Viewing Proto-Dravidian from the Northeast

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Continuing Pfeiffer 1972, Pfeiffer 2018 examines inherited Dravidian etyma of Kurux, one of the most northerly Dravidian languages. After an overview of the book, we discuss problems involved in Pfeiffer's arguments, methods, and materials. Then we try to narrow down the conditions of some of the sound changes Pfeiffer proposes, in conformity with the Neogrammarian hypothesis of regularity. We also point out that closer study of word-final phonology would answer some of the pending questions of Kurux-Malto morphology. Finally, we argue that phonological and morphological reconstruction can unveil more features to help revise the subgrouping of Kurux-Malto in the Dravidian family.

1. history of kurux historical phonology

Kurux (also written Kuṛux, Kūṛux, Kurukh, and Kunrukh) is a Dravidian language spoken by about two million people on the Chhotanagpur Plateau, in the Indian states of Jharkhand, Chhattisgarh, West Bengal, and Odisha, where the local variety of the language is called Kisan. The speakers are called Oraon (Hindi *urãv*) by other communities. Since it is one of the three most northerly Dravidian languages along with Malto and Brahui, it was once grouped as North Dravidian together with these two languages. While Kurux and Malto form a close subgroup, Kurux-Malto and Brahui share few innovations. Studies such as Andronov (2003: 21) did not adopt the subgroup, and McAlpin (2003: 545) proposed to give up the subgroup "North Dravidian." Kurux is described most extensively by the grammar and dictionary of the Belgian Jesuit missionary André Grignard (Grignard 1924a, 1924b), who took over Ferdinand Hahn's earlier work on the language. Recent treatments include Ekka 1971, Gordon 1976, Mishra 1996, and Kobayashi and Tirkey 2017.

Based on his doctoral dissertation submitted to Freie Universität Berlin, Martin Pfeiffer published *Elements of Kuṛux Historical Phonology* in 1972. After this influential work, the second edition of Burrow and Emeneau's *Dravidian Etymological Dictionary* (abbreviated *DEDR*) appeared in 1984, incorporating Pfeiffer's etymologies. The work under review is a result of the author's longstanding effort to update etymological materials related to Kurux ever since and to rework the problems of Kurux historical phonology. Both Pfeiffer 1972 and Pfeiffer 2018 are based only on published materials. While Pfeiffer makes meticulous references to previous studies until the 1980s, some more recent works on Kurux, such as Mishra 1996, McAlpin 2003, and Kobayashi and Tirkey 2017, are not consulted.

2. OVERVIEW OF THE WORK

In Pfeiffer 1972 cognate sets are arranged by reconstructed Proto-Dravidian sounds and sound sequences, with an index arranged by Kurux phonemes. This work also has separate sections for etyma with non-Dravidian etymology (pp. 168–71), re-borrowing of originally Dravidian etyma (pp. 172–74), problematic etymologies (pp. 175–83), etyma with reflexes only in Kurux and Malto, and/or Brahui (pp. 184–95), and onomatopoetic words (pp. 196–97).

In contrast, Pfeiffer 2018 lists Kurux words including loanword items, with cognates from Malto and other Dravidian languages, drawing primarily on the materials of the *DEDR*, which constitute two-thirds of the book (pp. 27–339). This list is followed by those cognate sets not listed in *DEDR*, labeled "N" (pp. 340–51). Since the entries are arranged by the etymon numbers of the *DEDR*, the unique numbering system of Pfeiffer 1972 was given up. But the book does not contain a Kurux index to the cited words, and readers must first look up the Kurux index of the *DEDR* (pp. 746–51) to locate Kurux words.

After presenting cognate sets, Pfeiffer gives a list of correspondences of forms in Kurux and Proto-Kurux-Malto, arranged by phonemes and their position from the word initial, with reconstruction of Proto-Dravidian forms (pp. 353–431); lists of regular sound changes from Proto-Dravidian to Proto-Kurux-Malto (pp. 432–35), conditioned sound changes (pp. 435–37), and sporadic sound changes (pp. 437–40); and lists of regular sound changes from Proto-Kurux-Malto to Kurux (pp. 441–43), conditioned sound changes (pp. 443–45), and sporadic sound changes (pp. 445–47).

