RECONSTRUCTION OF VERB SUFFIXES IN KUṚUX AND MALTO

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ABSTRACT

Kuṛux has many forms ending in *-ā*, which functionally correspond to Malto forms in *-e*, *-a* and *-o*. For Kuṛux infinitives in *-ā*, Malto has verbal nouns in *-e* and infinitives in *-o(ti)*. Corresponding to Kuṛux perfect participles in *-kā*, Malto has converbs in *-ke* and *-ko*. Malto also has passive-resultative *-pe* and gerundive *-po*, for which Kuṛux has the deverbal suffix *-pā* found in a few words. The imperative is *-ā* in Kuṛux and *-a* in Malto. In this paper, we attempt comparative reconstruction of the Proto-Kuṛux-Malto verb suffix system by analyzing Kuṛux and Malto suffixes and comparing the reconstructed Proto-Kuṛux-Malto suffixes with Proto-Dravidian, and by uncovering the phonological developments of Proto-Dravidian word-final sounds in Kuṛux and Malto. We argue that the Malto infinitive suffix *-o(ti)*, the Kumarbhag Malto subjunctive suffix *-o*, and the Kuṛux future suffix *-o* can be traced back to the Proto-Dravidian non-past suffix **-um*, while the Kuṛux infinitive suffix *-ā* and the Malto verb noun suffix *-e* inherit the Proto-Dravidian verbal noun suffix **-ay* or the infinitive suffix **-an* if they are cognate. In the Malto suffix pairs with the vowels *e* and *o*, i.e. *-ke* and *-ko* and *-pe* and *-po*, *-ke* and *-pe* are cognate with the Kuṛux verbal adjective suffixes *-kā* and *-pā*, while *-ko* and *-po* are considered Malto innovations, with adverbial *-o* and imperfective *-o*, respectively. Finally, we argue that Kuṛux and Northern Malto finite past forms in *-k-* developed from verbal adjectives with pronominal suffixes, while the original past forms survive as the short converbs in Central and Southern Malto.

Keywords: Kuṛux, Malto, Dravidian, comparative reconstruction, verb morphology

1. Introduction

1.1 Background

Pfeiffer (2018) exhaustively discussed the origins of the phonemes in inherited Kuṛux verbs and nouns, and summarized how each Proto-Dravidian phoneme developed in Kuṛux, and also in Malto. While Pfeiffer organized the list by the first, second, and third segments from word-initial position, developments of word-final sounds have not been treated systematically yet. For the morphological reconstruction of suffixing languages like Kuṛux and Malto, it is crucial to trace the development of final sounds. In this paper, we try to reconstruct a part of the system of Proto-Kuṛux-Malto verb suffixes by comparing isofunctional suffixes of Kuṛux and Malto and by tracing the development of Proto-Dravidian final consonants in Kuṛux and Malto.

Kuṛux is spoken by about two million people, mainly on the Chhotanagpur Plateau, in western Jharkhand and northern Chhattisgarh. Malto is spoken by about a hundred thousand people in the Rajmahal Hills of northeastern Jharkhand. Malto has diverse dialects, geographically divided into North, Central, West and South; within Southern Malto, there is a distinction between Kumarbhag and Malpahariya dialects. While the speech communities of Kuṛux and Malto do not overlap or adjoin geographically, they share more than 500 inherited etyma, show highly regular sound correspondences, and form a close subgroup within the Dravidian language family, which we call Kuṛux-Malto in this paper. While Kuṛux, Malto and Brahui are traditionally grouped as 'North Dravidian' (Bray, 1934, p. 20), it is also pointed out that Kuṛux-Malto and Brahui share few etyma, and few unrepeatable phonological or morphological innovations (McAlpin, 2003), and in this paper we stay neutral on the North Dravidian hypothesis.

1.2 Problem

Reflecting the relatively recent divergence, the sound correspondences of Kurux and Malto are highly regular in most cognate forms. When the correspondence is not regular, it is usually a difference in vowel length as in Krx. *on-* vs. Mlt. *ōn-* 'to drink', or different suffixation as in Krx. *pocgō* vs. Mlt. *pocru* 'worm, insect'. However, the correspondences are not always straightforward in word-final position, and we need to determine whether the difference reflects different morphemes or a sound change.

Kuṛux has many homophonous suffixes. A typical example is *-ā*, which is the pronominal dative

