The Grammaticalization of Tense/Aspect Auxiliaries in Seediq∗

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The purpose of this paper is two-fold. It aims at exploring the auxiliaries that mark tense/aspect in Seediq from a grammaticalization perspective in general on the one hand, and on the other hand, argues that the future-marking auxiliary maha and the verb musa ‘to go AF’ are cognates. The co-existence of maha and musa is the result of a split of the verb *muSa due to the grammaticalization of maha as an auxiliary to mark futurity. The finding that Seediq musa and maha are cognate with the PAN *kuSa ‘to go’ implies that a competition change between *S > s and *S > h might have occurred in the Proto-Atayalic as well as in the PAN, a finding that is historically significant.

Key words: Seediq, grammaticalization, auxiliary, GO, PAN *S

1. Introduction

The purpose of this paper is two-fold. It aims at exploring the auxiliaries that mark tense/aspect in Seediq from a grammaticalization perspective in general on the one hand, and on the other hand, argues that the future-marking auxiliary maha and the verb musa ‘to go AF’ are cognates with the Proto-Austronesian (PAN)

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1 Seediq here refers to the Paran dialect. The other two dialects of the language are Toda and Truku. Seediq, along with the Atayal group formed by the Squliq and C’uli’ dialects, forms the Atayalic branch of the Formosan language (Li 1985).

*kuSa ‘to go’. The grammaticalization perspective on tense/aspect marking in Seediq has been noted and taken for granted (Y.-L. Chang 2000:96, 101, 103), but left unexplored in the literature except for Huang et al. (1998). For example, Seediq maha ‘to go AF’ has been correctly recognized as a common verb, as well as an auxiliary denoting ‘future’ or irrealis context (Holmer 1996, Y.-L. Chang 2000), but how it develops historically has not been pursued in detail. The present study is intended to bridge such a gap by tracing its grammaticalization process, in which an important sound change from PAN *S > h is involved.

There are two verbs ‘to go’ in Seediq, viz. musa ‘to go AF’ and maha ‘to go AF’. The grammatical distribution of them suggests that they are highly related. Musa appears in all the contexts in which maha appears, except for the future context. Such a distribution is complementary and is by no means accidental. Historical and comparative evidence suggests that musa and maha are cognate with the PAN etymon *kuSa ‘to go’. The use of maha to mark futurity is the result of grammaticalization, and because of such functional shift it is found to be co-existent with its cognate musa ‘to go AF’ in the language.

We follow Heine et al. (1991:261) by assuming that grammaticalization is an abstraction process where concepts of more concrete grammatical domains (e.g. space, time, etc.) evolve into more abstract ones (e.g. sequentiality). Grammaticalization is triggered by grounded cognitive (i.e. metaphor, metonymy) (Huang 1982, Traugott and König 1991) and/or context-based mechanisms (Hopper and Traugott 1993, Traugott et al. 2002, cf. Huang 2000, occurrences in turns (turn-initial vs. turn-final) in conversational interaction), which results in the emergence of polysemous morphemes of different ‘layers’ co-existent in the synchronic grammar (Hopper 1991:22).

The corpus on which the present study bases is in order. Three pear-story narratives and three dialogues form the major basis of the present study. The pear narratives are adopted from Pear 4, 5, and 6 in Huang et al. (1998); Pear 1, 2, and 3 are neglected for the reason that they are told in a different dialect, i.e. Toda. Pear 4 is a rendered version from Toda by the Paran informant. Other minor text resources referred include Ogawa & Asai (1935:576–581), C.-L. Chang (1996:93–100), Chen (1996), and Y.-L. Chang (2000:151–159), and the author’s own fieldnotes, which consist of a dozen short texts. Reference to data drawn from

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3 It seems that Li (1995:656) follows Dyen (1963) in distinguishing between *S₁ and *S₂ (*S and gives *kuS₁,a ‘to go’ as its PAN form. Such a distinction is also found in *pataS₁ ‘to write’. However, in other cases *S is used by Li. Because of Li’s general description of ‘the retention of PAN *S’ in Formosan languages (i.e. *S > s) (Li 1995:652), we will simply use *kuSa here in this paper.
any text or study other than my own will be noted after the example. Numbers after the pear narratives refer to the intonation unit(s) (Chafe 1994) rather than page(s) or example sentence(s) found in the minor resources.

