When sound change obscures but does not obliterate morphosyntax: Insights from Seediq

Seediq (Austronesian) displays an understudied case of morphological opacity, where a single phonological innovation has resulted in a syncretism of five Proto-Austronesian functional affixes as well as a new affix that surfaces in the same form. How and why these affixes remain functionally intact in modern Seediq has important implications for understanding the tension and interplay between semantic transparency and morphological opacity. I demonstrate that the marginal overlap of these affixes' lexical subcategorization may have reduced obstacles in learnability and processing, enabling them to remain functionally distinct despite the absence of morphological distinctions. The case of Seediq therefore highlights the often-neglected fact that sound change-induced morphological opacity may obscure but does not necessarily obliterate syntax.

1 Introduction

In principle, language, as tool of communication, is most effective when meaning is conveyed through one-to-one correspondence with form (morpheme). However, it has been well-documented that phonological innovations may obscure morphosyntax, giving rise to ambiguity or discontinuity in morphology (see, e.g., Baerman et al. 2005; Baerman 2007; Tamminga 2013; Bybee 2017; Mckinnon et al. 2018). Whether or not the tension to maintain grammatical intelligibility may block regular sound change has remained an ongoing question over the past few decades (Melchert 1975; Hill 2014; Blevins 2004; Bybee 2017; a.o.). This squib investigates two questions related to this theme:

(1)   a.   To what extent can phonological innovation obscure morphosyntax?
       b.   Where sound changes are completely regular and immune to grammatical factors, does the elimination of morphological distinction entail the loss of grammatical function?

I explore these questions through the lens of Seediq (ISO 639-3 *trv*), a first-order language of the Atayalic primary branch of the Austronesian family. Synchronically, Seediq has an affix *m-* that serves a wide range of functions. In some occasions, it combines with dynamic verbs and functions like a run-of-the-mill Actor Voice allomorph, as in (2a). It may also combine with stative stems and functions as a stative affix, as in (2b). It may also mark nominal stems and serve as a possessive marker, as in (2c).[1]

(2)   Seediq

     a.   Gaga $\boxed{\text{m}}$-ege ∅   pila   ∅   dakis ka   robo.
           PROG **AV**-give ACC money ACC Dakis PIVOT Robo

         'Robo is handing money to Dakis now.'   (*m-* as an Actor Voice affix)

     b.   Nii   ku $\boxed{\text{m}}$-u.ure   riyung.
           PROG 1SG.PIVOT **STAT**-RED.hungry very

         'I am very hungry.' (ODFL)   (*m-* as a stative affix)

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[1] List of abbreviations: AV: Actor Voice; CM: case marker; COMT: comitative; DEF: definite; DETR: detransitivizer; INDF: indefinite; LK: linker; LOC: locative; OBL: oblique; PROG: progressive; POSS: possessive; PART: particle; PRF: perfective; PROJ: projective; REC, reciprocal; RED: reduplication; STAT, stative.

c. dangi na swai mu ga [m]-lukus qalux ga.
   friend POSS younger.brother 1SG.POSS that **POSS**-clothes black that
   'The person in black is my younger brother's friend.'   (*m-* as a possessive affix)

This affix may also function like an opaque detransitivizer. When attached to certain two-place verbs, it obligatorily introduces one-place agentless construction (3a). This contrasts with this affix's apparent allomorphic infix *<m>*, which, when attached to the same stem, introduces a two-place construction, (3b).

(3) Seediq

   a. [M]-takur ka   Robo di.
      M-trip   PIVOT Robo PRF.PART
      'Robo tripped.'   (*m-* as an opaque detransitivizer)

   b. T[<m>]akur ∅   Walis *(ka   Temi).
      <AV>trip   CM₁ Walis *(PIVOT Temi)
      'Temi tripped Walis.'   (*<m>*-marked two-place construction)

Besides these four uses, *m-* serves at least two other functions in Seediq, to be discussed later in this paper. A better understanding of how its multi-functionality arises and whether that has impacted the learnability of these affixes would enable a better understanding of the questions in (2). In this squib, I argue that this morphological opacity is "affordable," as the affixes impacted by the merger have little overlap in their lexical subcategorization. Their syncretism has therefore not triggered major issues in learnability and processing. The case of Seediq thus highlights the often-neglected fact that sound change-induced morphological opacity may obscure but does not necessarily obliterate syntax.

