Causal–Noncausal Verb Alternations in Sinhala, an Anticausativizing Indo-Aryan Language*

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Abstract

This paper examines causal—noncausal verb pairs in Sinhala, a New Indo-Aryan (NIA) language mainly spoken in Sri Lanka, and is based on Haspelmath's (1993) verb list. In addition, the Sinhala data are compared with data from even other NIA languages from the World Atlas of Transitivity Pairs. There are four main findings of this paper. First, equipollent coding is the most frequent type of coding shown by the verb pairs examined. Second, two coding patterns heretofore ignored in the literature on Sinhala are identified: labile coding and diachronically-related equipollent coding. Third, Sinhala prefers anticausative coding to causative coding. Lastly, Sinhala's tendency toward anticausativization makes it different from other NIA languages, most of which prefer causative coding. Considering the diachronic stability argued for in the literature (Comrie 2006), it is surprising for genetically closely related languages to differ significantly in their causal—noncausal alternations; this and the other findings in this paper suggest that other heretofore understudied South Asian languages may also prefer anticausative coding.

1. Introduction

Languages in the world have various ways of coding causal—noncausal verb pairs.¹ Examples of causal—noncausal verb pairs in English and Japanese are given below.

(1) English (Haspelmath 1993: 90)

a. The stick broke. (noncausal)

b. *The girl broke the stick*. (causal)

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¹In this paper, I follow Haspelmath et al.'s (2014) terminology, in which a causal verb refers to a verb that includes a 'cause' meaning component, while a noncausal verb refers to a verb that expresses the same meaning as a causal verb without the 'cause' meaning component.

(2) Japanese (adopted from Haspelmath 1993: 116)

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a. boo=ga or-e-ta
stick=NOM break-ANTIC-PST
'The stick broke' (noncausal)
b. syoozyo=ga boo=o ot-ta
girl=NOM stick=ACC break-PST
'The girl broke the stick.' (causal)
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The causal verbs in (1b) and (2b) express that the girl caused the stick to break, whereas the noncausal verbs in (1a) and (2a) only express that the stick broke, without stating the 'cause' of the act of breaking. Formally, the same verb form is used both for the causal and the noncausal examples in (1), while the noncausal verb is explicitly coded with the suffix -*e* in (2). These examples illustrate the variety in formal coding of the same event in different languages.

Haspelmath (1993) formally classifies causal—noncausal verb pairs in languages into five coding types: causative, anticausative, equipollent, labile, and suppletive. Examples of these coding types are given in (3).

(3) The five coding types (Haspelmath 1993: 90–92)

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a. causative coding
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French fondre 'melt (noncausal)'
faire fondre 'melt (causal)'

b. anticausative coding

Russian katat'-sja 'roll (noncausal)' katat' 'roll (causal)'

c. equipollent coding

Hindi-Urdu *šuruu honaa* 'begin (noncausal)' *šuruu karnaa* 'begin (causal)'

d. labile coding

Greek svino 'go out (noncausal)'/'extinguish (causal)'

e. suppletive coding

Russian goret' 'burn (noncausal)'

žeč' 'burn (causal)'

In **causative coding**, the noncausal verb is basic and the causal verb is derived, as in (3a). In **anticausative coding**, the causal verb is basic and the noncausal verb is derived, as in (3b). The Japanese verb pair in (2) also exemplifies this coding type. In **equipollent coding**, both causal and noncausal verbs are derived from the same stem, which expresses the basic verb meaning, as in (3c). In **labile coding**, the same verb form is employed for both causal and noncausal verbs, as in (3d). The English verb pair in (1) also exemplifies this coding type. Lastly, in **suppletive coding**, different verb roots are used for the causal and the noncausal verb, as in (3e).

This paper explores causal—noncausal verb pairs in Sinhala. Sinhala is a New Indo-Aryan (henceforth NIA) language mainly spoken in Sri Lanka. Causal—noncausal verb alternations in Sinhala have been investigated both language-internally and geographically in the literature. Language-internally, causative, anticausative, and equipollent coding have been intensively studied (De Silva 1960; Gair 1970; Inman 1993; Henadeerage 2002; Chandralal 2010; Beavers & Zubair 2013; 2016). There has, however, been little research done on the other two coding types in (3), i.e., labile and suppletive coding. It is unclear which coding type Sinhala prefers, and research on causal—noncausal alternations in Sinhala is therefore necessary to assess said language's coding preferences.

Geographically, Sinhala is one of several South Asian languages that possess anticausative morphology (Masica 1976: 100–107). Masica (1976) qualitatively examines the areal distributions of anticausative coding by investigating the presence of anticausative morphology in languages in South Asia and its contiguous areas. He reveals that many South Asian languages do not exhibit anticausative morphology, while most of languages have anticausative morphology in the two adjacent areas, i.e., one is northern Eurasia, and the other is Maritime Southeast Asia. This distribution makes South Asia an interesting place for the investigation of causal—noncausal alternations, especially because the anticausative coding preferences in South Asian languages with anticausative morphology are still relatively understudied. This further underlines the necessity to quantitatively and systematically compare the preference for anticausative coding, as well as other coding types, in Sinhala and other NIA languages.

Methodologically, I use Haspelmath's (1993) framework and the World Atlas of Transitivity Pairs (2014) (henceforth WATP) to examine language-internal coding preferences in Sinhala and other languages. There are four main findings of this paper. First, equipollent coding is the most frequent type of coding shown in the verb pairs examined. I argue that the Sinhala verb pairs which have been considered to use causative coding in previous works (Gair 1970; Chandralal 2010) can be analyzed as cases of equipollent coding, in addition to the commonly observed compound verbs with 'do' and 'become' in the NIA languages. Second, I point out two patterns which have heretofore been ignored in the literature on Sinhala: labile coding and diachronically-related equipollent coding. Third, I show that Sinhala prefers anticausative coding to causative coding and that anticausative coding is more frequent than causative coding in the verb pairs examined. Lastly, I argue that Sinhala verb alternations differ significantly from those of other NIA languages, most of which prefer causative coding, indicating that Sinhala is unique among NIA languages in its preference for anticausativization. This finding is particularly surprising because Comrie (2006) argues that, due to diachronic stability, genetically-related languages do not tend to differ significantly in their causal-noncausal alternations.