2. Tense/Aspect in Seediq

Tense/aspect in Seediq is encoded by various means. They are: 1) verbal inflection, i.e. affixation, 2) auxiliaries, and/or 3) utterance final particles (Huang et al. 1998). We will focus on the tense/aspect auxiliaries. In this paper, an auxiliary is shortly defined as the verbal element, usually the first in a clause, other than a connective (ma ‘and’, kiya ka ‘and that’), a subjunction (netun ‘if’), a negation (uxe ‘not’), a question (ye ‘yes-no’) or a verb, to which clitic pronouns are attached. Its main function is to serve as a temporal marker on the verb and/or a carrier of focus-marking. According to Holmer (1996), Seediq auxiliaries are either purely temporal (wada ‘Pret’, maha ‘Fut’), or directional/Aktionsart-related (maha ‘get started’, musa ‘go to’, muda ‘pass along doing’). Temporal auxiliaries are fixed in form, whereas the directional auxiliaries can receive focus affixation, but are not affixed for tense when occurring as auxiliaries, since the implication of these auxiliaries is inherently future (Holmer 1996:61). We do not think that Holmer’s classification between tense auxiliaries (those that are purely temporal) and focus auxiliaries (those that can be focus-marked) a clear one for two reasons. First, maha is a member of both types. Second, while agent-focus marked maha, musica, can be affixed by -un (PF) or -an (LF), muda is not found to be affixed with -un (PF) or -an (LF) in marking future, which suggests that muda is a purely AF-marked verb.

Following the definition given in the above passage, the auxiliaries to be covered include: 1) preterite wada; 2) future maha that develops from the verb maha ‘to go

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4 Under such a definition, it seems that tena should be treated as a temporal auxiliary because it can occur clause-initially and it can be attached by clitic pronouns. It is excluded from our discussion for the reason that it cannot stand alone to mark temporality. Y.-L. Chang (2000:102) suggests that tena be treated an aspectual adverb.

5 Holmer (1996:61) points out that there is another auxiliary asi ‘Aux-just’, which is modal. He cautions that it should not be confused with the homophonous subjunctive asi ‘if’. Whether there exists any relationship between the two of them falls beyond the scope of the present study, and will not be covered.

6 For example, ha-an ku di ‘I am leaving.’ (ha-an ‘go LF’, ku ‘1sn’, di ‘Part’)

7 The word wada will be glossed as ‘passed’ or ‘went’. We speculate that wada is derived from m-oda ‘pass AF’. Because we don’t have a solid proof for our speculation, we will focus our discussion on its usages and their implications.
AF	extsuperscript{8}; 3) progressive 

\textit{gisu/wisu} that develops from the verb \textit{gisu} ‘to approach AF’, and 4) durative \textit{gaga/waga/wa} from \textit{gaga} ‘there’. As will be made clear in what follows, Seediq auxiliaries are developed from the grammaticalization of two kinds of words, i.e. motion verbs, viz. ‘GO’ and ‘PASS’	extsuperscript{9}, and the locative demonstrative \textit{gaga} ‘THERE’.

\subsection*{2.1 Preterite \textit{wada}}

To begin with, the terminology of ‘preterite’ (temporal in nature) that we use to describe \textit{wada} has to be made clear. Such a terminology is used by Holmer (1996) to describe \textit{wada} and the infix \textit{-n-} (< PAN *-\textit{in}-), which others would term ‘perfect’ or ‘perfective’ (aspectual in nature).

The incompatibility between \textit{wada} and \textit{-n-} suggests that they belong to the same kind of grammatical category. Compare (1a) and (1b); example (1a) is ungrammatical, whereas (1b) is grammatical. And it has been shown that \textit{-n-} is ‘perfective’, e.g. (2)

(1) a. *\textit{wada m} \textit{mtakun} \textit{ka} Takun.
left/went fall AF Pret Nom Takun
“Takun fell.”

b. \textit{wada m} \textit{mtakun}\textsuperscript{10} \textit{ka} Takun.
left/went fall AF Pret Nom Takun
“Takun fell.”