suffix as in *eŋg-ā* (or *-āge*) 'for me'; the infinitive suffix as in *ciʔ-ā* (or *-ā-ge*) 'to give'; the adverbial participle suffix as in *ēr-ā* 'looking'; the imperative suffix as in *ciʔ-ā* 'give!'; the third-person non-masculine singular past ending as in *cicc-ā* 'she/it gave'; and many nouns such as *tākā* 'wind' and adjectives such as *tissā* 'sour' end in *ā*. Corresponding Malto forms sometimes end in *-e*, as in *tāke* 'wind' and *tise* 'sour', but sometimes in *-a*, as the imperative such as *ciy-a* 'give (to someone)!' and the past third-person nonmasculine such as *cic-a* 'she/it gave'. To make the pattern more complex, Malto has a dialectal variation of *e* and *a* which makes the original vocalism difficult to restore: The northwestern dialect has forms with *e* which end in *a* elsewhere; e.g., Northwest *cic-e* vs. *cic-a* elsewhere 'fire (ACC)'; Northwest *eŋg-e* vs. *eŋg-a* elsewhere 'for me (DAT)'. The central and southern dialects have more forms with *a*, e.g., Central and South *maŋjakan* vs. North *meŋjaken* 'having become (1SG)'. In the eastern dialect of Ursa which shows an intermediate state, the imperative, adverbial participle, and pronominal dative suffixes are *-a*, while the verbal noun suffix is *-e* and many inherited nouns and adjectives also end in *-e*.[1] While the Kuṛux final *ā* corresponds phonologically to Malto *e* or *a*, there are pairs of parallel morphemes like the following, which exhibit *ā* in Kuṛux and *o* in Malto:

a)   The Kuṛux infinitive suffix *-ā* appears to be cognate with the Malto verbal noun suffix, which is *-e* in all dialects. However, Malto also has *-o(ti)*, an infinitive suffix which is closer to Kuṛux *-ā* in function.

b)   Kuṛux has a perfect participle[2] suffix *-kā*, which is attached to the past stem of a verb and denotes the perfective aspect, as well as the passive voice if the verb is transitive. Even though there is no single equivalent morpheme in Malto, the inflecting converb suffix *-ke* (North)/ *-ka* (South) 'having Xed' is phonologically close to Kuṛux *-kā* and has a similar function.

c)   Malto has a passive participle suffix *-pe* as in *band-pe* 'pulled' and a gerundive suffix *-po* as in *band-po* 'to be pulled'. While there is no productive cognate suffix in Kuṛux, there are a few nouns in Kuṛux which end in *-pā*, such as *xaŋjpā* 'fruit' from *xaŋjʔ-* 'to bear fruit', and *eṛpā* 'house' even though its connection with the verb *eṛʔ-* 'to invite' is unclear, and it is possible that *-pā* was once a derivative suffix.

In the following sections, we will try to reconstruct Proto-Kuṛux-Malto suffixes from these

suffix sets, analyzing the morphological functions of the suffixes in Kuṛux and Malto and comparing them with Proto-Dravidian morphemes. We will also trace the phonological developments of the final sounds in them, in order to examine the validity of our reconstruction.

2. Reconstruction

2.1 Kuṛux infinitives in -ā

Kuṛux has an infinitive suffix -ā along with the verbal noun suffix -nā, which Krishnamurti (2003, p. 345) explains as borrowing from Hindi, [3] e.g., barʔ-ā 'to come' and bar-nā 'coming'. In Malto, infinitives in -oti such as bar-oti 'to come' and verbal nouns in -e such as bar-e 'coming' are functionally equivalent to them, respectively. As we will discuss in § 2.2, the correspondence between the Kuṛux final ā and the Malto final e is found in many etyma, and given the functional similarity of infinitives and verbal nouns, it is highly possible that the Kuṛux infinitive suffix -ā is cognate with the Malto verbal noun suffix -e. We will get back to this problem in § 2.2.

Based mainly on Tamil and Telugu forms, Caldwell (1913, p. 537) reconstructed Proto-Dravidian infinitive as *-a. Giving more weight to -aṉ attested in Classical Telugu, Krishnamurti (2003, pp. 341-348) reconstructed *-ǎn (i.e. *-an or *-ān) and connected the Kuṛux -ā to it. Ramaswamy Aiyar (1933, pp. 499-501) explained the verbal noun suffix *-al, which is found in Old Tamil and Old Kannada attached to verbal bases, from a common origin as Classical Telugu -aṉ and Tamil -a. This view is supported by Andronov (2003, p. 259), but the possibility that PDr. *-al develops to Krx. -ā or Mlt. -e is not supported by phonological comparison. After a long vowel, a base-final *l might have dropped, judging from Krx. mūkā 'knee' (cf. Mlt. mūke id.), provided that they are cognate with Tamil muḻaṅ kāl 'knee', Telugu mōkālu id., etc. (DEDR 4990). After a short vowel, a base-final *l is retained, e.g., Ta. pal 'tooth', Krx. pall, Mlt. palu (DEDR 3986), but in this case the word is monosyllabic and might be different from the development of the final *l in polysyllabic words due to differences in stress. An example of suffix-final *l is found in DEDR 3376, Ma. tūṅṅal 'hanging, drowsiness' etc., which contains a derivative suffix *-al, reflected as tuŋgul 'dream' in Kuṛux and tumgle 'id.' in Malto with *l retained. Therefore, it is rather unlikely that Proto-Dravidian *-al develops to -ā in Kuṛux.