   This squib is organized as follows. Section 2 introduces the basic function and etymology of the six affixes, as well as evidence that they have remained functionally distinct in modern Seediq. Section 3 discusses the distribution of these affixes and its implications for the questions in (2). The Seediq data presented in this paper comes from the following sources: the Austronesian Comparative Dictionary (ACD), the Online Dictionary of Formosan Languages (ODFL), and Holmer (1996), as well as the author's primary fieldwork on Tgdaya Seediq.

2   Six functions of *m-* in Seediq and their diachronic sources

Seediq is a severely endangered language spoken in central Taiwan with less than 10,000 speakers (UNESCO 2018; Sung 2018). It displays a vowel neutralization process that affects all pre-stress (pre-penultimate) syllables (Yang 1976; Li 1991; Holmer 1999; Tsukida 2009; Ochiai 2013; Sung 2018). In Tgdaya Seediq, pre-penultimate vowels are consistently realized as the high back vowel [u], except when separated from the stressed vowel by an /h/ or a glottal stop. Such vowels are omitted in Seediq orthography as their phonetic value is robust and predictable. This is illustrated in (4).

		Phonetic Form	*Seediq Orthography*	*Gloss*
(4)	a.	[l**u**ngedi]	lngedi	'to fly'
	b.	[h**u**ngedan]	hngedan	'to cook'
	c.	[d**u**ngese]	dn'gese	'to wrap (in weaving)'
	d.	[t**u**makur]	tmakur	'to slip'
	e.	[s**u**n**u**malu]	smnalu	'to have made'

This phenomenon is well-documented in the literature. Some researchers describe it as vowel neutralization (Yang 1976; Holmer 1996) and others analyze it as vowel deletion followed by insertion of an epenthetic vowel (Li 1977, 1991). I adopt the former approach and schematize this change as vowel neutralization, (5).

(5)   V → u/__CV́   (Yang 1976:661)

   This rule consistently applies to Proto-Austronesian (PAn) reflexes in Seediq. As a result, various PAn prefixes in the form of *CV-* surface as *C-* in Seediq. As stems in Seediq are usually disyllabic or trisyllabic, prefixes are usually in pre-penultimate positions subject to the rule in (5). Consider the examples in (6).

	Proto-Austronesian Form	Reflex in Seediq	Function
a.	*Si-/Sa-	s-	circumstantial voice prefix
b.	*pa-	p-	causative prefix
c.	*pa-ka-	p-k-	causative of abilitative
d.	*ma-ka-	m-k-	abilitative
e.	*Ca-reduplication	C-reduplication	reduplication for plurality

(6)

This rule predicts that PAn prefixes that contrast only in vocalic value would be morphologically undistinguished in Seediq. One class of such examples are five affixes that share the same onset *m*: PAn *m- (Actor Voice), *ma- (AV stative), *mi- (AV possessive), *mu- (AV motion or detransitive), and *maCa- (AV reciprocal). Below I scrutinize the synchronic use of each affix in Seediq.

2.1 Reflex of PAn Actor Voice affix *<um>

The Proto-Austronesian (PAn) Actor Voice (AV) affix *<um> is a verbal affix attached to dynamic verbs. This affix exhibits an allomorphy rule commonly observed in higher-order Austronesian langauges: when attached to vowel-initial stems, it surfaces as a prefix *m-*; when attached to consonant-initial stems, it surfaces as an infix *<m>*. This rule is schematized in (7) and illustrated with the Seediq examples in (8).

(7) PAn Actor Voie infix *<um> $\longrightarrow$ { *m-* on V-initial stems }

(8) Seediq

	Allomorph	Environment	Example	Gloss
a.	*m-*	/_C	**c**<m>eka	'to hack-AV'
			g<m>eeguy	'to steal-AV'
			k<m>etuy	'to pick-AV'
			q<m>teqic	'to bit, to nibble-AV'
			t<m>akur	'to slip-AV'
b.	*<m>*	/_V	m-**a**duk	'to let leave-AV'
			m-**e**kuy	'to tie-AV'
			m-**u**rux	'to do alone-AV'
			m-**i**lo	'to jump-AV'

Given this rule, *m-* is conventionally described as an AV allomorph in the Seediq literature (Holmer 1996; Chang 2000; Sung 2018). The examples below in (9) illustrate this use. In all three sentences, *m-* appears on a verbal stem that has a vocalic onset.