(2) a. \textit{mnekan} \textit{ku} \textit{id} \textit{o} \textit{saya}.
\textit{ku} \textit{id} \textit{osi} \textit{ku} now
eat AF Perf lsn rice now
“I have just eaten now.”

\textsuperscript{8} Though it receives NAF-focus affixation, we do not treat \textit{musa} ‘to go AF’ as a fully grammaticalized auxiliary for the reason that it cannot be used as a future marker (see §3 for discussion). It seems that \textit{musa} is undergoing the process of grammaticalization, which is not completed yet.

\textsuperscript{9} Seediq does not grammaticalize motion verb ‘COME’, i.e. \textit{meyah}, for tense/aspect marking.

\textsuperscript{10} One of the reviewers questioned the transcription of \textit{mtakun}, and suggested that it should be \textit{mtakur}, instead. Albeit its etymology, I am confident with the transcription for the reason that I was one of the compliers of the pear narratives in Huang \textit{et al}. (1998). It is interesting to note that while the word-final \textit{l > n} alternation is common, e.g. \textit{mangan} ‘take ‘AF’(< /m-angal/), the Paran dialect has an innovation to substitute word-final \textit{r} with \textit{n}, e.g. \textit{mtakun} ‘fall ‘AF’ < /mu-taku\textit{r}/ and \textit{bgihu} ‘wind’ < /bgihu\textit{r}/. The innovation can be best accounted for by the name of our informant Takun Walis. According to Takun himself, he was so named by his parents because he \textit{m-takun} ‘fall AF’ a lot when he was a toddler.
If we are to treat *wada* as ‘perfective’, we will have to explain why *wada* do not co-occur with the present or future adverbials, *saya* ‘now’, *kusun* ‘tomorrow’, which suggests that *wada* denotes ‘past’ in nature. We are not sure of why *wada* overrides -n-, but we are sure that it designates an action or an event in the past context. The terminology ‘preterite’ is thus used as a compromise.\(^\text{11}\)

The preterite auxiliary *wada* can be shown to have derived from motion verb *wada* ‘passed AF’ in (3) by the metaphorical extension of “departure from a specific point in space” to “departure from a specific point in time”.

\[(3) \text{ ma laqi.. mntakun ki} \]
\[
\text{Conj child fall AF Pret Det.} \\
..wada mhedu naq--.. posa rulu wada naq-- \\
\text{Aux finish AF self put car passed self} \\
\text{wada naq di. } \text{(Pear5:96–98)} \\
passed self Part
\]

“The child that fell finished re-loading the car (with spilt pears), and then left by himself.”

The first occurrence of *wada* in (3) is an auxiliary to the verb marking the finishing of an action in the past, while the second and the third occurrences of *wada*’s maintain their status as a verb in designating a simple act of leaving in the past. The use of *wada* as a verb can be seen clearly in (4), where the agent argument, *laqi* ‘child’, of the verb is overtly marked by the nominative *ka*.

\[(4) \text{ ma psaan na rulu na} \]
\[
\text{Conj put LF 3sg car 3sg} \\
..kiya ka *wada* ka laqi ki di. \text{(Pear5:42–43)} \\
\text{Conj KA passed Nom child Det. Part} \\
\text{“And his car was loaded (by him). And then that child left.”}
\]

\(^{11}\) Y.-L. Chang (2000:105) argues that *wada*, besides ‘perfective’, is ‘inceptive’ or ‘inchoative’:

\[
\text{ wada ku mkkesa da.} \\
\text{Aux 1sn walk AF Part} \\
\text{‘I am leaving.’}
\]

According to our informant, the sentence cannot be used in a face-to-face interaction. The sentence is used to describe a past event where the first person *ku* ‘I 1.s.n.’ is projected in the discourse world. In a face-to-face interaction, *maha ku di* ‘I am leaving.’ is frequently used as an excuse of leaving early in a social gathering.
As an auxiliary, the regular position of *wada* is utterance/sentence-initial. However, if the yes/no interrogative *ye* and/or negator *uxe/ini* is present, *wada* runs after them, e.g. (5):

(5) ye uxe dheya wada gmeeguy di? (Pear5:151)
   Yes/No Neg. 3pl Aux steal AF Part
   “Have/Had they steal (the basket of pears)?”