In "Proto-Kurux-Malto and Proto-North Dravidian" (pp. 448–53), Pfeiffer points out that Proto-Kurux-Malto *q- and Brahui *x-, on the one hand, and Proto-Kurux-Malto *k- and Brahui *k-, on the other, show mostly regular correspondences, and concludes that the Proto-Kurux-Malto contrast between *q- and *k- in initial position can be posited for Proto-North Dravidian, and that both phonemes originate from Proto-Dravidian *k- (p. 451). Pfeiffer considers the contrast between these phonemes to be a shared North Dravidian innovation, resulting from a split of Proto-Dravidian *k to *k and *q before [+high] and [−high] vowels respectively (see also Pfeiffer 1972: 149–50). In the Appendix (pp. 460–62) Pfeiffer finds the same distribution of velars and uvulars in Kusunda and suggests contact between Proto-North Dravidian and Kusunda.

The sound changes from Proto-Dravidian to Kurux are summarized in "Overview" (pp. 454–59). In his "Conclusion" (pp. 463–67), Pfeiffer admits the existence of unexplained irregularities and isolated etyma, and citing the long-standing discussion on the putative migration of Kurux speakers from the west coast to Chhotanagpur via Rohtas Kurux "loan-words" in Nihali, and the development of Proto-Dravidian *v to *b, which Kurux shares with the Kannaḍa-Koḍagu-Tuḷu group in Karnataka, mentions the possibility of borrowing from extinct language families during the migration.

3. CRITIQUE

3.1. Scope of the Work

Pfeiffer reconstructs Proto-Kurux-Malto and Proto-Dravidian forms for items with cognates. Since the *DEDR* does not give Proto-Dravidian reconstructions, Pfeiffer's reconstructions are of tremendous help for historical linguists. Etymologies such as Kurux *oṇṭā* 'one' from *ōnd* 'one' and *oṭa* 'unit, head' on the grounds of the absence of the combination **ōnd-ʔoṭa* (p. 81) are superb examples of philological investigation. However, the sound changes between Proto-Dravidian and Kurux are not easy to trace, for the posited sound changes are

listed without overt explanation or labels for cross-reference, and the lists are not always exhaustive. Systematic presentation of the sound changes of word-final sounds would also have been useful, for the suffixing morphology of Dravidian is best reconstructed from final sounds.

Since Kurux is generally more innovative in its phonology than its sister Malto, discussing history based on Kurux forms entails potential problems. For example, Malto *kank* 'firewood' and *cumq-* 'to kiss' retain heterorganic NC clusters, while the nasals are assimilated in the places of articulation in their Kurux cognates *kaṅk* and *coṅkkh-* (Kobayashi and Tirkey 2017: 63–64). Malto morphology is often more conservative than Kurux. For example, Kurux nouns and adjectives in *-ā* seldom have bare stems without *-ā*, while corresponding Malto nouns and adjectives in *-e* regularly have *e*-less short forms as in *mecge* 'tall' vs. *mecg manu* 'tall tree', *sarṅge* 'sky' vs. *sarṅg-gaḍi* {sky-car} 'airplane', showing the suffixal origin of Kurux *-ā*. In the cognate pair Krx. *bijj-bīnkō* 'morning star' and Mlt. *bijn-bīṇḍke* 'id.' not mentioned in Pfeiffer 2018, the first element of the Malto form, *bij-* 'to dawn', is extended with *n*, which might reflect the Proto-Dravidian oblique stem increment *-an/*-in (Krishnamurti 2003: 224). When Proto-Dravidian is discussed primarily based on Kurux lexical items, such morphological and lexical peculiarities of Malto might be overlooked, and we need to be careful about Proto-Dravidian features Kurux lost by innovation.

3.2. Data

While Pfeiffer pays meticulous attention to collecting forms from published sources, his work would have benefited from direct access to the language by interviewing native Kurux speakers, many of whom are now reachable by telecommunications and some of whom major in Kurux at colleges.[1] Even though fieldwork on lexical items is time-consuming and one cannot expect to find unreported Dravidian etyma in just a few interviews, there are still things to discover in fieldwork, as the Kurux saying *okkoy na xakkhoy, kuddoy na beddoy* "Sit down and you will meet, walk around and you will find" suggests. For example, Grignard (1924b) gives many word forms with long vowels in the initial syllables, such as *kōr-* 'enter' (p. 151), *kōha* 'great, big' (p. 150), cited by Pfeiffer as such. However, in present-day Kurux spoken in Gumla and Lohardaga districts some of these words are pronounced with short vowels, in this case *kor-* and *kōha*. In fact, Gordon (1976: 23, 82) also reports forms with short vowels in his description of Nepali Kurux, and even the gramophone recording of the Parable of the Prodigal Son in the *Linguistic Survey of India* (Grierson 1906: 420–22) recorded between 1913 and 1929 gives *korcas* 'he entered', *khe'ālagdan* 'I am dying', and *be'edan* 'I am' instead of *kōrcas*, *khē'ālagdan*, and *bē'edan* with the long *ē* and *ō* that Grignard (1924b, s.v.) gives ('= ʔ). Similarly, *ā̃ṛs-* 'reach' (p. 34) and *tēt-* 'to assist a woman in raising a load to her head' (p. 210) should rather be *ã̄ṛs-* and *tet-* respectively. Grignard might have simply followed the spelling of Hahn's *Kurukh-English Dictionary* (Hahn 1903), and since we do not know to what extent Hahn's spelling reflected the actual pronunciation in Lohardaga in the late nineteenth century, it is even possible that these words did not contain long vowels in the first place.