(9) Seediq

a. wada ⬚m⬚-**u**yas ∅ sapah pyasan laqi-mu.
    PRF AV-sing LOC school   child-1SG.POSS
    'My child went to school to sing.' (ODFL)   (Actor Voice *m-*)

b. ⬚m⬚<n>**a**lix   ∅ parih nii ka   Pawan.
    AV<PRF>abondon ACC this hoe PIVOT Pawan
    'Pawan abandoned this hoe.'   (Actor Voice *m-*)

c. Gaga ⬚m⬚-**e**ge ∅ pila   ∅ dakis ka   robo.
    PROG AV-give ACC money ACC Dakis PIVOT Robo
    'Robo is handing money to Dakis now.'   (Actor Voice *m-*)

However, a closer look at the distribution of *m-* reveals that the PAn affix *<um> is not the only diachronic source of this affix. Below I discuss five other uses of this morpheme and their etymology.

2.2 Reflex of PAn stative prefix *ma-

Proto-Austronesian possessed a distinct affix *ma-* that marks stative verbs (Blust 2013; Ross 2015). Consider the examples in (10).

(10) PAn stative prefix *ma-

Proto-Austronesian Form	Examples	Gloss
*ma- 'stative prefix'	*ma-demdem	'dark'
	*ma-dalis	'smooth, slippery'
	*ma-keseR	'strong'
	*ma-Niwang	'thin'
	*ma-quSaw	'thirsty'
	*ma-qataq	'raw, unripe'

Given the vowel neutralization rule in (5), this affix is expected to surface only as a bilabial prefix *m-* in Seediq. This prediction is borne out by a series of *m*-marked stative/adjectival verbs in the language, as in (11).

(11) Reflex of PAn *ma- in Seediq

	Reflex in Seediq	Gloss
m- 'stative' < PAn *ma-	**m**-basi	'sour'
	m-damac	'excited'
	m-gigi	'short'
	m-ceas	'yellow'
	m-sekuy	'cold'
	m-tbeno	'strong'

Truncation of the vowel /a/ has resulted in the absence of formal distinction between the stative affix and the AV prefix *m-*. As seen below, stative constructions (12a) in Seediq are morphologically undistinguished from sentences formed with AV-marked dynamic verbs (12b) where the verb has a vocalic onset.

(12) Seediq

    a. Nii   ku $\boxed{\textbf{m}}$ -u.ure   riyung.
       PROG 1SG.PIVOT **STAT**-RED.hungry very

       'I am very hungry.' (ODFL)   (stative construction)

    b. Wada $\boxed{\textbf{m}}$ -u.uyas   ∅   sapah pyasan laqi-mu.
       PRF   **AV**-RED.sing LOC house school child-1SG.POSS

       'My child sang at school.' (ODFL)   (AV construction with a vocalic onset)

This ambiguity does not exist in the majority of higher-order Austronesian languages where these two constructions are marked by two distinct markers, as seen in (13) and (14).

(13) Puyuma

    a. $\boxed{\textbf{ma}}$ -ebut   na   lrawlraw.
       STAT-extinguished DEF.PIVOT light

       'The light is extinguished.' (ODFL)   (stative construction)

    b. $\boxed{\textbf{m}}$ -alrup dra   marenem i   inbu.
       AV-hunt   INDF.AC sambar   SG.PIVOT Inbu

       'Inbu hunted sambar.' (ODFL)   (AV construction with a vocalic onset)

(14) Paiwan

    a. $\boxed{\textbf{ma}}$ -cula=sun   manu $\boxed{\textbf{ma}}$ -zeLi=sun
       STAT-hungry=2SG.PIVOT or   **STAT**-weary=2SG.PIVOT

       'Are you hungry or are you tired?' (Chang 2006:273)   (stative construction)

    b. $\boxed{\textbf{m}}$ -aLap timadju   ta   za taki   nimadju ka=ta   za turivecan.
       AV-take 3SG.PIVOT OBL.CM that aboriginal.knife 3SG.GEN COMT=OBL.CM that tool

       'He took his aboriginal knife together with those tools.' (Chang 2006:180)   (AV construction with a vocalic onset)

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2.3 Reflex of PAn possessive prefix *mi-

Yet another PAn affix with the form of *mV*- is the possessive affix *mi-. This affix combines with a nominal stem and denotes the meaning of 'to have X', as seen in the data below from Puyuma and Yami (Teng 2008, 2014; Rau & Dong 2014; ODFL).