An interesting observation to be noted is that *wada*, when used as a verb, cannot be used with the first singular person *ku/yaku*. Whereas (6a) is grammatical, (6b) is not.

(6) a. Wada sapah ka heya. (Holmer 1996:90)
   went house Nom 3ss
   “S/he went home.”

   b. *Wada sapah ka yaku. (= *wada ku sapah)
      went house Nom 1snl went 1sn house
   “I went home.”

Such a distribution suggests that *wada* is used to designate something (action or event) that is away from the speaker as a deitic center. For (6b) to be grammatical, *mnosa* ‘go AF Pret’ is used.

2.2 Future *maha*

Future auxiliary *maha* is developed from a motion verb through metaphorical extension. *Maha* as a verb means ‘go AF’ and is illustrated in (7):

(7) maha su inu? (Dilog3)
   go AF 2sn where
   “Where are you going?”

Examples (8a) and (8b) show that the grammatical function of *maha* parallels that of *wada*. It appears at the utterance/sentence-initial position if no interrogative and/or negator are/is present in the sentence. (8a) and (8b) show that *maha* retains the status of a verb, which suggests that the sentences are in fact a serial verb construction. However, *maha* in (9a) has lost its meaning as a main verb meaning
‘to go’ because no argument can be found or restored for it. It is used as a sole marker of futurity for the verbal interrogative, *huwa mesa* ‘how’ that follows in (9a). If *maha* is a full-fledged verb, it will take an argument, which can be found or recovered from the discourse, e.g. (9b). In (9b), *ku* ‘I 1sn’ serves as an argument for the verb *maha* ‘to go AF’.

(8) a. ye maha tmabu(w) miric na peni, (Pear6:23)
   yes/no go AF feed goat 3sg PENI
   “It might be the case that (S/he) is going to feed her/his goat.”

b. (y)e maha theyaq inu peni ini klai, (Pear6:102)
   yes/no go AF play where PENI Neg. know PF Imp
   “As for where they will go to play, I don’t know.”

(9) a. ki ka ye mesa
   Det KA yes/no say
   ye maha huwa mesa lngelung uri
   yes/no Aux how say think too
   ini mu klai... (Pear6:186)
   Neg. 1sg know PF Imp
   “And then (he) seems to say... (he seems) how (he) is going to think about
   (it)... I don’t know...”

b. maha ku sapah
   go AF 1s. n. house/home
   “I am going home.”

Taking (9b) as a starting point, where *maha* is a full-fledged verb, its status as a verb is still retained in a serial verb construction like (8a) and (8b). The grammaticalization of *maha* as a future maker is completed when the serial-verb-construction usage is expanded to co-occur with verbal interrogatives such as *huwa mesa* ‘how’, e.g. (9a).

2.3 Progressive *gisu/wisu* vs. Durative *gaga* (*waga/ga/wa*)

The progressive marker *gisu/wisu* and the durative marker *gaga* (*waga/ga/wa*) will be presented in this section. The progressive *gisu/wisu* develops from the

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12 Example (22d) is another example in which *maha* is fully grammaticalized as an auxiliary.
motion verb meaning “to approach/on the way to” and durative gaga/waga/ga/wa “there, Det.” develops from the locative determiner “there”. They are ‘imperfective’ in nature.

2.3.1 gisu/wisu

The motion verb gisu (10a) meaning “approach/on the way to” has a variant form wisu (10b) in the Paran dialect of Seediq. It is different from maha ‘to go’ and/or musa ‘to go AF’ in that the terminal point of the moving action is unbound, which by metaphorical extension develops into the progressive aspect marker as shown in (11):

(10) a. gisu teru laqi... (Pear5:72)
approach three child
“Three children are coming...”

b. ma wisu ka teru laqi dung(an) .. (Pear6:100)
Conj approach KA three child again
“And there came three children (still).”

(11) gisu qmiyuc laqi huling.
Aux bite AF child dog
“The dog is biting a child.”

The gisu in (11) is best taken as an auxiliary as the meaning of the expression gisu qmiyuc ‘approach and bite’ forces that interpretation. Another similar example of gisu is given in (12).