While Krishnamurti's reconstruction of *-ǎn as the Proto-Dravidian infinitive suffix is well grounded in itself, it would not have developed to -e in Malto by regular sound change, if our hypothesis that Malto -a, the accusative suffix of consonant stems, or the first-person singular form

of the short inflecting converb of Kumarbhag Malto, comes from *-an (§ 2.2). [4] Another possible origin is the verbal noun suffix, Proto-Dravidian *-a in Andronov's reconstruction and *-ay in Zvelebil's and Krishnamurti's reconstruction (henceforth *-ay; Zvelebil, 1970, p.72; Andronov, 2003, p. 65, p. 264; Krishnamurti, 2003, p. 199), as is found in Old Tamil *naṭai* (Narriṇai 92:2) from *naṭa* 'to walk, move around' (Rajam, 1994, p. 695). There is a difference that while Tamil -*ai* is normally preceded by a tense suffix, Krx -*ā* and Mlt. -*e* attach directly to verbal bases (Andronov, 2003, p. 263). But reorganizing verb morphology by replacing verb bases with secondary stems is not unknown in Dravidian, as is found in the use of the original past stem for non-past tenses in Toda.

Now, which is more likely to be the origin of the Kuṛux infinitive suffix -*ā*, *-ay or *-ã̄n? In the next section, we will examine the possibility that Kuṛux -*ā* and Malto -*e* would reflect Proto-Dravidian *-ay.

2.2 The correspondences Krx. -*ā* vs. Mlt. -*e* and Krx. -*ā* vs. Mlt. -*a*

The hypothesis that the Kuṛux infinitive suffix -*ā* comes from Proto-Dravidian verbal noun suffix *-ay gives a coherent explanation for the vowel correspondence Krx. -*ā* vs. Mlt. -*e*. As mentioned above, the correspondence Krx. -*ā* vs. Mlt. -*e* is found in many nouns and adjectives. Some of them have cognates in other branches of Dravidian:

(1) Krx. *embā* 'taste, tasty', Mlt. *embe* 'sweet', Tamil *iṉpam*, *iṉippu* 'delight, sweetness', Tulu *impu* 'agreeableness' (*DEDR* 530)

(2) Krx. *ulā* 'inner room', Mlt. *ule* 'inside', Malayalam *uḷḷu*, *uḷḷam* 'inside', Kannada *oḷa* 'inside', Parji *ole* 'house' (*DEDR* 698)

(3) Krx. *cālā* 'sacred grove', Mlt. *cāle* 'grove', Tamil *cōlai* 'flower garden' (*DEDR* 2891)

(4) Krx. *meccā* 'high', Mlt. *mece* 'above, up', Tamil *micai* 'elevation', Malayalam *meccam* 'excellency' (*DEDR* 4841)

These examples show that when Kuṛux -*ā* and Malto -*e* correspond, cognates in Tamil and Malayalam have -*am*, -*ai*, or the enunciative vowel -*u* which would become -*u* in Malto and zero in Kuṛux. We cannot determine the Proto-Dravidian suffix from which Kuṛux -*ā* and Malto -*e* developed, but a syllable-final *m as in *-am would disappear or nasalize the preceding vowel, e.g.,

Krx. =hũ̃ 'too' and Mlt. =ho, =hõ from Proto-Dravidian *=um; Krx. xẽ̃sō 'red', Mlt. qēso id., Malayalam cemma 'redness', Tulu, Telugu kempu 'redness' etc. from Proto-Dravidian *qem- [5] (DEDR 1931); and the Kumarbhag Malto short converb suffix of the first-person singular and plural exclusive *-a, which might go back to Proto-Kuṛux-Malto *-an and *-am, respectively. If Proto-Dravidian *-an and *-am are expected to become Kuṛux ā and Malto a or their nasalized counterparts, it is more likely that Proto-Dravidian *-ay, reflected as Tamil-Malayalam -ai as in Tamil cōlai in (3) or Tamil micai in (4), would develop to -ā in Kuṛux and -e in Malto. We can postulate the development of PDr. *-ay to Kuṛux ā and Malto e as the phonological rule (5):

(5) Development of Proto-Dravidian final *ay: PDr. *ay > Mlt. -e, Krx. -ā / __#, presumably through the intermediate stage Proto-Kuṛux-Malto *ε

 Note that the origin of the Malto final -e might be much more complex than is covered by the single rule (5). In the first place, the final -e in nouns and adjectives is considered a stem-formative suffix for it drops in compounds (Kobayashi, 2012, p. 25; § 2.5 below), and might be susceptible to morphological innovation. There might also have been leveling of the final *ā to e in inherited nouns, as Mlt. mūke 'knee' cited in § 2.1 has e instead of the expected a. Furthermore, if the final e in human nouns such as maqe 'boy, son' and qalwe 'thief' is cognate with Proto-Dravidian *-aṇṭ(u) (Krishnamurti, 2003, p. 163) as is reflected in Old Telugu maganṟu < *maqaṇṭ(u), Tamil makaṉ 'son, child', etc. (DEDR 4616) and Malayalam kaḷavan 'thief', etc. (DEDR 1372), respectively, we need to postulate another rule such as PDr. *-aṇṭ(u) > PKM *-ε. [6]

In contrast to (5), when the Malto forms corresponding to Kuṛux forms ending in ā also end in a, the Proto-Dravidian forms seem to have had a consonant after *a. In other words, final *ăC sequences other than *ay, of which the C was deleted in Proto-Kuṛux-Malto, are reflected as ā in Kuṛux and a in Malto, as in (6):