(15) PAn *mi- (possessive affix)

		Stem	Gloss	mi-form	Gloss
a. Puyuma		kiping	'clothes'	**mi**-kiping	'to wear clothes'
		paysu	'money'	**mi**-paysu	'to have money'
		ruma'	'house'	**mi**-ruma'	'to have a house'
		walak	'child'	**mi**-walak	'to have children'
		kaput	'peer'	**mi**-kaput	'to have peers'
a. Yami		ayob	'clothes'	**mi**-ayob	'to wear clothes'
		sakop	'hat'	**mi**-sakop	'to wear a hat'
		ipos	'tail'	**mi**-ipos	'to have a tail'
		panid	'wing'	**mi**-pani-panid	'to have wings'
		isis	'scale'	**mi**-isis	'to have fish scales'

As expected from the vowel truncation rule (5), the possessive affix *mi- is reflected as *m*- in Seediq. This is illustrated in (16) with three cognate constructions from Seediq, Puyuma, and Yami.

(16) a. Seediq

dangi na swai mu ga **m**-lukus qalux ga.
friend POSS younger.brother 1SG.POSS that M-clothes black that

'The person in black is my younger brother's friend.' (ODFL)   (*m*-N as 'to have N')

b. Puyuma

adri=ku sagar **mi**-kiping dra meneene.
NEG=1SG.PIVOT like.AV POSS-clothes INDF.ACC tights

'I don't like to wear tight clothes.' (ODFL)   (*mi*-N as 'to have N')

c. Yami

mi-ayob namen so cininon.
POSS-clothes 1PL.PIVOT ACC traditional.custom

'We put on traditional customs (to celebrate a new-born).' (ODFL)   (*mi*-N as 'to have N')

2.4 Reflex of PAn detransitive prefix *mu- in Seediq

Given the rule in (5), the PAn detransitivizer *mu- also surfaces as *m*- in Seediq. This affix functions as a valency-decreasing affix that denotes a one-place construction with demotion of the agent/initiator (Chen 2020). Its use is illustrated below with data from Thao (17) and Saaroa (18).[2]

(17) Thao

a. Yaku t**<m>**uqris takic.
1SG.(PIVOT) **<AV>**catch.with.a.nose.trap barking.deer.ACC

'I caught a barking deer with a snare trap.'

b. **Mu**-tuqris iza na lhizashan.
AV.**DETR**-catch.with.a.snare.trap this LK pheasant(.PIVOT)

'The pheasant is caught with a snare trap.' (Blust 2003b:1020)   (*mu*- as a detransitiviser)

(18) Saaroa

a. C**<um>**acuhlu a tamalungaluna hliasaasapa.
burn**<AV>** PIVOT uncle field

'Uncle used fire to burn the field.'

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[2]The affix *mu*- has yet another function reconstructable to PAn: as a motion prefix attached to nominal stems (Blust 2003a; Adelaar 2014). As this function is not reflected in Tgdaya Seediq, I do not discuss it in this paper.

b. **Mu**-cacuhlu-a   kiu'u naka manganicu.
   AV.DETR-burn-PROJ wood AUX be.dry
   'Dry woods are easy to be burned.' (ODFL)   (*mu*- as a detransitiviser)

Recent work has shown that the sequence *mu*- is bimorphemic, consisting of an AV allomorph *m*- and the detransitivizer *u*- (Chen 2020). Accordingly, the valency-decreasing function of this sequence is carried by the vocalic affix *u*-. This affix is, however, eliminated in modern Seediq due to the vowel truncation rule in (5). Consequently, the prefix *m*- functions as an opaque detransitivizer in Seediq. As seen in (20)-(21), the alternation between the *m*- vs. <*m*>-marked constructions is analogous to that observed in Thao and Saaroa – in the apparently unmarked detransitive (19b) and (20b), the sentence is obligatorily one-place with the theme in subject-marking, parallel to the *mu*-marked detransitivized clause in (17b) and (18b). This suggests that the diachronic source of *m*- in this specific environment should be the detransitivizing sequence **m-u-*.