The rest of this paper is organized as follows. Section 2 presents the typological characteristics of Sinhala and introduces three verb forms of great importance to the present paper. Section 3 introduces the methodology of this study. Section 4 lists the 31 causal—noncausal verb pairs in Sinhala and analyzes the coding types. Section 5.1 claims that Sinhala is an anticausativizing language based on the description in Section 4, and Section 5.2 argues that the anticausative prominence is a unique characteristic of Sinhala. Lastly, Section 6 concludes the paper.

2. Preliminary information

This section provides a discussion of the typological characteristics of Sinhala, with special attention paid to its verbal morphology. Section 2.1 presents a general overview of the language. Then, Section 2.2 introduces three verb stems of a single root.

2.1. Typological characteristics

Sinhala belongs to the Indo-Aryan subgroup of the Indo-European language family and is spoken by around 15 million speakers in the Democratic Socialist Republic of Sri Lanka. Sinhala exhibits two varieties: Literary Sinhala and Colloquial Sinhala. The two varieties are both lexically and grammatically different.² The data provided in this paper are based on the colloquial variety.

The basic constituent order in Sinhala is SOV as in (4) (Chandralal 2010: 7–8).

(4) Ranjit pot-ak gatta
Ranjit book-INDF buy.PST

'Ranjit bought a book' (Chandralal 2010: 8)

Sinhala is a synthetic language and employs affixations and stem alternations in its morphology. Both nouns and verbs are rich in inflectional and derivational morphology. Nouns inflect for number, definiteness, and case; verbs inflect for tense and mood through the addition of suffixes.

2.2. Three verb stems of a single verb root

In this section, I introduce three verb stems of a single root distinguished in the literature (Geiger 1938; De Silva 1960; Chandralal 2010): **Active, Passive, and Causative forms**. Note that I use initial capitals for the names of these grammatical forms in order to explicitly show that they are language-particular categories (cf. Haspelmath 2010).³ Causative form, for instance, is independent from causative coding, which is a cross-linguistically defined comparative concept.

These three forms are used by many of the causal—noncausal verb pairs in this paper. Examples of the verb pairs are shown in (5) and (6).

(5) a. dora ære-na-wa
door open.PASS-NPST-IND

'The door opens.' (noncausal; Passive form)
b. saman dora ari-na-wa

Saman door open.ACT-NPST-IND

'Sman opens the door.' (causal; Active form)

²Paolillo (1997) compares 16 grammatical and lexical features of the two varieties, such as subject—verb agreement in the literal variety, the lack of a copula in the colloquial variety, etc.

³I use initial capitals for other grammatical categories for the same reason, e.g., Autobenefactive in Section 4.5.

(6) næwə gile-nə-wa ship sink.PASS-NPST-IND 'The ship is sinking.' (noncausal; Passive form) b. saman næwə gillə-nə-wa Saman ship sink.CAUS-NPST-IND 'Saman is sinking the ship.' (causal; Causative form)

Both noncausal verbs are expressed by the Passive forms *ære* 'open' in (5) and *gile* 'sink' in (6), while the causal verbs are expressed by the Active form *ari* 'open' in (5) and by the Causative form *gillo* 'sink' in (6). The causal—noncausal pairs are expressed by the different verb forms in (5) and (6) even though the semantic relationship between (a) and (b) in the two examples are the same, i.e., the examples marked (a) lack a 'cause' meaning component, and the examples marked (b) include it.

Morphologically, the Active form is the same as the root and thus unmarked, while the Passive and Causative forms are derived from the root through the addition of suffixes and vowel alternations. Table 1 shows examples of the three forms, which illustrate their morphological relationships.

Table 1. Three verb stems of the same root (adopted from Chandralal 2010: 77)⁴

	,			
Root	Active form	Passive form	Causative form	
balə	balə-nə-wa 'look'	bæle-nə-wa	balə-wə-nə-wa 'cause to look'	
		'unintentionally look'		
карә	kapə-nə-wa 'cut'	kæpe-nə-wa 'get cut'	kappə-nə-wa 'cause to cut'	
adi	adi-nə-wa 'pull'	æde-nə-wa 'get pulled'	addə-nə-wa 'cause to pull'	

A Passive form is derived from a root by replacing the root-final vowel with an e and altering vowels in the root. For example, the Passive form bale-nawa is derived from the root bala by replacing the root-final a with e and fronting the root internal vowel a to a. A Causative form is derived from a root by adding the causative suffix -wa. This process is straightforward in the Causative form bala-wa-nawa 'cause to look'. In the other two examples with a geminate consonant in Table 1, the causative suffix does not appear as obviously as in the verb bala-wa-nawa 'cause to look'. I discuss such cases in detail in Section 4.1.

Table 2. Correspondence between verb forms and causal-noncausal distinction

	Passive form	Active form	Causative form
Causative coding (Section 4.1)		noncausal verb	causal verb
Anticausative coding (Section 4.2)	noncausal verb	causal verb	
Equipollent coding (Section 4.3)	noncausal verb		causal verb

Table 2 summarizes how causal and noncausal verbs correspond to the three verb forms in each coding

⁴ These three forms do not necessarily change the valency of the verb. For example, the Passive form $b \omega l e - n \partial w a$ 'unintentionally look' expresses unintentionality without changing the valency. Although these forms have multiple functions, only their valency-changing functions in the causal—noncausal alternations are relevant to this paper.

type. Passive, Active, and Causative forms correspond to causal and noncausal verbs depending on the coding type. Note that, in this table, bold font is used for derived/marked forms, while non-bold font is for basic/unmarked verbs (see Section 4). In causative coding, the noncausal verb and the causal verb are expressed by basic Active form and derived Causative form, respectively. In anticausative coding, the noncausal verb and the causal verb are expressed by derived Passive form and basic Active form, respectively. Lastly, in equipollent coding, the noncausal verb and the causal verb are expressed by Passive and Causative form, both of which are derived.

3. Methodology

This section summarizes the methodology of the present study. In this study, I analyzed 31 causal–noncausal verb pairs in Sinhala based on Haspelmath's (1993) methodology, which includes the 31 verb-pair meanings in (7); these verbs often show causal–noncausal alternation in the languages of the world.