(6) Development of final *ăC other than *ay: PDr. *ă > PKM *a > Mlt. -a, Krx. -ā / __C# (the exact types of C are unclear)

For example, the accusative markers of Malto are -n after vowel stems and -a after stems ending in a consonant and an enunciative u, e.g., ale 'dog', ale-n ACC; cicu 'fire', cic-a ACC. The accusative marker of consonant stems, which is -a in most dialects, as in kuku 'head', accusative

kuk-a, is explainable from Proto-Dravidian *-an (Krishnamurti, 2003, pp. 228-230) with loss of the final tautomorphemic *n, even though Kuṛux and Southern Malto have -(*a*)*n* as the accusative suffix of both consonant and vowel stems, possibly by leveling, e.g., Krx. *allā* 'dog', *alla-n* ACC; *kukk* 'head', *kukk-an* ACC. The second example is the past third-person non-masculine singular ending, Krx. -*ā/-ad*, Mlt. -*a(ð)* < PKM *-ad. If this suffix comes from Proto-Dravidian *-at(u) as is reconstructed from South, South-Central or Central Dravidian (Krishnamurti, 2003, pp. 308-312), the *a was also originally followed by a consonant. Yet another example is the imperative suffix, Krx. -*ā* vs. Mlt. -*a*, which is more difficult to trace. If we can reconstruct Proto-Dravidian *-āy from Old Tamil and Old Malayalam -*āy*, Koṇḍa -*aʔ* and Pengo -*a* (Krishnamurti, 2003, pp. 357-361), it is expected to become -*ā* at least in Kuṛux, for PDr. *-āy as in *qāy 'unripe fruit' (*DEDR* 1459, Tamil *kāy* etc.) also becomes -*xā* in Krx. *ṭaṭxā* 'mango' (cf. Mlt. *ṭāṭɢe*). The vocalism of the imperative suffixes, Krx. -*ā* and Mlt. -*a*, is explained if both final *ay and *āy became *ā* in Kuṛux, while they became *e* and *a*, respectively, in Malto. By postulating the sound change (5), we can explain at least some of the double correspondences Krx. -*ā* vs. Mlt. -*e* and Krx. -*ā* vs. Mlt. -*a* from Proto-Dravidian *-ay and from other *-ăC sequences, respectively.

Let us sum up the discussion from § 2.1. If the Kuṛux infinitive suffix -*ā* and the Malto verbal noun suffix -*e* are cognates, there are two possible etymologies. The Proto-Dravidian verbal noun suffix *-ay would develop regularly to Kuṛux -*ā* and Malto -*e*, but it is usually attached to tense stems unlike Kuṛux -*ā* or Malto -*e*. On the other hand, if we accept Krishnamurti's reconstruction of the Proto-Dravidian infinitive suffix as *-ăn, Kuṛux -*ā* can be explained by a loss of the final *n, but Malto -*e* might not result from *-ăn by a regular sound change, and in that case we need to consider that leveling of *-a to -*e* took place in pre-Malto, or that Kuṛux -*ā* and Malto -*e* come from different origins. We need to know more about the origin of Malto -*e* and the development of Proto-Dravidian final sounds in order to determine which etymology is better.

2.3 Origin of Malto -*oti*

While the Malto infinitive suffix -*oti* overlaps with Kuṛux -*ā* in function, it has no obvious cognate in Kuṛux. Along with -*oti*, there are also shorter forms, -*ot* and -*o*. While -*ot* is interchangeable with -*oti*, -*o* is limited to certain contexts: -*o* is used with control verbs such as *bed-e* 'to seek, feel like', and it is a part of the present negative forms such as *lapomala* 'she/it does not eat' if they consist of -*o* and negative *mal*.[7] Thus -*o* is not a shortened form of -*oti*, but it is more

likely that *-oti* consists of *-o* and *ti*. *-t* and *-ti* are instrumental suffixes (Kobayashi, 2012, p. 24, p. 61), and they might be added to the original infinitive *-o*, in a similar way as the English infinitive was extended with the preposition *to*.

Even if the original form of the Malto infinitive suffix was *-o*, it is not cognate with the Kuṛux infinitive suffix *-ā*, for there is no regular sound correspondence between Krx. *-ā* and Mlt. *-o*, with possible exceptions of a few nouns such as Krx. *ciglā* vs. Mlt. *cigalo* 'jackal' which might also reflect different suffixes, and the adjectival suffix pair Krx. *-tā* as in *mun-tā* 'first, ancient' vs. Mlt. *-to* as in *pel-to* 'womanish'. In word-final position, Malto *-o* regularly corresponds to Kuṛux *-ō* in pairs such as Krx. *paccō* vs. Mlt. *paco* 'old woman'; Krx. *erkʰō* vs. Mlt. *erqo* 'husband's younger sister'; Krx. *kīrō* 'tree of the *mahua*' vs. Mlt. *kīro* 'wild cashew'. Kuṛux *-u* corresponds to Malto *-o* in the locative suffix pair Krx. *-nū* vs. Mlt. *-no*, but Kuṛux and Malto sporadically differ in the feature [high] as in (8) and (9) and, and this correspondence is probably secondary.

