

The Grammaticalization of Tense/Aspect Auxiliaries in Seediq*

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The purpose of this paper is two-fold. It aims at a general exploration of the auxiliaries that mark tense/aspect in Seediq from a grammaticalization perspective 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 Seediq¹ 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’² 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).

² Abbreviations used in the paper are as follows: 1pg: first plural genitive, 1sg: first singular genitive short, 1sn: first singular nominative short, 1snl: first singular neutral long, 2sn: second singular nominative short, 3pl: third plural, 3sg: third genitive short, 3ss: third person singular, AF: Agent focus, Aux: Auxiliary, Conj: Conjunction, Dem: Demonstrative, DM: Discourse Marker, Imp: Imperative, NAF: Non-agent focus, Nom: Nominative, Part: Particle, Perf: Perfective, PF: Patient focus, Pret: Preterite, Top: Topic.

**kuSa* ‘to go’³. 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 dialogs 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

³ It seems that Li (1995:656) follows Dyen (1963) in distinguishing between **S₁* and **S₂* (\$) and gives **kuS₁a* ‘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 conjunction (*netun* ‘if’), a negation (*uxe* ‘not’), a question (*ye* ‘yes-no’) or a verb, to which clitic pronouns are attached⁴. 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’)⁵. Temporal auxiliaries are fixed in form, whereas the directional auxiliaries can receive focus affixation⁶, 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*, *musa*, 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*⁷; 2) future *maha* that develops from the verb *maha* ‘to go

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.

AF⁸; 3) progressive *gisu/wisu* that develops from the verb *gisu* ‘to approach AF’, and 4) durative *gaga/waga/wa* from *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’⁹, and the locative demonstrative *gaga* ‘THERE’.

2.1 Preterite *wada*

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

The incompatibility between *wada* and *-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 *-n-* is ‘perfective’, e.g. (2)

⁸ Though it receives NAF-focus affixation, we do not treat *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 *musa* is undergoing the process of grammaticalization, which is not completed yet.

⁹ Seediq does not grammaticalize motion verb 'COME', i.e. *meyah*, for tense/aspect marking.

¹⁰ One of the reviewers questioned the transcription of *mtakun*, and suggested that it should be *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 *et al.* (1998). It is interesting to note that while the word-final *l* > *n* alternation is common, e.g. *mangan* ‘take ‘AF’(< /m-angal/), the Paran dialect has an innovation to substitute word-final *r* with *n*, e.g. *mtakun* ‘fall ‘AF’ < /mu-takur/ and *bgihun* ‘wind’ < /bgihur/. 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 *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 compromise¹¹.

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) ma laqi.. mntakun ki
 Conj child fall AF Pret Det.
 ..*wada* mhedu naq--- posa rulu *wada* naq--
 Aux finish AF self put car passed self
wada naq di. (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) ma psaan na rulu na
 Conj put LF 3sg car 3sg
 ..*kiya* ka *wada* ka laqi ki di. (Pear5:42–43)
 Conj KA passed Nom child Det. Part
 “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’:

wada ku mkkesa da.
 Aux 1sn walk AF Part
 ‘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 1s.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?
 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)¹². 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 Ingelung 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

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).

2.3.2 *gaga/waga/ga/wa*

The durative marker *gaga*, has three variant forms *waga*, *ga*, and *wa*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.

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, (Pear6:45–47)
 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 lmamu baro hi, (Pear6:52)
 see PF 3sg KA old:man Aux pick AF above there
 “The old man who was picking (pears) above was seen (by him).”

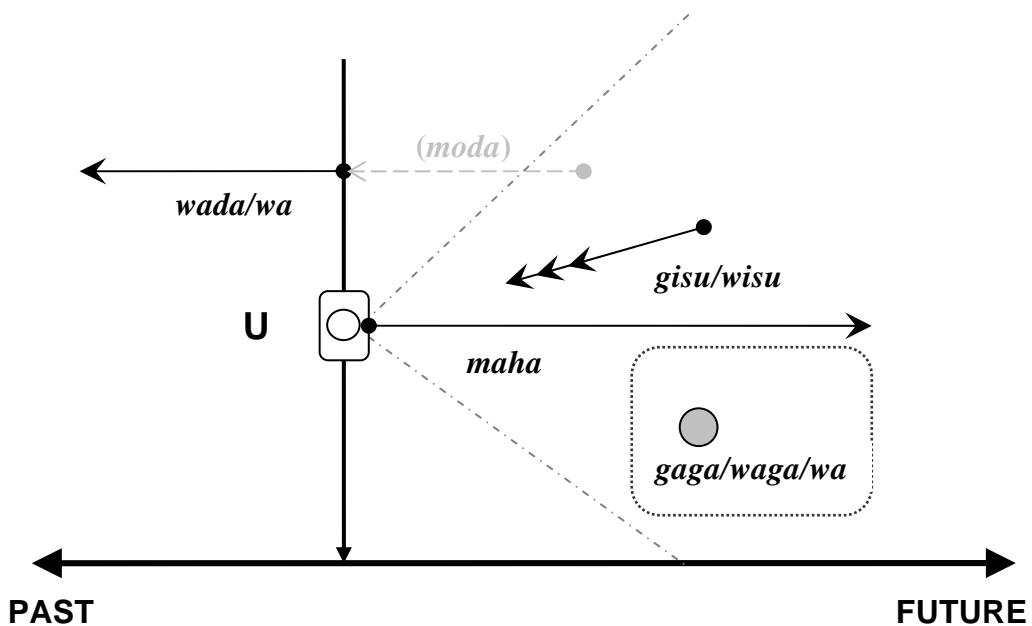
In example (16) and the first occurrence of *ga* in (17), a location where the action associated with the verb takes place is implied. However, the second occurrence of *ga* in (17) marks the progressive status of the action/event, i.e. *sdara* ‘bleed’¹⁴. It manifests another example of a full-fledged verb developing into a tense/aspect-marking auxiliary.