(7) 31 verb-pair meanings (Haspelmath 1993: 97) boil, freeze, dry, wake up, go out/put out, sink, learn/teach, melt, stop, turn, dissolve, burn, destroy, fill, finish, begin, spread, roll, develop, get lost/lose, rise/raise, improve, rock, connect, change, gather, open, break, close, split, die/kill

I began by collecting causal—noncausal verb pairs in Sinhala based on the list in (7). Data were collected through elicitation by asking two Sinhala native speakers to translate the above English verbs into Sinhala. The first 15 English verbs in (7) are translated by a female speaker, whereas the other 16 verbs in (7) are translated by a male speaker. After collecting the verb data, I coded each verb pair as causative, anticausative, equipollent, labile, or suppletive coding according to Haspelmath's (1993: 90–92, 97–100) criteria for analyzing coding directionalities.

I then counted how many verb pairs exhibited each coding type listed in the previous paragraph. I also calculated the ratio of anticausative to causative pairs (henceforth A/C ratio). When the A/C ratio is higher than 1, it indicates that a language prefers anticausative coding to causative coding; when the A/C ratio is lower than 1, it indicates that a language prefers causative coding to anticausative coding. The ratio is proposed as a typological parameter of coding preferences (Haspelmath 1993: 100–102).

Lastly, I compared the characteristics of Sinhala to other New Indo-Aryan (NIA) languages using the WATP, which used the same data elicitation methodology described in this paper to elicit data on eleven NIA languages: Bengali (Eguchi & Akhi 2020), Bhojpuri (Prakash & Raj 2020), Domaaki (Yoshioka 2014), Hindi (Nishioka 2014), Kashmiri (Kour 2014), Maithili (Kumar 2020), Marathi (Pardeshi 2016), Nepali (Paudyal & Pardeshi 2014), Punjabi (Okaguchi 2014), Sindhi (Mamiya 2014a), Urdu (Mamiya 2014b). I compared these languages using A/C ratio as an index.

4. Causal-noncausal verb pairs in Sinhala

This section lists the 31 causal—noncausal verb pairs in Sinhala and analyzes the coding types of each verb pair. Table 3 shows the 31 causal—noncausal verb pairs and their coding types. These verbs are ordered in the same way as in Haspelmath (1993: 104; Table 4): cross-linguistically, the higher up a meaning is in the

table, the stronger its preference for causative coding; the lower a meaning is, the stronger its preference for anticausative coding (Haspelmath 1993: 104). The rightmost column in Table 3 shows the coding type of each verb pair.

Of course, there is no one-to-one correspondence between English verb meanings and Sinhala verb forms. In some cases, multiple meanings in English are expressed by one form in Sinhala; in other cases, multiple forms in Sinhala express a single meaning in English. Due to this, more than one verb pair is listed in [1] 'boil', [2] 'freeze', [4] 'wake up', [6] 'sink', [8] 'melt', [10] 'turn', [17] 'spread', and [28] 'break'. Also, I have listed the same verb pairs, *diyə wenəwa/diyə kərənəwa* in [8] 'melt' and [11] 'dissolve' and *diyunu wenəwa/diyunu kərənəwa* in [19] 'develop' and [22] 'improve'.

In the analysis of most of coding types discussed here, I followed the existing analyses proposed by previous studies. The morphological analyses of alternations with Passive, Active, and Causative forms (Sections 4.1–4.3) are based on Chandralal (2010). The anticausative analysis in Section 4.2 is heavily based on Beavers & Zubair (2013). However, my analysis of the directionality in Section 4.3 is different from previous works such as Gair (1970) and Chandralal (2010). Furthermore, I point out that Sinhala has a diachronically-related equipollent pair (Section 4.3) and labile coding (Section 4.4), which have heretofore been ignored in the literature.

Table 3. Causal-noncausal verb pairs in Sinhala (Yoshida to appear)

No.	Meaning	Noncausal	Causal	Coding type
1	boil	pæhe-nə-wa	passə-nə-wa	Equipollent
		паṭә-пә-wa	паṭә-wә-пә-wа	Causative
2	freeze	ais we-nə-wa	ais kərə-nə-wa	Equipollent
		gal we-nə-wa	gal kərə-nə-wa	Equipollent
3	dry	weele-nə-wa	weelə-nə-wa	Anticausative
4	wake up	æhære-nə-wa	æhærə-wə-nə-wa	Equipollent
		nægiṭi-nə-wa	nægiṭṭə-nə-wa	Causative
		nægiṭi-nə-wa	nægiṭṭə-wə-nə-wa	Causative
5	go out/put out	niwe-nə-wa	niwə-nə-wa	Anticausative
6	sink	ere-nə-wa	егә-wә-пә-wа	Equipollent
		gile-nə-wa	gillə-nə-wa	Equipollent
7	learn/teach	igenəgan-nə-wa	uganwə-nə-wa	Equipollent
8	melt	unu we-nə-wa	unu kərə-nə-wa	Equipollent
		diyə we-nə-wa	diyə kərə-nə-wa	Equipollent
9	stop	nawəti-nə-wa	nawattə-nə-wa	Causative
10	turn	hære-nə-wa	harə-wə-nə-wa	Equipollent
		kærəke-nə-wa	karəkə-wə-nə-wa	Equipollent
11	dissolve	diyə we-nə-wa	diyə kərə-nə-wa	Equipollent
12	burn	picce-nə-wa	риссә-пә-wa	Anticausative
		dæwe-nә-wa	da-nə-wa	Anticausative
13	destroy	winaasə we-nə-wa	winaasə kərə-nə-wa	Equipollent

