whereas other Austronesian languages chose "fresh water" for the reflexes of *daNum.

This paper proposed that *daNum in Proto-Austronesian and its reflex *jajum in early Proto-Atayalic meant both "river" and "fresh water." The two meanings are closely related. A river is a source of drinkable liquid; that is, fresh water.[25] It can be readily imagined that the two meanings were represented by a single word.

In Table 9, Ida'an Begak has the form *sapaʔ*, which means "water." This form was a reflex of the Post-Proto-Austronesian *sapaq, meaning "stream, river." This case also suggests a relationship between "fresh water" and "river." Similarly, one reviewer pointed out that in Samoa (Austronesian), "fresh water" is *vai* and "river" is *vaitafe*, meaning "flowing water." The form for "fresh water" derives the form for "river" in this case. In addition, a form *pe* means "fresh water" or "riverhead" in Ainu, and this form derives *pet* "river" and *pen* "the upper reaches of a river," according to Kindaichi and Chiri (1936: 169–170).[26]

The argument of this paper that "fresh water" and "river" could be expressed by a single form in Proto-Austronesian will be strengthened if more languages are found to have the same or related form for "river" and "fresh water."

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25) In relation to this, Ochiai (2019) mentioned that in Bunun the word for "to drink" is derived from the word for "rain." In this case, rain is a source of drinkable liquid.

26) However, *pe* meaning "water" and the other *pe* meaning "riverhead" are treated as a homonym in Kindaichi and Chiri (1930: 169–170). This paper, on the contrary, treats it as a single form with polysemy.

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