Following *DEDR* 4898, Pfeiffer lists *mūxā* as a word for 'edge, brink, margin', but the word means 'frog, toad', and it is rather *mukhā* that means 'mouth (of an earthen vessel)' according to Grignard (1924b). *ĩwkh-* or *iṅkh-*, which Pfeiffer glosses 'to cough' (p. 47), now means 'to sneeze', while 'to cough' is expressed by *khokhʔ-*.

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1. There are graduate and undergraduate Kurux programs in colleges in Ranchi, Gumla, Lohardaga, Sisai, and Bero, and many other BA courses in and around Jharkhand now.

When citing Malto words, dialect or source should also be noted if their use is limited to certain areas. For example, Malto *qade* 'son' (p. 107) cited from Droese (1884) is not heard except in the northwest (northern Godda District, Jharkhand), while *nuna* or *maqe* is used in other places. *qeqe* or *qequ* 'hand' (p. 139) never occurs in my data, while *ṭeṭu* is used for 'hand' in all areas.

3.3. Phonological Representation

Many Kurux verb bases, like *korʔ-* 'to enter' (Malto *kor-*), *ēdʔ-* 'to show' (Malto *ēd-*), and *xandrʔ-* 'to sleep' (Malto *qandr-*), end in the glottal stop *ʔ*, a phoneme which Gordon (1976: 65) traces back to a reduced vowel. It is suppressed in infinitives in *-nā* such as *kornā*, *ēdnā*, and *xandrnā*, but surfaces before suffixes beginning with a vowel, such as infinitive *-ā* or imperative *-ā/-ay*. Since Grignard (1924b) lists verbs in the *-nā* infinitive, one cannot judge about the presence of *ʔ* from Grignard's entries, but it is a lexical property of the verb and should be considered a part of the verbal base for descriptive purposes. Representation with *ʔ* also helps in judging the verb class, for a base-final *ʔ* alternates either with *-c* ("Class 2" in Kobayashi and Tirkey 2017: 122) or with zero (Class 3c) in the past stems, while many bases without final *ʔ* have past stems in *-y*, as in *ēr-/ īry-* 'to see' (Class 1). In Class 3c pairs such as *xañjʔ-/ xañj-* 'to bear fruit' (p. 110), *ʔ* is the only difference between the present and past stems. However, following Pfeiffer 1972, Pfeiffer 2018 lists verb bases without *ʔ*; e.g., *xaṛ(ʔ)-* 'to steal' (p. 104), *xandr(ʔ)-* 'to sleep' (p. 106), except those ending in a vowel plus *ʔ* such as *hoʔ-* 'to take' (p. 79). Moreover, this practice is not followed consistently, as in *gunʔ-* / *guñc-* 'to worry one's mind about' (p. 123) vs. *guṇḍ(ʔ)-* / *guṇḍc-* 'to reduce to powder' (p. 124).

As mentioned above, the arrangement of Kurux words by the *DEDR* entries sometimes makes it difficult to find the Kurux words. Following the *DEDR*, the same word occurs under different entries, which are hard to trace without a cross reference. For example, *telᵉg-* 'to tuck up' under *DEDR* 3428 (p. 208) and *telg-* 'to disclose, uncover' under *DEDR* 3433 (p. 209) should be cross-referenced, for they probably belong to the same etymon, judging from the Southern Malto cognate *telg-* 'to open (as doors)'.