No.	Meaning	Noncausal	Causal	Coding type
14	fill	pire-nə-wa	ригә-wә-пә-wа	Equipollent
15	finish	iwərə we-nə-wa	iwərə kərə-nə-wa	Equipollent
16	begin	paṭan gan-nə-wa	paṭan gan-nə-wa	Labile
17	spread	visire-nə-wa	visuru-wə-nə-wa	Causative
		pætire-nə-wa	paturə-nə-wa	Equipollent
18	roll	perəle-nə-wa	perələ-nə-wa	Anticausative
19	develop	diyunu we-nə-wa	diyunu kərə-nə-wa	Equipollent
20	get lost/lose	næti we-nə-wa	næti kərə-nə-wa	Equipollent
21	rise/raise	isse-nə-wa	ussə-nə-wa	Anticausative
22	improve	diyunu we-nə-wa	diyunu kərə-nə-wa	Equipollent
23	rock	pæde-nə-wa	paddə-nə-wa	Equipollent
		selə we-nə-wa	selə kərə-nə-wa	Equipollent
24	connect	sambandə we-nə-wa	sambandə kərə-nə-wa	Equipollent
25	change	wenas we-nə-wa	wenas kərə-nə-wa	Equipollent
26	gather	ekətu we-nə-wa	ekətu kərə-nə-wa	Equipollent
27	open	ære-nə-wa	ari-nə-wa	Anticausative
28	break	kæḍe-nə-wa	кадә-пә-wа	Anticausative
		bi ⁿ de-nə-wa	bi ⁿ di-nə-wa	Anticausative
29	close	wæhe-nə-wa	waha-nə-wa	Anticausative
30	split	pæle-nə-wa	palə-nə-wa	Anticausative
31	die/kill	mære-nə-wa	marə-nə-wa	Anticausative

4.1. Causative coding

In causative coding, the noncausal verb is basic and the causal verb is derived. There are only four verb pairs with causative coding in the verb list, as shown in Table 4. The verb pairs with causative coding are the pairs with Active and Causative form. In these pairs, the noncausal verbs are Active forms, and the causal verbs are Causative forms with the causative affix -wə.

Table 4. Verb pairs with causative coding

_			•	•	
	No.	Meaning	Noncausal	Causal	
	1	boil	naṭə-nə-wa ⁵	паṭә-wә-пә-wа	
	4	wake up	nægiṭi-nə-wa	nægiṭṭə-nə-wa	
			nægiṭi-nə-wa	nægiṭṭə-wə-nə-wa	
	9	stop	nawəti-nə-wa	nawattə-nə-wa	

Examples of these pairs are given in (8) and (9). The causative suffix in (8) is straightforward. In (8), the Causative form is derived by simply adding the causative suffix -w₂, and the Active form is basic.

 $^{^5}$ The verb nation wa literally means 'to dance' and the causal verb natton wa 'to cause someone to dance'.

```
(8)
              waturə
                        natə-nə-wa
              water
                        boil.ACT-NPST-IND
              'The water is boiling.'
                                                   (noncausal; Active form)
      b.
              saman
                        waturə
                                  natə-wə-nə-wa
              Saman
                        water
                                  boil-CAUS-NPST-IND
              'Saman is boiling the water.'
                                                   (causal; Causative form)
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However, verb pairs with a geminated Causative form as in (9) warrant further discussion.

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(9)
       a.
              puus-a
                         nægiṭi-nə-wa
                         wake up.ACT-NPST-IND
              cat-SG
              'The cat is waking up.'
                                                    (noncausal; Active form)
                                       nægiṭṭə-nə-wa<sup>6</sup>
       h.
              saman
                        ขนบร-สพอ
                                       wake up.CAUS-NPST-IND
              Saman
                         cat-SG.ACC
              'Saman is waking up the cat.'
                                                    (causal; Causative form)
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The criterion used here (i.e., phonological markedness) is different from that used in previous studies, such as Chandralal (2010) and De Silva (1960), who postulate the addition of the causative suffix -wə even in Causative form with a geminate consonant. For example, Chandralal (2010: 162) analyzes nægiṭṭə-nəwa 'wake up' in (9) as nægiṭ-wə-nəwa, which undergoes progressive assimilation. While these previous studies use the same criteria for both verb pairs in (8) and (9), this study analyzes the verb pairs in (8) in the same way as previous studies, but regards the verb pairs in (9) as cases of causative coding due to their phonological markedness. Regardless of this difference in criteria, all the verb pairs in Table 4 can be analyzed as causative coding.

4.2. Anticausative coding

In anticausative coding, the causal verb is basic and the noncausal verb is derived. This is the second most frequent type in the verb pairs in Table 3. Table 5 lists the verb pairs with anticausative coding. Such verb pairs are always pairs with Passive and Active form. In these pairs, the noncausal verbs are Passive forms with stem-final e and fronted stem vowels, and the causal verbs are Active forms. In this section, I

⁶When the stem-final consonant is geminated, the additional causative suffix may be added without any difference in meaning (De Silva 1960: 100–102; Chandralal 2010: 77–78, 162). In (9b), it is possible to say nægiṭṭə-wə-nə-wa instead of nægiṭṭə-nə-wa.

⁷Masica (1976: 69) mentions the gemination in Causative forms as 'a "Dravidian" device' because the similar gemination is also attested in the causatives of Dravidian languages. However, it is unclear whether the gemination in Sinhala Causative forms has any etymological relation to the Dravidian counterpart.

summarize and exemplify a morphological analysis of these verb pairs. The analysis here is originally from Beavers & Zubair (2013: 5), who themselves analyze the directionality of this coding type following Haspelmath's (1993) criterion.

Table 5. Verb pairs with anticausative coding

No.	Meaning	Noncausal	Causal
3	dry	weele-nə-wa	weelə-nə-wa
5	go out/put out	niwe-nə-wa	niwə-nə-wa
12	burn	picce-nə-wa	риссә-пә-wa
		dæwe-nə-wa	da-nə-wa
17	spread	pætire-nə-wa	paturə-nə-wa
18	roll	perəle-nə-wa	perələ-nə-wa
21	rise/raise	isse-nə-wa	ussə-nə-wa
27	open	ære-nə-wa	ari-nə-wa
28	break	kæḍe-nə-wa	кадә-пә-wа
		bi ⁿ de-nə-wa	bi ⁿ di-nə-wa
29	close	wæhe-nə-wa	waha-nə-wa
30	split	pæle-nə-wa	palə-nə-wa
31	die/kill	mære-nə-wa	marə-nə-wa

According to Beavers & Zubair (2013: 5), these pairs can be analyzed as anticausative in accordance with the criterion of direction of neutralization (Haspelmath 1993: 98). As for the stem-final vowels, Active forms can have either ϑ or i, while Passive forms always have e.⁸ Furthermore, Passive stems only have front vowels (i, e, ω), whereas Active stems may have central vowels (ϑ) or back vowels (u, o, a). The distinctions of the stem-final vowels and the vowel quality in Active forms are neutralized in Passive forms, as illustrated in Table 6. Thus, the neutralization is in the direction of the noncausal verb, and the causal verb is basic.

Table 6. Neutralization from Active form to Passive form

	Active form	Passive form
Stem-final vowels	ə or i	e
Other stem vowels	front, central, or back vowels	front vowels

This kind of neutralization is clearly observed in our dataset. Examples of verb pairs with anticausative coding are given in (10) and (11).

⁸The difference in stem-final vowels corresponds to the distinction of conjugation classes: Classes 1, 2, and 3. Verbs in Classes 1, 2, and 3 are characterized as having 9, i, and e as their stem-final vowel, respectively. They are distinguished in terms of the formation of the past stems and the past participial stems (Fairbanks, Gair & De Silva 1968: 190–192; Chandralal 2010: 66).

(10)redi weele-nə-wa cloth.PL dry.PASS-NPST-IND 'The cloths dry.' (noncausal; Passive form; stem-final e) b. saman redi weelə-nə-wa Saman cloth.PL dry.ACT-NPST-IND 'Saman dries the cloths.' (causal; Active form; stem-final ∂) (11)a. dora ære-nə-wa door open.PASS-NPST-IND 'The door opens.' (noncausal; Passive form; stem-final *e*) b. saman dora ari-nə-wa Saman door open.ACT-NPST-IND 'Sman opens the door.' (causal; Active form; stem-final i)

In the examples above, the causal verbs are Active forms and the noncausal verbs are Passive forms with the stem-final e. The causal verb in (10) has the stem-final vowel e and the causal verb in (11) has the stem-final vowel e in contrast, the noncausal verbs in both examples have e as their stem-final vowel. Furthermore, the stem vowels in the Active forms in (10b) and (11b) (ee, and e) are not limited to front vowels, while the stem vowels in the Passive forms in (10a) and (11a) (ee, and e) are both front vowels. Here, neutralization occurs in the direction from causal to noncausal verbs: the causal verb is basic, and the noncausal verb is derived. Therefore, these pairs of Passive and Active forms are considered to be anticausatives.

4.3. Equipollent coding

In equipollent coding, both causal and noncausal verbs are derived from the same stem, which expresses the basic verb meaning. This is the most frequent type of coding found in the verb pairs in Table 3. There are three subtypes of equipollent coding: coding with Passive form and Causative form (Table 7), compound verbs with *wenawa* 'become' and *kərənəwa* 'do' (Table 8), and [7] *igenəgannəwa/uganwənəwa* 'learn/teach' (Table 9). Each type is discussed below.

Table 7. Equipollent coding with Passive form and Causative form

No.	Meaning	Noncausal	Causal
1	boil	pæhe-nə-wa	passə-nə-wa
4	wake up	æhære-nə-wa	æhærə-wə-nə-wa
6	sink	ere-nə-wa	егә-wә-пә-wа
		gile-nə-wa	gillə-nə-wa
10	turn	hære-nə-wa	harə-wə-nə-wa
		kærəke-nə-wa	karəkə-wə-nə-wa
14	fill	pire-nə-wa	purə-wə-nə-wa
17	spread	visire-nə-wa	visuru-wə-nə-wa
23	rock	pæde-nə-wa	paddə-nə-wa

First, the verb pairs of Passive form and Causative form in Table 7 are analyzed as equipollent coding in the present study. In these pairs, the noncausal verbs are Passive forms, and the causal verbs are Causative forms. The verb pairs of [1] 'boil', [4] 'wake up', and [10] 'turn' (kærəkenəwa/karəkəwənəwa) are also given in Chandralal (2010: 163), though his analysis of these verb pairs as causative coding differs from the present study (see below). An example of these pairs is given below.