(19) Seediq

    a. T<**m**>ggequq ∅   huling nii *(ka   Watan).
       <AV>drown CM$_1$ dog   this *(PIVOT Watan)
       'Watan drowned the dog.'

    b. **M**-tggequq ka   huling nii di.
       M-drown   PIVOT dog   this PRF.PART
       'This dog drowned.'

    c. ***M**-tggequq ∅   huling nii ka   Watan.
       M-drown   CM$_1$ dog   this PIVOT Watan
       (intended: 'Watan drowned the dog.')

(20) Seediq

    a. **M**-takur ka   Robo di.
       M-trip   PIVOT Robo PRF.PART
       'Robo tripped.'

    b. ***M**-takur ∅   Walis ka   Temi.
       M-trip   CM$_1$ Walis PIVOT Temi
       (intended: 'Temi tripped Walis.')

    c. T<**m**>akur ∅   Walis *(ka   Temi).
       <AV>trip CM$_1$ Walis *(PIVOT Temi)
       'Temi tripped Walis.'

2.5 The counting affix *m*- in Seediq

The morpheme *m*- has yet another function in Seediq: an affix used specifically in counting, as in (21).

(21) Seediq

    a. ⌊**m**⌋-**p**itu dapa ga   meniq Sipo.
       M-seven cattle PROG stay   the.opposite.bank
       'There are seven cattle on the opposite bank.' (ODFL)

    b. ⌊**m**⌋-**p**itu ka   uruk bubu huling na   Temu.
       M-seven PIVOT puppy mother dog   POSS Temu.
       'Temu's female dog has seven puppies.' (ODFL).

    c. ga   tm-beru   bubu babuy na   Umin di,   ⌊**m**⌋-**p**itu wawa na.
       PROG give.birth-piglet mother boar POSS Umin PART, M-seven piglet POSS
       'Umin's sow has given birth to seven piglets.' (ODFL)

    d. ⌊**m**⌋<n>**g**ari snpegan ka   runge gaga.
       M<PRF>nine   PIVOT   that
       'There were nine monkeys over there.' (ODFL)

e. $\boxed{\textbf{m}}$<n>sepac theruy   ka   seediq alang Tongan mesa kari na   rudan   ta.
   M<PRF>four AV.move PIVOT Seediq village Tongan say   word POSS old.person 1PL.POSS
   'Our elders said our ancestor (people of the Tongan village) have moved four times in the past.'
   (ODFL)

Although its etymology is unclear, this counting affix can be distinguished from the AV allomorph *m-* given that it is not subject to the phonotactic constraint in (7). As seen in (21a-b), the affix consistently surfaces as a prefix *m-* and never an infix *<m>*, even when attached to C-initial stems, demonstrating a distinct distribution from AV morphology (7). Synchronically, this use thus constitutes the fifth function marked by *m-* in Seediq.

2.6   Reflex of PAn reciprocal affix *maCa- in Seediq

Yet another diachronic source of *m-* is the PAn reciprocal affix *maCa- (see, e.g. Zeitoun 2002; Sung & Chen 2006; Blust 2013; Ross 2015). In languages with a reflex of this affix, reciprocal verbs are affixed by the sequence *ma-* followed by a syllable whose onset copies that of the stem. This is exemplified with the data below from Paiwan and Puyuma (22a-b).

(22)   a. Paiwan

   $\boxed{\textbf{mala}}$-**l**aing tiamadu.
   REC-chase   3PL/PIVOT

   'They chased each other.' (Sung & Shen 2006:51)

   b. Puyuma

   $\boxed{\textbf{mara}}$-**r**aip   mi   me-rebay dra   radis.
   REC-exchange.labour 1PL.PIVOT AV-WEED INDF.ACC weed

   'We took turn to pull out peanut plants for each other.' (ODFL)

Under the vowel truncation rule in (5), this affix surfaces in the form of *m-C-* in Seediq, as in (23)-(24).

(23)   Seediq

   $\boxed{\textbf{Mg}}$-**g**aalu kanna seediq m-eniq alang   cbeyo.
   REC-love   all   people AV-live village past

   'In the past, everyone living in the village loved each other.'