(12) seediq paran haan ta ptheruy naka-hara,
people Paran go PF 1pg move Nakahara

gisu niqan saya. (Chen 1996:106, (13))
Aux exist/live LF now
“We, the Paran people, were moved to the village of Nakahara, where we are living now(adays).”
2.3.2 gagga/waga/ga/wa

The durative marker *gaga*, has three variant forms *waga*, *ga*, and *wa*\(^\text{13}\). The original meaning of *gaga* is a locative determiner meaning “there”, e.g. (13):

(13) a. rudan  *gaga*
    b. rudan  *waga*
    c. rudan  *ga*
    d. rudan  *wa*

    “...that old man/the old man over there.”

*Gaga/waga/ga/wa* acts as a predicate and often appears clause-initially in denoting location:

(14) a. D:  *wa*  su  *INU*?
    be at  2sn  where
    “Where are you?”
    T:  *wa*  ku  *SAPAH*.         (Dialog3)
    be at  1sn  home/house
    “I’m home.”
    b.  *waga*  *BARO*  ka  rudan  *KI*  (Pear6:24)
    be at  above  KA  old:man  Det.
    “That old man was above (on the tree).”

(14a) is drawn from a telephone dialogue, and (14b) is drawn from a pear narrative. In both sentences, *waga/wa* appears together with a locative expression, i.e. *INU* ‘where’ and *SAPAH* ‘home/house’ in (14a) and *BARO* ‘above’ in (14b). In (15), *ga* is used to mark the place where an action/event takes place. For example, in (15b), it marks the place, i.e. *BARO* ‘above’, where the action of fruit-gathering, i.e. *lmamu* ‘pick/gather AF’ takes place.

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\(^{13}\) Conversational data in our corpus show that both *wada* and *waga* can be reduced to *wa*, i.e. they are phonologically merged, which is an interesting topic worth investigation.
(15) a. ma lnamu na we,
    Conj pick Pret 3sg Top
    ga na psaun dheran di,
    Aux 3sg put PF ground Part
    ga na psaan rawa truma ha,  
    Aux 3sg put PF basket inside Part
    “And what he picked/gathered was being placed on the ground, was being placed inside the basket.”

b. qtaan na ka rudan ga lnamu baro hi,  
   see PF 3sg KA old:man Aux pick AF above there
   “The old man who was picking (pears) above was seen (by him).”

In example (16) and the first occurrence of ga in (17), a location where the action associated with the verb takes place is implied. However, the second occurrence of ga in (17) marks the progressive status of the action/event, i.e. sdara ‘bleed’. It manifests another example of a full-fledged verb developing into a tense/aspect-marking auxiliary.

(16) eh... qtaan na, ga lnamu heyi qhuni
    see PF 3sg there pick body tree
    ka kingan rudan ga,  
    KA one old:man there
    “(It is probable that) he saw an old man there who was gathering (pear) fruit.”

(17) ki ka ga qmita luqah na,
    DM Aux see AF wound 3sg
    ma ye mesa, “ga sdara,” peni..  
    Conj yes/no say AF Aux bleed PENI
    “And then (he was there) checked his wound, and (he) seemed to say, “(It) is bleeding,” something like that.”

To sum up, the tense/aspect auxiliaries in Seediq may be schematized as follows:

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14 It is possible to argue that the implied/omitted luqah ‘wound’ being the place, where the action of bleeding takes place.
The focal point in the schema above is the utterer (U)\footnote{Utterer is used as a cover term for addresser or speaker/narrator in different modes of discourse such as conversation and narration.} facing the FUTURE rather than the PAST on a timeline. The gray dotted lines represent lines of vision of the utterer, who serves as the deitic center for reference. The shaded dot represents a specific place or an entity in the dotted square that represents a distal area within the eyesight of the utterer. An arrow is used to represent the direction of a movement (e.g. *maha* and *wada*), and consecutive arrows are used to represent that emphasis is being put on both the direction and the dynamic nature of the movement (e.g. *gisu*). *Wada* and *maha* are not given on the same axis for the reason that the utterer can *maha* but not *wada* (see example (6a, b)), when both are being used as plain verbs. *Moda* is given in gray and dotted lines to show the indeterminacy of *wada* and *moda* to be related.