```
(12)
                        gile-nə-wa
      a.
              næwə
                        sink.PASS-NPST-IND
              ship
              'The ship is sinking.'
                                                      (noncausal; Passive form)
      b.
              saman
                        næwə
                                    gillə-nə-wa
              Saman
                        ship
                                    sink.CAUS-NPST-IND
              'Saman is sinking the ship.'
                                                     (causal: Causative form)
```

As summarized in Section 2.2, both Passive and Causative forms are derived from the root by adding the suffixes -e and -wə, respectively. Therefore, I analyze the verb pairs in Table 7 as cases of equipollent coding.

In the literature (Gair 1970: 84; Chandralal 2010: 163–164), these pairs of Passive and Causative form have been considered to be instances of causative coding. According to Chandralal (2010: 163–164), verbs in these pairs do not have the corresponding Active forms. For instance, an Active form *hara-na-wa is predicted from the Causative form hara-wa-na-wa 'turn', but this Active form is absent. The lack of Active forms makes it difficult to analyze the directionality of the derivation because usually both Passive and Causative forms are derived from roots (the same form as Active forms) (see Section 2.2). To address this difficulty, Chandralal (2010) posits that Causative forms are derived from Passive forms through analogical vowel alternation and the addition of the causative suffix -wa. For example, in his analysis, the Causative form hara-wa-na-wa 'turn' is formed from the Passive form hære-na-wa 'turn' by altering the front vowels in the Passive form to central and back vowels and adding the suffix -wa. In this analysis, however, the same vowels in Passive forms are altered to different vowels in different Causative forms. For example, in Causative form, though the vowel α is altered in [10] $h\alpha re-n\partial-wa/har\partial-w\partial-n\partial-wa$ 'turn'. These examples indicate that the analogical alternations do not yield a unique result, but rather that one should memorize each alternation in each verb pair. If so, there is no logical reason to believe that the Causative forms are derived from the Passive forms. The opposite direction of derivation would also be possible; in other words, anticausative coding. It would be possible to derive the Passive forms from the Causative forms through analogical vowel alternation and the subtraction of the causative suffix -wa. This is problematic for the present study, which considers the directionality of verb pairs.

In contrast, the present analysis assumes that every verb pair has a root, and thus avoids the problem mentioned above. The difference in the vowel alternations in the two verb pairs is merely the difference between the vowels in the different roots, i.e., *harə* and *æhærə*. If we accept that each verb pair has a root, there is no possibility but to analyze the verb pairs as cases of equipollent coding. Such an analysis also

permits us to analyze the coding type of these verbs, which is why I adopt it in the present paper.

Table 8. Equipollent coding with wenewa and kerenewa

No.	Meaning	Noncausal	Causal
2	freeze	ais we-nə-wa	ais kərə-nə-wa
		gal we-nə-wa	gal kərə-nə-wa
8	melt	ипи we-nә-wa	unu kərə-nə-wa
		diyə we-nə-wa	diyə kərə-nə-wa
11	dissolve	diyə we-nə-wa	diyə kərə-nə-wa
13	destroy	winaasə we-nə-wa	winaasə kərə-nə-wa
15	finish	iwərə we-nə-wa	iwərə kərə-nə-wa
19	develop	diyunu we-nə-wa	diyunu kərə-nə-wa
20	get lost/lose	næti we-nə-wa	næti kərə-nə-wa
22	improve	diyunu we-nə-wa	diyunu kərə-nə-wa
23	rock	selə we-nə-wa	selə kərə-nə-wa
24	connect	sambandə we-nə-wa	sambandə kərə-nə-wa
25	change	wenas we-nə-wa	wenas kərə-nə-wa
26	gather	ekətu we-nə-wa	ekətu kərə-nə-wa

Table 9. The verb pair of 'learn/teach'

No.	Meaning	Noncausal	Causal	
7	learn/teach	igenəgan-nə-wa	uganwə-nə-wa	

The second type of equipollent coding deals with the compound verbs with *wenowa* 'become' and *kərənəwa* 'do' in Table 8. In these pairs, a noun, an adjective, or a particle is compounded with the verb *wenowa* 'become' in the noncausal verb and the verb *kərənəwa* 'do' in the causal verb. An example of this type is given in (13), in which the noncausal and the causal verb share the initial noun *ais* 'ice'.