(7) Krx. *uŋkʰ-ā*, *oŋkʰ-ā* vs. Mlt. *onq-e* 'to get drunk' (*DEDR* 936)

(8) Krx. *ender* vs. Mlt. *indru* 'what' (*DEDR* 5151)

If Malto final *o* corresponds to Kuṛux *ō*, a possible Kuṛux morpheme cognate with Malto infinitive *-o* is the imperfect participle suffix *-ō*. This suffix is isomorphic with the future tense suffix *-ō* and the future third-person singular non-masculine ending *-ō*,[8] and derives adnominal participles such as *xandrʔ-ō bīrī* 'when going to bed' from *xandrʔ-* 'to sleep' and *bīrī* 'time'. Even though Malto infinitives in *-o(ti)* are not used adnominally, both Kuṛux *-ō* and Malto *-o(ti)* attach to the verbal base, and they are imperfective in terms of aspect. In the next section, we discuss whether they can be traced back to a common origin.

2.4 Origin of Kuṛux *-ō* and Malto *-o(ti)*

Ramaswamy Aiyar (1929, p. 117) and Emeneau (1962, p. 63) pointed out that the Kuṛux future suffix *-ō* is not cognate with the Malto future suffix *-en*, but with *-o*, reported by Droese (1884, p. 48) as 'optative' along with the third-person optative suffix *-ānde*, which is still in use. Optative *-o* is no longer found in present-day Northern, Central or Western (Sawriya Pahariya and Malpahariya) Malto, but *-o* survives in the Kumarbhag dialect of Southern Malto as an alternative subjunctive suffix along with the subjunctive suffix *-l* (Kobayashi, 2012, p. 69). Kuṛux has the suffix *-o*, which

signals moods such as potential and irrealis as well as the future tense or the imperfective aspect (Kobayashi & Tirkey, 2017, p. 250). While Kuṛux and Malto have a three-way tense system of the past, present and future, Proto-Dravidian is reconstructed with two tenses or aspects, past and non-past (Krishnamurti, 2003, p. 291). For Proto-Kuṛux-Malto as well, *-o should be reconstructed as a suffix marking the imperfective aspect and secondarily the counterfactual mood, rather than the future tense.

Of the verbal suffixes reconstructed for Proto-Dravidian, non-past *-um as is reconstructed from Old Tamil, Old Malayalam, Old Kannada, Tulu, Old Telugu and Parji (Krishnamurti, 2003, pp. 305-307), is probably the best candidate for the origin of the Proto-Kuṛux-Malto suffix *-o (Kobayashi, 2020, p.479). While -um typically occurs after a non-past suffix in Old Tamil, it also attaches directly to the verbal base (Rajam, 1994, pp. 619-623). As we discussed in § 2.2, syllable-final *m is considered to undergo deletion in Malto. The Proto-Dravidian additive clitic *=um develops to Kuṛux =hõ̃ or =hũ̃ and Malto =hõ or =ho. Lowering of *u to *o before a nasal is also found in (9) and (10).

(9) Krx. on- 'to drink, eat rice', Mlt. ōn- 'to drink' < *uṇ-, Tamil uṇ 'to eat or drink', Kolami un- (und-) 'to drink', etc. (*DEDR* 600)

(10) Krx. komboʔō 'half open' < *kūmp-, Tamil kūmpu 'to shut', Kannada kōvaḷ 'waterlily', etc. (*DEDR* 1894)

In this connection, PDr. *i also lowers to *e, as in (1) Krx. embā 'taste, tasty', Mlt. embe 'sweet' <*inp-, Tamil iṉpam, iṉippu 'delight, sweetness', Tulu impu 'agreeableness' (*DEDR* 530a; Pfeiffer, 2018, p.53), Telugu emme 'beauty, charm, amorous pastime' (*DEDR* 530b), and (11)

(11) Krx. ẽ̃ṛ, ēṇḍ 'two', Southern Mlt. -ēṇḍ 'two' < *iraṇṭ(u) 'two', Tamil iraṇṭu, Telugu reṇḍu 'two things', Naiki (Chanda) erṇḍi 'two things', etc. (*DEDR* 474)

The conditioning context of the lowering of high vowels cannot be generalized as before nasals, for there are cases of retaining a high vowel before a nasal such as (12), and there are also cases of lowering in other contexts such as (13). We are not sure if these vowels were really high when Proto-Kuṛux-Malto branched off from Proto-Dravidian, for Proto-Dravidian and Proto-South-Dravidian have complex processes of [high] umlaut (Krishnamurti, 2003, p.101). As Pfeiffer (2018, pp. 362f.)

points out, lowering of PDr. *i and *u is a sporadic change, and the exact condition still needs to be worked out.

(12) Krx. *innā* 'today', Mlt. *ine* id. < *in-, Tamil *inṟu* 'today', etc. (*DEDR* 410)

(13) Krx. *xosgā* 'thigh', Mlt. *qosɢe* id. < *quṭVq-, Tamil *kuṟaṅku* 'thigh', Konḍa *kuṟgu* id., etc. (*DEDR* 1840)

2.5 The Malto suffix system with *e* and *o*

As mentioned in § 1.2 and § 2.3, some Kuṟux suffixes with *ā* appear to correspond phonologically to Malto suffixes with *e*, but Malto also has suffixes with *o* which have similar functions.