By recognizing the utterer as a deitic center facing the FUTURE on a timeline\footnote{Such an organization of time can be treated as a ‘moving ego metaphor’, “where front is equivalent to future and back to past” (Huang 1982:161).}, the above schema has at least two advantages. First, temporality in Seediq is marked by grammaticalizing movements (*maha* and *wada*), whose directions are AWAY FROM THE DEITIC CENTER U, whereas aspectuality is marked either by a movement TOWARD THE DEITIC CENTER U (*gisu*), or a distal station (*gaga*).

A cognition-grounded classification of Seediq tense/aspect auxiliaries can thus be achieved. Second, it explains why *meyah* ‘come AF’ is not grammaticalized. On
the one hand, the verb *meyah* ‘come AF’ denotes a movement toward the U facing the FUTURE on the timeline; the direction of movement is not consistent with the FUTURE and is not grammaticalized to mark future. On the other hand, *meyah* is goal-oriented and lacks the dynamic nature that *gisu* designates.

3. **Musa vs. maha: synonymous?**

*Musa* and *maha* both mean ‘to go AF’ in Seediq. While both can be used interchangeable in daily greetings such as (18a) and (18b),

(18) a. maha su inu?
   b. = musa su inu?

they are by no means synonymous. An apparent morphological difference is that *musa* may be infixed by preterite -n-, *m-n-usa/m-n-osay*\(^{17}\), whereas *maha* cannot, i.e. *m-n-aha* is not attested in the language. Furthermore, the repair of *musa* by *maha* as a future auxiliary in (19) shows clearly that *musa* and *maha* are not synonymous that can be used interchangeably; otherwise, the repair would not have occurred.

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\(^{17}\) Both *musa* ‘go AF’ and *mosa* ‘go AF’ can be observed in Seediq. We don’t find meaning differences in them, which seems to suggest that /u/ and /o/ alternation is phonetic. Similar alternation can be observed in *muda* ‘pass AF’ and *moda* ‘pass AF’. Diachronically, the alternation may be of import, otherwise Li (1981:285) would not have reconstructed *m-a-usa* ‘go AF’ for it, suggesting that /o/ is the result of a vowel coalescence of /au, aw/ commonly found in the Atayalic languages. Synchronically, Chiang and Chiang (2005), based on a different dialect Truku, suggest that the differences may vary from speakers to speakers and the use of different vowels by different speakers has to do with gender and stress.
Once upon a time, there were two men and a woman. They didn’t know how to give birth to a child. Therefore, they’d try to have a child.

It is clear by now that *musa and *maha are synchronically different. In the following section, we suggest that diachronically *musa and *maha are cognates of the same etymon *kuSa in Proto-Austronesian (PAN).

4. Cognate *musa and *maha: Historical and comparative evidence

It would take little efforts for one with the least knowledge in historical linguistics to identify Seediq *musa (< m-usa) to be cognate with the reconstructed PAN *kuSa. To argue that *maha is cognate with *kuSa would take comparative evidence to justify it.

Thanks to previous researchers, the complicated development of PAN *S can be summarized (Blust 1995:604):

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<th>F</th>
<th>MP</th>
<th>PAN</th>
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<td>I</td>
<td>-s-</td>
<td>-h-</td>
<td>-S-</td>
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<tr>
<td>II</td>
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<td>-h/Ø</td>
<td>-S</td>
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<tr>
<td>III</td>
<td>-s</td>
<td>-h-</td>
<td>(?)</td>
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Table 1 in (20) sums up to say that PAN *S is reflected by s in Formosan (F) languages, and h or lost (Ø) in Malayo-Polynesian (MP) languages. For example,
PAN *iSiq ‘urine’ is /isiq/ in Paiwan, a Formosan language spoken in the southern Taiwan, and /iti?/ in Tagalog, a Malayo-Polynesian language. Such a development is commonplace, and has been deemed one of the most important phonological features in determining Formosan vs. extra-Formosan languages in the Austronesian family (Li 1995:652). Given the fact that PAN *S is lost in Saaroa and Puyuma (Li 1995:652), and is reflected as h in Siraya, an extinct Formosan language spoken in the southwestern coastal Taiwan (Li 1993:313), it will not be surprising that residual reflex h of PAN *S is to be found in Sediq. The Sediq word daha ‘two’ is such an example.