```
(13)
      a.
             waturə
                       ais we-nə-wa
                       ice become-NPST-IND
             water
             'The water is freezing.'
                                                 (noncausal)
      b.
             saman
                       waturə
                                ais kərə-nə-wa
             Saman
                       water
                                ice do-NPST-IND
             'Saman is freezing the water.'
                                                 (causal)
```

The present study analyzes verb pairs of this type as pairs with equipollent coding because both verbs are derived from the same root by means of the verbs *wenowa* 'become' and *kərənəwa* 'do'. Similar compounding verb pairs with 'become' and 'do' are also found in Hindi-Urdu (Haspelmath 1993), as well as the other NIA languages in the WATP, and they are all treated as equipollent coding.

Lastly, the verb alternation between [7] igenagannawa 'learn' and uganwanawa 'teach' in (14) is also

analyzed as equipollent coding. Elicited sentences showing these pairs are given in (14).

```
(14)
             татә
                        (evaa-gen)
                                      sinhələ
      a.
                                                igenəgan-nə-wa
             1sg.nom (3sg-ins)
                                      Sinhala
                                               learn-NPST-IND
             'I learn Sinhala (from him).'
                                                              (noncausal)
      b.
             saman
                        (eyaa-tə)
                                      sinhələ
                                                uganwə-nə-wa
             Saman
                        (3SG-DAT)
                                      Sinhala
                                               teach-NPST-IND
              'Saman teach (him) Sinhala.'
                                                              (causal)
```

Although their surface forms are different, I analyze the verbs in this pair as cases of equipollent coding because they have been derived from the same root, as shown below. According to Turner (1962–1966: 91), *uganwənəwa* 'teach' was originally the Causative form derived from *ugannəwa* 'learn' by the addition of the causative suffix -wə. Autobenefactive⁹-verbs in Sinhala are formed by adding the auxiliary verb *gannəwa* 'take' to the perfect participial stem of the principal verb. They introduce a beneficiary as a coreferential argument of the subject NP. Autobenefactives are used when the actor themself is benefitted by the event, as in (15).