For the Kuṟux perfect participle suffix *-kā*, Malto has two suffixes that appear to be cognate: *-k(e)*, a non-productive verbal adjective suffix as found in *qayek(e)* 'dry' from the verb *qāy-e* 'to become dry' or *paŋjek(e)* 'ripe' from the verb *pān-e* 'to ripen', and the suffix *-ke*, which forms the inflecting converb such as *ān-ke-n* 'having said (1SG)'. But Malto also has *-ko*, which forms an uninflecting adverbial converb (Kobayashi, 2012, p. 53). For the Kuṟux non-productive verbal adjective suffix *-pā*, Malto has a productive passive participle suffix *-pe*, and a gerundive suffix *-po*.

Table 1: Systems of nonfinite verb suffixes in Kuṟux and Malto

	Kuṟux	Malto	
vocalism	*ā*	*e*	*o*
vowel suffixes	base + *ā*	base + *e*	base + *o*
-k suffixes	past stem + *kā*	past stem + *ke*	past stem + *ko*
-p suffixes	base + *pā*	base + *pe*	base + *po*

In Table 1, the Malto suffixes in the shaded cells, *-ko* and *-po*, do not have cognates in Kuṟux. How can we account for the *e-o* vocalism in the Malto suffix pairs? If we consider *-ko* and *-po* to be relic suffixes, which are retained in Malto but lost in Kuṟux, we cannot determine where they originated. On the contrary, if Proto-Kuṟux-Malto had only *-kɛ and *-pɛ and if *-ko* and *-po* are Malto innovations, it is difficult to explain after what model the *e-o* vocalism was introduced into Malto. Another possibility is that these suffixes are combinations of shorter suffixes, that is Proto-

Kuṛux-Malto *-k and *-p with *-ay or *-o. In Malto, final -*e* of nouns drops when forming a compound or taking a suffix, and -*e* of adjectives when modifying a noun, as in *nan dine* 'another day' from *nane* 'other' and *dine* 'day' (§ 2.2). A bare -*k* suffix is found in deverbal forms such as *qayek(e)* 'dry' and *paŋjek(e)* 'ripe' (Droese 1884, s.v.), and the suffix -*pe* becomes -*p* when modifying a noun, as in *boɴɢ-p maqeh* 'a child who ran away'. Although Kuṛux does not have the suffix -*k* or -*p*, the final -*ā* drops in forms such as *aul-tā* 'pertaining to that day' formed from *ā ullā* 'that day' with the adjectival suffix -*tā*. If Proto-Kuṛux-Malto had suffixes *-k and *-p on the one hand, and *-ε and *-o on the other, we could explain the difference in the suffix sytems as that Kuṛux developed only the combinations *-k-ε > -*kā* and *-p-ε > -*pā*, while Malto developed *-k-o > -*ko* and *-p-o > -*po* besides *-k-ε > -*ke* and *-p-ε > -*pe*. Furthermore, if Proto-Kuṛux-Malto had *-k and *-p, they could be explained from Proto-Dravidian stem-formative suffixes *-kk and *-pp by Caldwell's Law (Caldwell, 1956, p.138) that Proto-Dravidian geminate stops are reflected as voiceless in the daughter languages. Proto-Kuṛux-Malto *-p and *-k are analyzed as passive-resultative and perfective, respectively. The perfective aspect of *-k contradicts the non-past tense attributed to *-kk in Proto-Dravidian, but it might have transferred from the past stem to which the suffix is always attached.

In other Dravidian languages, reflexes of *-kk do not attach to past stems as in Kuṛux and Malto. However, use of past stems for non-past forms is found in Toda as well (Emeneau, 1984, p.114), and is not specific to Kuṛux and Malto.

2.6 Functional difference between *-ε and *-o

In the preceding sections, we pointed out that the origin of the Malto suffix pairs with *e* and *o* might be traced back to Proto-Kuṛux-Malto *-ε and *-o. If that was the case, we would like to find out what their functions were and in what respect they contrasted.

The passive participle suffix -*pe* and the gerundive suffix -*po* of Malto both denote the passive voice, but there is a contrast of perfective and imperfective aspects. The verbal noun suffix -*e* is neutral with respect to aspect, but the infinitive suffix -*o* has purposive meaning and is imperfective.

The verbal adjective or the inflecting converb in -*ke* and the adverbial converb in -*ko* are both perfective, even though the perfective aspect might rather pertain to the past stem to which they are attached. The inflecting converb as in (14) denotes action preceding that of the main verb, whereas the adverbial converb as in (15) marks a perfective temporal clause. As -*ke* modifies the subject of

the main verb while *-ko* forms a subordinate clause, the former is adjectival while the latter is adverbial.