(24)

		Example		
	Stem	*Gloss*	Reciprocal form	*Gloss*
m-C- 'reciprocal'	cebu	'to shoot'	m-c-cuby	'to shoot each other'
	gatuk	'to peck'	m-g-gatuk	'to peck each other'
< PAn *maCa-	hetun	'to obstruct'	m-h-hetun	'to obstruct each other'
	bege	'to give'	m-b-bege	'to give each other'
	sneeru	'to mimic'	m-s-sneeru	'to mimic each other'

Although the reciprocal affix above (*m-C-*) does not fully merge with those surfacing as *m-*, multiple instances of C omission are attested in Seediq's reciprocal constructions, adding on to the morphological opacity of *m-*. Consider examples below excerpted from the Seediq Dictionary (ODFL) (26a-c).

(25)   Seediq

   a. $\boxed{\textbf{m}}$-traqil   hari   mtsuwai   tnsapah gaga.
      REC-dislike brothers.and.sisters family.members that

      'The children in that family dislike each other.' (ODFL)

   b. m-suupu   naq theyaq de $\boxed{\textbf{m}}$-stuku=naq   hari duri.
      AV.get.together self visit   CONJ **REC**-collaborate.for.work=self more as.well

      'People who have frequent contact work for each other as well.'

c. [**m**]-skuxun weewa   daha ka   riso   ga.
    REC-like   young.lady two PIVO young.man that
    'The young girl and the young man like each other.' (ODFL)

The PAn reciprocal affix *maCa- thus constitutes a sixth possible function of *m-* in Seediq.

3   Why can Seediq afford this merger?

In summary, pre-stress vowel neutralization has resulted in the syncretism of six grammatical affixes – PAn *m-* (Actor Voice allomorph), *mu-* (detransitivizer), *maCa-* (reciprocal affix), *ma-* (stative affix), and *mi-* (possessive affix), as well as the affix *m-* used in counting – in Seediq. Our perception of morphology involves generalizations of the mapping between sound segments and function. When a sound segment representing a certain function is lost, can the function of the morpheme survive in speakers' mind and be comprehended appropriately?

A key debate related to this is whether functional morphemes would resist regular sound changes in order to maintain their function (Bybee 2017; Hill 2014; Kiparsky 1982). An implicit assumption behind this inquiry is that absence of morphological distinction entails the loss of meaning/function. However, as seen above in section 2, the morphological opacity of these six affixes has not triggered the loss of these functions. Instead, *m-* serves as a multi-functional affix and cognate with five different affixes in other Austronesian languages. Why can Seediq afford this degree of morphological opacity?

Scrutinizing the lexical subcategorization of these affixes offers a potential account of why the merger is "affordable". Consider below the table in (26), which outlines the mapping between each affix and the type of stem it selects.

(26)   Lexical subcategorization of the six affixes

	Reflex	*Function*	*Phonological Condition*	*Lexical Subcategorization*	
a. PAn *m-	*m-*	AV allomorph	vowel-initial stems	verbal stems	dynamic (1-place, 2-place, 3-place)
b. PAn *mu-	*m-*	Detransitivizing affix	–	verbal stems	dynamic (2-place)
c. PAn *maCa-	*m-*	Reciprocal affix	–	verbal stems	dynamic verbs (2-place, 3-place)
d. PAn *ma-	*m-*	Stative affix	–	verbal stems	stative
e. PAn *mi-	*m-*	Possessive affix	–	nominal stems	non-numerals
f. –	*m-*	Affix for counting	–	nominal stems	numerals

Consider, firstly, the two affixes that select nominal stems, *mi-* (possessive affix) and m- (affix for counting). Their lexical subcategorizations are mutually exclusive. The former selects stems denoting physical entities (26e), whereas the latter combines only with numerals (26f). The use of the same morpheme for these two functions can therefore be viewed as economic, as the actual function can be inferred by context and by which stem is attached. Furthermore, as these two functions apply only to nominal stems, they would not conflict with the other four functions of *m-*, which apply only to verbal stems.

The homophony of the stative affix (26d) with the detransitivizer (26b) and the reciprocal affix (26c) is also non-problematic, as stative stems constitute a distinct class and are compatible neither with detransitivization nor with reciprocal expression. Similarly, its lack of distinction with the AV prefix *m-* would not trigger issues in processing or learnability, as dynamic stems and stative stems are semantically distinguished and need not rely on morphological marking to form a distinction.

The key question thus boils down to the homophony of the AV prefix (26a), the detransitivizer (26b), and the reciprocal affix (26c). Does their merger trigger issues in comprehension or learnability? A closer look at their use suggests the answer to be negative. Reciprocal constructions are characterized by a plural, animate agent and the absence of the direct object. This contrasts with detransitivized constructions, whose sole argument is an undergoer with the agent obligatorily absent. Homophony of these two functions in morphological marking therefore triggers little issue in comprehension.