- (16) eh... qtaan na, ga lmamu heyi qhuni
 see PF 3sg there pick body tree
 ka kingan rudan ga, (Pear6:40–41)
 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.. (Pear6:98–99)
 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:

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)¹⁵ 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 timeline¹⁶, 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

¹⁵ Utterer is used as a cover term for addresser or speaker/narrator in different modes of discourse such as conversation and narration.

¹⁶ 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 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 infix by preterite *-n-*, *m-n-usa/m-n-osa*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.

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.

(19) cbeyo hayan.
past then
e~..
daha bale rseno si ma kingan ka mqedin si.
two true man one Nom woman
ma, ini kela mesa maha huwa mesa mrana ka seediq si.
Neg. know say go AF how say reproduce people
kiya ka <throat> e~.

Conj

→ tlam-an daha so huwa mesa ka *musa* ..
run/try PF 3p.g. how say go AF

→ *maha* .. *maha* niqan laqi ka mqedin si.
go AF go AF exist child Nom woman

“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):

(20) **Table 1. *S metathesis and the Formosan/Malayo-Polynesian language boundary**

	F	MP	PAN
I	-s-	-h-	-S-
II	-s	-h/Ø	-S
III	-s	-h-	(?)

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 /i_{Siq}/ in Paiwan, a Formosan language spoken in the southern Taiwan, and /i_{hi}?/ 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 Seediq. The Seediq word *daha* ‘two’ is such an example.

(21) *DuSa PAN ‘two’	/da <u>ha</u> /	Seed(iq)
	/du <u>ha</u> , zu <u>ha</u> /	Siraya ¹⁸

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 *DuSa¹⁹ respectively. Seediq *musa* and *maha* are then cognates of the same etymon *kuSa. But why are they co-existent in Seediq? We suggest that it is the result of grammaticalization.

5. Grammaticalization chain for auxiliary *maha*

Seediq *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).

¹⁸ To date, Siraya seems to be the only Formosan language found to reflect PAN *S > *h* change. And Seediq 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 **a* and **u* are retained (Li 1981:275), the sporadic reflex *a* of PAN **u* in *maha* (< 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 Seediq 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.

(22)

- a. → D: *maha su ngerac?* (Dialog3)
go AF 1sn out

T: eN.

eN

- b. → D: *ima ka haun namu mita,* (Dialog3)
who go PF 2PN see AF
ga mhuqin sing-gi.
Dem dead Xin-yi

T: <M nage lishi la M>

D: Are you going out (of town)?

T: EhN?

D: Who is the one that died in Xin-yi that you are going to see?

T: That chairman (you know).

- c. → D: ... *ha-e su mu pqita teta* (Dialog3)
go Imp 2sn 1sg Cau-see look
huwa mesa mukan pgeeluk pila.
how say Chinese rob money

D: “Let me show you (the other day) how the Chinese people are making money.”

- d. ... *phma-un de bsiyaq knkawas* (C.-L. Chang 1996:94)
plant-PF Part long year

- *maha bale mteru knkawas di ge brating mheyi di.*
Aux true six year Part Top begin fruit Part

“It (= Plume) has to be planted for years. It will be six whole years before it begins to bear fruit.”

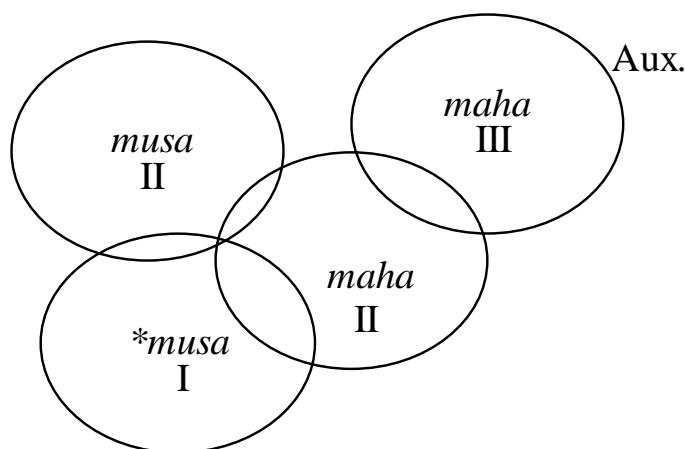
Examples (22b) and (22c) are worth attention. Both *haun* in (22b) and *hae* in (22c) seem to have retained the meaning of a verb of motion, suggesting that they are serial verb constructions. What is interesting is that *haun* is morphologically affixed by a patient focus marker *-un*. *MAHA*²⁰ ‘go’ 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 behind²¹.

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).

(24) P: maha su inu?

D: maha ku mita Takun.

“Where are you going?”

I am going to see Takun.”

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*

	Labial	alveolar/palatal	velar	uvular	pharyngeal	glottal
Stop -Vd	p	t	k	q		
+Vd	b	d	g			
affricate		ts(c)				
fricative		s	x		, (h)	
nasal	m	n		N(ng)		
Lateral		^(l)				
flap		*(r)				
glide	w	j(y)				

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

Vowels

	Front	back
high	i	u
mid	e	o
low	a	

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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为二的結果。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*