```
(15)
                       та-де
                                sinhələ
                                         divunu kərə
      a.
             татә
                                                       gan-nə-wa
             1sg.nom 1sg-gen Sinhala
                                         improve.PP
                                                       take-NPST-IND
             'I improve my Sinhala.'
                                                                     (Autobenefactive)
      b.
             татә
                       eyaa-ge sinhələ
                                         diyunu kərə-nə-wa.
             1sg.nom 3sg-gen Sinhala
                                         improve-NPST-IND
             'I improve his Sinhala.'
                                                                     (non-Autobenefactive)
```

In this example, the Autobenefactive verb is used when the actor improves their own ability to use Sinhala, but it is not used when the actor improves someone else's ability. Although *ugannawa* itself is no longer used, *igenagannawa* is formally the Autobenefactive verb of *ugannawa*. *Igenagannawa* is composed of *igena*, which is the past participial form of *ugannawa*, and the auxiliary verb *gannawa*. It is likely that the cooccurrence of *igena* and *gannawa* is so frequent because learners themselves are almost always benefitted by learning (cf. Kemmer's 1993: 78–81 'the indirect middle'). The frequent cooccurrence of *igena* and *gannawa* may also have contributed to their lexicalization. According to Slade (2021), the auxiliary *gannawa* 'take' was already used to emphasize reflexivity in Old Sinhala (8th–10th c. C.E.). Because this auxiliary has been used for such a long period, it should come as no surprise that a compound verb using it has been lexicalized.

The relationship between *igenəgannəwa* 'learn' and *uganwənəwa* 'teach' is summarized as in Figure 1. In light of this historical development, the verb pair of *igenəgannəwa/uganwənəwa* 'learn/teach' can diachronically be analyzed as a pair with equipollent coding. The verbs in this pairs can be considered to

.

⁹ This Autobenefactive verb has been called 'reflexive' in the literature on Sinhala because it expresses direct reflexives, among other functions (Chandralal 2010: 136–139). Further note that similar compound verbs in other South Asian languages are called 'self-benefactive' or 'affective' (Masica 1993; Pardeshi 2001).

be examples of synchronically-equipollent coding because they do not lose their analyzability, as shown in Figure 1. Note that it is also possible to synchronically analyze the verb pair of *igenagannawa* 'learn' and *uganwanawa* 'teach' as suppletive coding because each verb form is lexicalized. Under either type of analysis, the verb alternation between *igenagannawa* 'learn' and *uganwanawa* 'teach' represents a non-directed alternation and does not affect the claim of this paper discussed in Section 5.

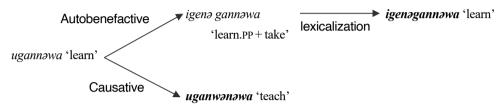


Figure 1. Development from ugannewa to igenegannewa 'learn' and uganwenewa 'teach'

4.4. Labile coding

Labile coding uses the same verb form for both causal and noncausal verbs. There is only one verb pair with labile coding in the dataset discussed here: [16] *paṭan gannəwa* 'begin' (Table 10). This verb type has not previously been documented in the literature on causal—noncausal alternations in Sinhala.

No.	Meaning	Noncausal	Causal
16	begin	paṭan gan-nə-wa	paṭan gan-nə-wa

An example of the verb pair in Table 10 is given in (16). In this example, the same verb form (*paṭan gannəwa*) appears in both the intransitive and the transitive clauses.

4.5. Summary

To summarize, there are four coding types in Sinhala causal–noncausal alternations: causative, anticausative, equipollent, and labile coding. Equipollent coding includes three subtypes: pairs of Passive and Causative form, compound verbs with *wenəwa* 'become' and *kərənəwa* 'do', and the verb pair *igenəgannəwa/uganwənəwa* 'learn/teach'. My analysis of causative coding is the same as that of previous works (De Silva 1960; Gair 1970; Chandralal 2010), and the analysis of anticausative coding is the same as Beavers & Zubair (2013). However, I analyze pairs of Passive and Causative forms as equipollent coding in Section 4.3, whereas previous works (Gair 1970; Chandralal 2010) have analyzed them as causative

coding. Furthermore, in this paper I discuss two previously undiscussed coding types in Sinhala. First, the verb pair *igenəgannəwa/uganwənəwa* 'learn/teach' is diachronically derived from the same root. Second, *paṭan gannəwa* 'begin' is an instance of labile coding.

5.Discussion

In this section, I provide two claims based on the description in Section 4. First, I argue that Sinhala is an anticausativizing language (Section 5.1). Then, I claim that the anticausativizing nature of this language is surprising considering that other NIA languages prefer causative coding to anticausative coding (Section 5.2).

5.1. Sinhala is an anticausativizing language

In this paper, I claim that Sinhala is an anticausativizing language; this claim is supported by the information summarized in Table 11, which shows the percentage of the 31 verb pairs that fall into the five coding types in the left-hand column.¹⁰ When two synonymous verb pairs were coded with different coding types, each of them was counted as 0.5. The ratio of anticausative to causative pairs is abbreviated as A/C ratio.

	Percentage	Count
Total	100.0%	31
Anticausative coding	33.9%	10.5
Causative coding	6.5%	2
Equipollent coding	56.4%	17.5
Labile coding	3.2%	1
Suppletive coding	0.0%	0
A/C ratio	5.25	

Table 11. Percentages of verb pairs in each coding type in Sinhala

Table 11 summarizes the characteristics of causal-noncausal alternations in Sinhala. First, the most frequent type of coding in the entire dataset is equipollent coding (17.5 pairs, or 56.4%). Of these 17.5 verb pairs, 11.5 out of 17.5 are compound verbs with *wenowa* 'become' and *kərənəwa* 'do', 5 out of 17.5 are Passive and Causative forms, and 1 out of 17.5 is *igenəgannəwa/uganwənəwa* 'learn/teach'. Compound verbs are highly frequent in the verb pairs examined.

Second, among the verb alternations between verbs which share a same root, i.e., causative coding, anticausative coding, and equipollent coding (except the compound verbs), the most frequent coding type is anticausative coding (10.5 verb pairs, or 33.9% of the total dataset). The verb pairs with anticausative coding (10.5 or 33.9%) are almost as frequent as the verb pairs with compound verbs (11.5 or 37%). Since compound verbs are so productive that they can be used with English loanwords, it is remarkable for antaicausative coding to be as frequent as these compound verbs. The A/C ratio of 5.25 here means that the

¹⁰Table 11 follows Haspelmath (1993: 101; Table 3).

number of anticausative coding pairs is almost five times that of the causative coding pairs in Sinhala.¹¹ Given the percentages in Table 11, I conclude that Sinhala is an anticausativizing language.

Lastly, the distribution of anticausative coding in Sinhala follows cross-linguistic tendencies. As mentioned in Section 4, the lower a meaning is on Table 3, the more likely it is to be coded as anticausative cross-linguistically (Haspelmath 1993: 104). In Sinhala, verb pairs with anticausative coding were found more frequently toward the bottom of Table 3.¹² This cross-linguistic correspondence of anticausative coding with verb meanings has been explained by the likelihood for an event to occur spontaneously (Haspelmath 1993; 2016; Comrie 2006). More specifically, the more likely an event is to occur spontaneously, the more likely it is for it to be coded as causative. On the other hand, the more likely an event is to be caused by an external force, the more likely it is for it to be coded as anticausative. In a previous study on Sinhala Anticausatives (Beavers & Zubair 2013), it was argued that anticausative coding is only possible for "externally caused change of state" verbs (p. 13), to use Levin & Rappaport Hovav's (1995) terminology. Beavers & Zubair's (2013) claim is supported by the present study.