The only environment that triggers the loss of grammatical distinction concerns the detransitive of dynamic verbs with a vocalic onset. Recall that in Seediq, the alternation between <*m*> and *m-* (reflex of PAn *mu-*) indexes the argument structure alternation between a detransitive construction and its two-place counterpart (section 2.4). This is because the prefix *m-* is derived from the detransitivizing sequence *m-u-*. Given the rule in (7), the vocalic

detransitivizer *u-* altered AV morphology to a prefix prior to its loss due to vowel neutralization. Consequently, this argument structure alternation is indexed by the infixal vs. prefixal distinction of the affix *m*. This alternation is illustrated in (27).

(27) a. Wada **s**\<m\>etuq ∅ negul nii ka Watan.
PRF \<AV\>break CM₁ string this PIVOT Watan

   'Watan broke this string.' (*m-* as an AV allomorph)

b. Wada m {-u}-**s**etuq ka hako=ta.
PRF AV-DETR-break PIVOT bridge=1PL.POSS

   'Our bridge broke.' (*m-* as a reflex of PAn *m-u-)

However, for two-place verbs with a vocalic onset, their AV-marked construction would originally be reflected as *m-*, subject to the allomorphic rule in (7). Their detransitivized form would therefore be morphologically undistinguished from the *m*-marked two-place counterpart, as in (28).

(28) a. Wada m -**a**duk ∅ rodux-mu di ka dakis.
PRF AV-drive.out ACC chicken-1SG.POSS PART PIVOT Dakis

   'Dakis drove out my chicken.' (ODFL) (Actor Voice, *m-*)

b. Wada m {-u}-**a**duk ka rodux-mu.
PRF AV{-DETR}goad PIVOT chicken-1SG.POSS

   'My chicken was goaded.' (Hypothetical detransitive counterpart, *m-*)

   Nevertheless, primary fieldwork suggests that this syncretism does not trigger major issues in Seediq syntax, not only because verbs with a vocalic onset are rare in Seediq, but also that alternative structures are available for denoting similar information structure. Like many other Formosan languages, Seediq possesses a Philippine-type voice system that exhibits a specific voice type for highlighting the undergoer of an event. This construction is known as the Patient Voice (PV). Similar to the detransitive construction (29b), the undergoer in a PV-marked sentence carries pivot-marking, and is prominent in discourse. Consider below the alternation between the AV, detransitive, and PV-marked construction of the same stem *dengu* 'roast'.

(29) a. Wada d\<m\>engu ∅ qhuni **ka Dakis**.
PRF \<AV\>roast CM₁ wood **PIVOT Dakis**

   'Dakis roasted/dried the wood.' (Actor Voice)

b. Wada m-dengu **ka qhuni**.
PRF M -roast **PIVOT wood**

   'The wood has been roasted/dried.' (*m*-marked detransitive clause)

c. Psa-un daha gigan **ka macu** han ma, dngey-un daha bobo bagah puniq
place-PV 3PL.GEN basket **PIVOT millet** first CONJ roast- PV 3PL.GEN then charcoal fire
(pro).
(pro.PIVOT)

   'They first put the millet in a basket, and then they dry (it) with fire.' (ODFL) (Patience Voice)

Speakers report that the detransitive construction (29b) and the PV construction (29c) both place an emphasis on the undergoer and can be used interchangeably. This suggests that a detransitive construction may be replaced by a PV clause where it is morphologically undistinguished from its two-place counterpart. Vowel deletions triggered by the process in (5) therefore do not trigger major issues in eliminating grammatical distinctions, as the morphological opacity can be easily circumvented by the use of a different structure.

4   Conclusion

Seediq displays an instructive case of morphological opacity, where sound change-induced mergers of grammatical affixes obscure, but do not obliterate, morphosyntax. Although a single phonological innovation has resulted

in merger of six functional affixes in modern Seediq, the marginal overlap between these affixes' lexical subcate-gorization reduces obstacles in learnability and processing, enabling them to remain functionally distinct despite the absence of morphological distinctions. The case of Seediq therefore highlights the often-neglected fact that morphological opacity does not necessarily obliterate grammatical distinctions.

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