(14) *laṭi-nēken*   *pehr-keh*   *ōy-a*   *calātr-le*   *ij-ah*
    staff-who.ACC   take.up-CVB.3SG.M cattle-ACC   graze-CVB   stand-PST.3SG.M
    "*Having taken up* a staff or something, he stood grazing cattle." (Kobayashi, 2012, p. 285)

(15) *mandr-a*   *gaṛc-ko*   *ahe-k*   *maqe-h*   *meṇj-ah*
    medicine-ACC   make-CVB   he-DAT   boy-M   become-PST.3SG.M
    "*When* (the ascetic) *made* medicine, he (the king) had a son." (Kobayashi, 2012, p. 337)

In the pair *-te* and *-to*, the former forms an adjective or a temporal noun such as *anek-te* 'present' from *aneke* 'now', cf. Krx. *-tā* as in *ak-tā* 'present, just now' from *akkun* 'now', while the latter forms a few words that might originally be adverbs, e.g., *mal-to* 'the Malto language' but originally 'in Maler's way, i.e. in Malto' from *maleh* 'a man, a Pahariya', *pel-to* 'womanish' (Droese, 1884) from *peli* 'woman'.

We cannot extract a single functional difference between *e* and *o*; the pairs *-e* vs. *-o* and *-pe* vs. *-po* differ in aspects, while in *-ke* vs. *-ko*, and possibly in *-te* vs. *-to* as well, there seems to be a contrast between an adjective and an adverb. Malto actually has a form in which *-o* is analyzable as an adverbial suffix, i.e. *qalwo* 'stealthily' from *qalwe* 'thief'. Thus, there were probably two different *-o*'s in Proto-Kuṛux-Malto: imperfective *-o from Proto-Dravidian *-um, and adverbial *-o. The combination of perfective *-k and adverbial *-o makes an adverbial converb suffix, and the combination of passive *-p and imperfective *-o makes a gerundive suffix. The *o* in Malto *-po* and the infinitive suffix *-o* have a common origin in the Proto-Kuṛux-Malto imperfective suffix *-o. This imperfective *-o was inherited as a future suffix in Kuṛux, while adverbial *-o is not well attested in Kuṛux, with possible exceptions such as *taŋkʔō* 'a little' from *tanik* id. and *janmō* 'by nature' from *janam* 'birth'(Grignard 1924, s.v.). On the other hand, the function of Proto-Kuṛux-Malto *-ɛ from Proto-Dravidian *-ay is analyzed as marking nouns and adjectives.

3. Discussion

In § 2, we argued that the Kuṛux infinitive suffix *-ā* and the Malto verbal noun suffix *-e* come

from Proto-Dravidian verbal noun suffix *-ay (=Andronov's *-a), while the Malto infinitive suffix -o(ti), and subjunctive -o, are cognate with the Kuṛux imperfective -o, and are traced back to the Proto-Dravidian imperfective *-um. Then we argued that the one-to-two correspondence of Kuṛux and Malto verb suffixes, Krx. -kā vs. Mlt. -ke and -ko, and Krx. -pā vs. Mlt. -pe and -po, originated from the combination of the Proto-Kuṛux-Malto suffixes *-k, *-p, *-ε and *-o.

We proposed to reconstruct the suffixes *-k, *-p, *-ε and two distinct *-o's for Proto-Kuṛux-Malto. Krx. -kā and Mlt. -ke come from perfective *-k and nominal-adjectival *-ε; Mlt. -ko from perfective *-k and adverbial *-o; Krx. -pā and Mlt. -pe from passive-resultative *-p and nominal-adjectival *-ε; and Mlt. -po from passive-resultative *-p and imperfective *-o. Given the cognate pairs Kuṛux -kā vs. Malto -ke and Kuṛux -pā vs. Malto -pe, we can also reconstruct the combined suffixes *-k-ε and *-p-ε for Proto-Kuṛux-Malto.

*-pε only forms passive participles, and its function is to signal the passive-resultative voice. *-kε has multiple functions, i.e., it forms the finite past, the converb, and the verbal adjective, but all forms signal the perfective aspect in common, even if the aspectual meaning might have been transferred from the past stem to which it is attached. The long inflecting converb suffix -ke of Malto might have the same origin as the verbal adjective or perfect participle, for it can also be interpreted as an adjective such as 'I, who did …' 'he, who did …'. It is also possible that -ke, the past suffix of Northern (Sawriya) Malto, developed from the converb suffix -ke. The past forms and the long inflecting converbs of Malto take the same, pronoun-like agreement suffixes except the third person, e.g., Northern Malto oca-ken 1SG 'I took' and 'I, having taken', whereas the short inflecting converbs of Central and Southern Malto take agreement suffixes, which are shorter, and are not like pronouns in the case of Kumarbhag Malto, e.g., Kumarbhag Malto oc-a 1SG/1PL/3PL 'having taken' (Mahapatra, 1979, p. 182; Kobayashi, 2012, p.71; cf. Puttaswamy, 2008, p. 118).