(21) *DuSa PAN ‘two’

\[\begin{align*}
&/\text{duha}/ \quad \text{Sediq} \\
&/\text{duha, zuha}/ \quad \text{Siraya}^{18}
\end{align*}\]

Such a residue is rare, but important. The cardinal daha ‘two’ for counting can hardly be a loan. In such a case, h can only be seen as a reflex of PAN *S. If we are on the right track, the word maha ‘go AF’ that pairs with daha ‘two’ are then reflexes of PAN *kuSa and *DuSa\(^{19}\) respectively. Sediq musa and maha are then cognates of the same etymon *kuSa. But why are they co-existent in Sediq? We suggest that it is the result of grammaticalization.

5. Grammaticalization chain for auxiliary maha

Sediq maha is polysemous. Syntactically, it appears as a main verb as in (22a). It also appears in serial verb construction in a non-Agent-Focus (NAF) sentence, (22b) and (22c). It can also be used as an auxiliary marking futurity, (22d).

While haun, and hae in (22b, c) seem to have retained the meaning of a motion verb, the meaning is bleached or completely lost in (22d).

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\(^{18}\) To date, Siraya seems to be the only Formosan language found to reflect PAN *S > h change. And Sediq is the only Formosan language that seems to reflect the same kind of change as can be seen from its word daha ‘two’. A complete wordlist of the cardinal ‘two’ in a dozen of Formosan languages can be found in Li (2004:1528).

\(^{19}\) Given PAN *u and *u are retained (Li 1981:275), the sporadic reflex a of PAN *u in mgha (< PAN *kuSa) and daha (< PAN *DuSa) remains a mystery. It is likely that the innovative a is a result of vowel harmony (or assimilation as Li (1991) terms it), which is attested in Paran Sediq for an antepenultimate vowel to get assimilated to the penultimate vowel when h appears between them; h lacks an oral gesture in articulation and is suggested not to be a ‘true’ consonant. Interested readers are referred to Li (1991) for details.
Examples (22b) and (22c) are worth attention. Both *haun* in (22b) and *hae* in (22c) seem to have retained the meaning of a verb of motion, suggesting that they are serial verb constructions. What is interesting is that *haun* is morphologically affixed by a patient focus marker -un. MAHA\(^{20}\) ‘go’ is a verb of motion, which has just ONE argument, i.e. agent, why can it be suffixed by a patient focus marker -un? Such a development has to do with the dual function of focus-marking and tense/aspect marking for the suffix -un. The suffix on the one hand marks patient

\(^{20}\) As *aha* is not attested in the language MAHA is used to represent the underlying meaning of the verb GO for convenience sake.
focus, and on the other hand marks the irrealis modality of the utterance, hence rendering $ha$-$un$ the status of an auxiliary. Maha in (22d) is a full-fledged auxiliary in that no agent argument is present in the sentence. The interpretation is completely future in sense.

Historically and syntactically, the grammaticalization chain for auxiliary maha can be charted as (23):

(23)

In Stage I, *musa splits into musa and maha, with each functioning differently, Stage II. Maha then goes on to be grammaticalized into an auxiliary, Stage III.

Semantically, the shift from COME/GO > FUTURE is common and widely attested in literature (Heine and Kuteva 2002:75–78, 161–163). It is usually treated as an example of metaphor SPACE > TIME. As suggested in Section 2, maha in Seediq can be treated as that of a ‘moving ego metaphor’, where the future is the front and the past is behind.\(^{21}\)

Pragmatically, the futurity can be inferred. In a greeting exchange like (24), which is quite common in Seediq, the futurity of ‘seeing Takun’ can be inferred.