5.2. Sinhala, a rarity among other New Indo-Aryan languages

This study's finding that Sinhala tends to prefer anticausative coding to causative coding predicts that this tendency may be found in other closely related NIA languages. As for the connection between the preference for causative or anticausative coding and other aspects of the languages of the world, Comrie (2006) claims that the preference for causative or anticausative coding is diachronically so stable that genetically related languages likely to have the same preference. To investigate this claim, it is worth comparing the Sinhala data to the data of other NIA languages because Sinhala is both genetically and geologically very close to said languages.

Table 12 shows the data from twelve NIA languages. These data include Punjabi (Okaguchi 2014), Hindi (Nishioka 2014), Urdu (Mamiya 2014b), Kashmiri (Kour 2014), Bhojpuri (Prakash & Raj 2020), Maithili (Kumar 2020), Sindhi (Mamiya 2014a), Nepali (Paudyal & Pardeshi 2014), Marathi (Pardeshi 2016), Domaaki (Yoshioka 2014), Bengali (Eguchi & Akhi 2020), and Sinhala (Yoshdia to appear). These languages are arranged in ascending order according to the A/C ratio, which stands for the ratio of anticausative to causative pairs. The higher up a language is in the table, the stronger its preference for causative coding; the lower a language is, the stronger its preference for anticausative coding. In this table, A. C. E. L. and S stand for anticausative, causative, equipollent, labile, and suppletive coding, respectively.

The result of the systematic comparison in Table 12 clearly shows that Sinhala's strong preference for anticausatives makes it unique among the NIA languages shown above. ¹³ Although Bengali also shows a

 $^{^{11}}$ Although there may be a controversy over the analysis of these pairs of Passive and Causative forms, it does not undermine the claim of this paper: Sinhala is an anticausativizing language. Even if the controversial verb pairs with Passive and Causative forms (Section 4.3) were analyzed as pairs with causative coding as in the previous studies, the number of the anticausative coding pairs would be higher than that of the causative coding pairs (A/C = 1.5 (10.5/7)). This value means that the overall characterization here cannot be undermined by the analytical difference between the present study and the previous works

¹²It is cross-linguistically rare for a verb pair 'die/kill' to have anticausative coding, as it does in Sinhala. In the 21 languages examined in Haspelmath (1993), 'die/kill' is never expressed by anticausative coding.

¹³It has been suggested that Sinhala's unique coding preferences could be the result of diachronic developments. I used two criteria, namely, the number of stem-final vowel (i.e., the number of conjugation class) and stem vowel fronting, to determine the directionality of the coding as anticausative in Section 4.2. Geiger (1938: 139) and Hendriksen (1949) discuss the

(slight) preference for anticausative coding over causative coding, said preference is nowhere near as overwhelming as the preference shown by Sinhala. As far as the other ten languages in Table 12, causative coding always outnumbers anticausative coding. The languages in the table are similar in that they have moderately high percentages of equipollent coding. However, Sinhala differs greatly from the other languages in the table in terms of its A/C ratio. Thus, the anticausativizing nature of Sinhala is unique among NIA languages, most of which prefer causative coding. This and the other findings in this paper suggest that other heretofore understudied South Asian languages may also prefer anticausative coding.

Table 12. Percentage of verb pairs with each coding type in Indo-Aryan languages

Language	Α	С	Е	L	S	A/C	Source
Punjabi	0.0%	82.3%	9.7%	8.1%	0.0%	0.00	Okaguchi (2014)
Hindi	0.0%	72.0%	18.3%	9.7%	0.0%	0.00	Nishioka (2014)
Urdu	0.0%	75.8%	16.1%	8.1%	0.0%	0.00	Mamiya (2014b)
Kashmiri	2.0%	59.5%	12.2%	2.0%	24.3%	0.03	Kour (2014)
Bhojpuri	3.2%	83.9%	9.7%	3.2%	0.0%	0.04	Prakash & Raj (2020)
Maithili	3.2%	83.9%	9.7%	3.2%	0.0%	0.04	Kumar (2020)
Sindhi	3.2%	72.6%	19.4%	4.8%	0.0%	0.04	Mamiya (2014a)
Nepali	8.2%	58.5%	30.1%	3.3%	0.0%	0.14	Paudyal & Pardeshi (2014)
Marathi	9.7%	56.5%	5.4%	10.8%	17.7%	0.17	Pardeshi (2016)
Domaaki	9.7%	22.6%	61.3%	0.0%	6.5%	0.43	Yoshioka (2014)
Bengali	27.4%	25.8%	45.7%	1.1%	0.0%	1.06	Eguchi & Akhi (2020)
Sinhala	33.9%	6.5%	56.4%	3.2%	0.0%	5.25	Yoshida (to appear)

(In the first line, A, C, E, L, and S stand for anticausative, causative, equipollent, labile, and suppletive coding, respectively, and A/C stands for the ratio of anticausative to causative pairs. The data from Sinhala is emphasized by coloring the line.)

6. Conclusion

In this paper, I examined causal—noncausal verb alternations in Sinhala and reported four main findings. First, equipollent coding is the most common type of coding in the 31 Sinhala verb pairs examined, and I argued that verb pairs which have previously been considered to be cases of causative coding can be analyzed as cases of equipollent coding. Second, I discussed two coding types which have not previously been discussed in the literature on Sinhala: a pair diachronically derived from the same root and a pair showing labile coding. Third, I showed that anticausative coding is more frequent than causative coding in Sinhala, though the most frequent pattern in the language is equipollent coding with the verb wenowa 'become' and koronowa 'do'. Lastly, I showed that the anticausativizing nature of Sinhala makes it unique among the other NIA languages in the sample used for this study. However, answers to the question of why exactly Sinhala is so unique is something that future studies could hope to provide.

development of the conjugation class; Geiger (1938: 18–22) discusses stem vowel fronting. However, the diachronic development of anticausative in Sinhala is a matter for future research.

Abbreviations

anticausative coding	INS	instrumental
accusative	L	labile coding
Active form	NOM	nominative
anticausative	NPST	nonpast
causative coding	PASS	Passive form
Casusative form	PL	plural
dative case	PP	perfect participle
definite	PST	past
equipollent coding	S	suppletive coding
genitive	SG	singular
indicative	1	first person
indefinite	3	third person
	accusative Active form anticausative causative coding Casusative form dative case definite equipollent coding genitive indicative	accusative L Active form NOM anticausative NPST causative coding PASS Casusative form PL dative case PP definite PST equipollent coding S genitive SG indicative 1

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シンハラ語の自他交替

―インド・アーリア語の逆使役優勢言語―

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要旨

本稿では Haspelmath (1993) の 31 組の動詞リストに基づいて、新期インド・アーリア語 (NIA) の一つであるシンハラ語の自他交替動詞対を分析する。更にシンハラ語のデータを使役交替地 図上の他言語のデータと比較する。この論文の主な発見は 4 つある。第一に、両極型の動詞対 が今回の調査では最も多かった。第二に、シンハラ語においては今まで注目されていなかった、自他同形型・通時的に同じ語根から派生した両極型の二つがあることを指摘する。第三に、動 詞リストの調査結果に基づき、シンハラ語は使役型の交替よりも逆使役型の交替を好むことを示す。第四に、逆使役型が優勢なシンハラ語の特徴は、使役型優勢である他の多くの NIA とは異なることを示す。先行研究で通時的安定性 (Comrie 2006) が提案されていることを考えると、系統的に近い他の言語とシンハラ語との違いは驚くべきことである。これらの結果は、今まで自他交替の議論がされていない南アジアの言語にも逆使役型優勢の言語があることを示唆する。

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