As suggested by Kobayashi (2020, p.478), the short converbs are more like finite past forms in that they have the typical tripartite shape of a finite verb, {base + tense suffix} + pronominal suffix, that they are not doubly marked for the past tense like the current past forms in the first and second persons, and that they have unique pronominal suffixes. If the short converbs reflect the original past forms of Proto-Kuṛux-Malto, we can think of a possible development like the following: Proto-Kuṛux-Malto had finite past forms made of the past stem and pronominal suffixes, and they are retained in Kumarbhag Malto as short converbs. The past inter-female forms of Kuṛux such as hoccʔ-an 'I took', where the past stem hocc- is followed by the agreement suffix -an with ʔ which separates the morphemes (cf. Ekka 1972, p. 27), might also be relic finite past forms. Just as

predicate nouns and adjectives take pronominal suffixes, the perfect participle made of a past stem and *-kɛ also took pronominal suffixes when used as predicates (Caldwell, 1956, p. 481; Andronov, 2003, p. 233). Since an overt copula was probably not necessary in Proto-Kuṛux-Malto copular clauses as is the case in present-day Malto, the perfect participle with pronominal suffixes functioned as predicates without a copula. Then the perfect participle with pronominal suffixes came in competition with the original finite past forms made of the past stem and a pronominal suffix. Since the perfect participle is doubly marked for the past with the past stem and *-kɛ, it gradually became the finite past, pushing the original past forms to a more limited use as converbs, in conformity with Kuryłowicz's first law of analogy that complex marking tends to replace simple marking, and fourth law that new forms take over the primary function leaving the old forms in secondary function (Hock, 1991, pp. 211f., pp.223-227). Only the original third-person forms were not taken over by perfect participles, and they made a composite past paradigm with the perfect participles of the first and second persons, as is found in Kuṛux and Northern Malto, for third-person forms tend to resist change cross-linguistically. [9] That is why the third-person forms of the Kuṛux and Malto past paradigms, such as Northern Malto past *oc-ah* 3SG.M, *oc-a* 3SG.NM, *oc-ar* PL, resemble the third-person forms of the Malto short converb, such as Kumarbhag *oc-ah* 3SG.M, *oc-i* 3SG.NM, *oc-a* 3PL.

If our explanation of the past inflection from the long converbs holds true, the putative North Dravidian characteristic of the past tense marking by *kk (Bray, 1934, p.20; Emeneau, 1962, p.63) is in fact not an innovation which contributes to subgrouping, for *-kɛ is a participial suffix and not a tense suffix according to our explanation. The real innovation is that the suffix *kk came to cooccur only with the past stem in Kuṛux-Malto, and the functional transfer of the perfective aspect from the past stem we suggested in § 2.5 is only secondary.

The situation of the suffixes *-k, *-p, *-ɛ, *-o and their combinations are summarized in Table 2.

Table 2: Summary of Proto-Kuṛux-Malto verb suffixes (with examples of the verb *qāy- 'to become dry')

Proto-Kuṛux-Malto	Malto	Kuṛux
*-k (past stem+)	verbal adjective (*qaye-k(e)*)	———
*-kɛ (past stem+)	converb -*ke*, past -*ke*	past -*kā*, perfect participle -*kā* (*xay-kā*)

	converb -*ko*	———
*-p	passive participle -*p*	———
*-pε	passive participle -*pe*	derivative suffix -*pā*
	gerundive -*po*	———
*-ε (+base)	verbal noun: (*qāy-e*)	infinitive (*xāy-ā*)
*-o (+base)	infinitive, subjunctive	future, imperfective participle

ABBREVIATIONS

CVB: converb; EX: exclusive; IN: inclusive; Krx.: Kuṟux; M: masculine; Mlt.: Malto; NM: nonmasculine: PL: plural; SG: singular

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COLOPHON

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[1] Many Malto nouns ending in *a*, such as *aḍa* 'house', *jaṛa* 'rain', *boḍa* 'viper' and *bogla* 'paddy bird' appear to be Indo-Aryan loanwords.

[2] The perfect participle forms adnominal clauses like the 'relative participle' in other Dravidian languages. It also forms periphrastic perfect with the existential/copula verb *raʔ-*.

[3] If Kuṛux borrowed the verbal noun suffix -*nā* from Indo-Aryan, Kuṛux speakers must have once

been in contact with speakers of Hindi or Punjabi, which has this suffix. It is also possible that *-nā* is an inherited suffix, with the increment *-n added before *-ā.

[4] Kuṛux has an alternative infinitive suffix *-an*, where *n* might be a retention of the original final *n, but might also have been added secondarily.

[5] We follow McAlpin's reconstruction that Proto-Dravidian had *q as a phoneme distinct from *k (McAlpin, 2003, p.539).

[6] If Proto-Dravidian *a were fronted to *e* before *n in Malto, the verbal noun suffix *-e* would be a regular outcome of the Proto-Dravidian infinitive suffix *-ăn, contrary to what we discussed in § 2.1.

[7] Cf. Andronov (2003, p. 275), who explains this *-o* from *-a < *-ā.

[8] Isomorphism of third-person neuter singular and an adnominal participle is found also in Parji of Central Dravidian (Burrow & Bhattacharya, 1953, p. 71), and in Old Tamil where non-past third-person neuter singular and imperfective participle are both -(*kk*)*um*.

[9] This is corroborated by the past forms of some verb classes of Southern Malto such as *oca-tan* 1SG, *oca-te* 2SG.M etc. (Kobayashi, 2012, p. 68), which are formed from the third-person non-masculine *oca*. As Watkins pointed out, third-person forms serve as the basis for the forms of other persons cross-linguistically (Watkins, 1962, p. 96).