\(^{21}\) We are not sure whether INTENTION is grammaticalized modally or not in Seediq in the MAHA case. It has been argued that in the English be going to development, “intention is part of the meaning from the beginning, and the only change necessary is the generalization to contexts in which an intention is expressed, but the subject is not moving spatially to fulfill that intention (Bybee et al. 1994:268).
In (24), D is moving on his way to see Takun, meaning that he hasn’t seen him yet, but has the intention to. The implicature can easily be inferred by P from his world knowledge of Takun’s being absent at the scene, where the dialog takes place. The utterance token meaning is then grammaticalized into an utterance type meaning, resulting in the coded meaning of futurity for the *maha* construction (Traugott et al. 2002:38).

6. Theoretical implications

At least, two theoretical implications are of import from the present study in historical linguistic sense. The development of *MAHA* in terms of SPACE > TIME metaphor and the unidirectionality of grammaticalization from Discourse > Syntax (> Morphology) tally with the cross-linguistic studies of verbs of motion in grammaticalizing them into tense/aspect marking morphemes. Polysemous morphemes of different ‘layers’ co-existent in the synchronic grammar (Hopper 1991:22) may also be attested by the Seediq grammar (ref. (22)).

The finding of the sound *h* to reflect PAN *S* in basic words such as *maha* ‘to go’, which is grammaticalized into an auxiliary, and numeral *daha* ‘two’ suggests that the split happened at an early stage in the development of PAN into modern Austronesian languages. The co-existence of both retained *s* and innovative *h* of *S*, reflecting in *musa* and *maha* in Seediq, is of highly historical significance in the thinking of whether *S > h* development should be deemed as ‘extra-Formosan’ at all. Co-existent Seediq words *musa* and *maha* suggest a competing scenario between *S > s* and *S > h* in the Proto-Atayalic as well as in the PAN; lexical residues *musa* and *maha* are witnesses to such a competition.

7. Conclusion

We have presented in our discussion the grammaticalization of Seediq tense/aspect auxiliaries in general, and charted a chain for the development of future auxiliary *maha*. We propose a schema to account for the grammaticalization of Seediq tense/aspect auxiliaries and suggest that the Seediq organization of time is developed from a ‘moving ego metaphor’, where the future is in front and the past is
behind. By offering the grammaticalization of *maha* as an auxiliary in Seediq, the gap between synchronic description and diachronic development is bridged. The paper also suggests that *musa* and *maha* are cognate with the PAN *kuSa* ‘to go’, which implies that a competition change between *S > s* and *S > h* might have occurred in the Proto-Atayalic as well as in the PAN, a finding that is of great historical significance.
## Appendix: Seediq Phonemic Inventory

### Consonants*

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>alveolar/palatal</th>
<th>velar</th>
<th>uvular</th>
<th>pharyngeal</th>
<th>glottal</th>
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</thead>
<tbody>
<tr>
<td>Stop -Vd</td>
<td>p</td>
<td>t</td>
<td>k</td>
<td>q</td>
<td></td>
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<tr>
<td>+Vd</td>
<td>b</td>
<td>d</td>
<td>g</td>
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<td>affricate</td>
<td>ts(c)</td>
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<td>fricative</td>
<td>s</td>
<td>x</td>
<td></td>
<td></td>
<td>(h)</td>
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<td>nasal</td>
<td>m</td>
<td>n</td>
<td>N(ng)</td>
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<td>flap</td>
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<td>glide</td>
<td>w</td>
<td>j(y)</td>
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</table>

* The letters in parentheses are used in this paper to replace the IPA symbols for convenience.

### Vowels

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>back</th>
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<tbody>
<tr>
<td>high</td>
<td>i</td>
<td>u</td>
</tr>
<tr>
<td>mid</td>
<td>e</td>
<td>o</td>
</tr>
<tr>
<td>low</td>
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</table>
References


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賽德克語時式（貌）助動詞之語法化

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本文主要探討賽德克語時式（貌）助動詞之語法化，並主張其動詞 musa 「去」主事」與 maha 「去」主事」為同源詞；兩者共存之原因乃為動詞 *muSa 因 maha 語法化為標示未來之助動詞而一分為二的結果。賽德克語 musa 與 maha 同源顯示在泰雅古語（Proto-Atayalic）甚或南島古語（PAN）可能曾經存在 *S > s 與 *S > h 之音變競爭，此一發現有其歷史意義。

關鍵詞：賽德克語、語法化、時式（貌）助動詞、動詞「去」、PAN *S