3.4. Dravidian Etymologies

Since this work treats only words covered by *DEDR* or those with Malto cognates, Kurux words that look inherited but do not have cognates, such as *xaṛd-* 'to be tired', *hebeṛ-* 'to throw away', and *cẽp* 'rain', are not discussed. Even though omitting such words is understandable as a working principle, there might be room for further analysis by internal reconstruction or the "Wörter und Sachen" approach. To take an example, Krx. *palxañjā* 'cucumber', Mlt. *palɢanje* is reconstructed *palɢanja (p. 243), but since *ɢanja is obviously related to the verb *qañj-, Krx. *xañj-* 'to bear fruit' (p. 110), one can at least extract a morpheme *pal, even though the word might be a "cranberry" compound. Pfeiffer does not analyze the word *tuppalxō* 'saliva' (p. 202), of which *tupp-* means 'to spit' and *DEDR* 2249 connects *-xō* with Tamil *kōḻai* 'phlegm', etc. It might be the same morpheme as in *xañjalxō* 'tears', *xaṛxō* 'bile', and *umbalxō* 'liver'. *pacbā* 'aged, stricken in years', which is related to *paccā* 'old' (p. 244) but not listed under it, might originally be a bahuvrīhi compound made of *paẓcc- 'old' (*DEDR* 3999) and *vāẓ 'life', as in Malayalam *vāḻu* 'life' (*DEDR* 5372), i.e., 'whose life has become old'. Krx. *xaṛxā* 'pungent', Mlt. *qaṛqe* 'id.' (p. 92), and Krx. *ṭaṭxā* 'mango', Mlt. *ṭāṭɢe* 'id.' (p. 186) might also be compounds, of *qaṭ- (Malayalam *kaṭu* 'pungent', etc.,

DEDR 1135) and *qāẓ (Tamil *kāḻ* 'to be pungent', etc., *DEDR* 1492), and of *ṭāṭ- (possibly the same morpheme as *ṭāṭ*- 'to lick') and *qāy (Tamil *kāy* 'unripe fruit', etc., *DEDR* 1459).

While the etymological notes Pfeiffer adds are generally useful, they are too brief in some cases. For example, under *em(ʔ)-*, *emc-* 'to take a bath', Pfeiffer comments "*a- > e- in *em-* is not clear" (p. 36). Gordon (1976: 69–70) explains this change as the fronting of *a triggered by the following stem-formative *-i (Proto-Kurux-Malto *am-i-a from *am 'water' > *em-i-a > Kurux *em-ʔ-a*), and it would have been more helpful if Pfeiffer had discussed the plausibility of this fronting umlaut based on the vast materials he covered.

Pfeiffer lists all possible Proto-Dravidian forms, and his reconstruction is sometimes too inclusive. For Krx. *nuṛʔ*- 'to hide' (p. 228, *DEDR* 3714), Pfeiffer first gives related forms *nulᵘg-* 'to insert a thing into another by a sliding push', *nūx-* 'to hide', and *nūxrʔ*- 'to hide oneself', and after citing cognate words from *DEDR*, reconstructs *nūẓ-/nūḷ-, *nuẓ-/*nuḷ- /*nuṇ-, *nuẓVkV-, *nuẓVtV-, and *nuṭV- for Proto-Dravidian. It is not mentioned which sound change, *ẓ > ṛ /V̄_ (p. 376) or *ṭ > ṛ /V̄_ (p. 380), applies to which reconstructed form, and it is not clear which sister language Pfeiffer considers to have a reflex close to Kurux.

3.5. Munda Etymologies

Pfeiffer attributes more than fifty words to Munda origins, while there were only eighteen in Pfeiffer 1972. The Kurux believe that they once lived in Rohtas in what is now Bihar and migrated south to the Chhotanagpur Plateau, where they came in contact with the Mundas, who speak the Austroasiatic (Munda) language Mundari. While it is not surprising that Kurux borrowed Mundari words through contact, like the animal names *geṛe* 'duck' and *ūrū* 'beetle', it is far from certain that Proto-Kurux-Malto was also in contact with Munda languages.

Some etymologies are convincing, such as Krx. *poṭᵒm* 'bundle, package, parcel' from Mundari *poṭom* 'rice bale' (p. 273); Krx. *coṭṭō* 'mouse' from Mundari *cuṭu*, etc. (p. 170); Krx. *kicrī* 'cloth, garment' from Mundari *kicǐri*, etc. (p. 114, *DEDR* 1521); Krx. *kuhū* 'kernel of the mango stone' from Mundari (Hasadaʔ) *kubu*, (Naguri) *kuhu*, Kharia *kuhu* (p. 150); Krx. *leṇḍā* 'earth-worm, intestinal parasite' from Mundari *leṇḍaḍ* (p. 350). Others are highly possible, such as Krx. *ōṛā* 'bird', Mlt. *ōṛe* 'quail'; cf. Santali *oṛe* 'bush-quail', etc. (p. 85, *DEDR* 1040); Krx. *lidum*, *ludʔū* 'soft'; cf. Santali *liḍu, liḍur* 'very soft', etc., Sadri *ludu* 'soft' (p. 51, *DEDR* 513); and Krx. *otthā* 'burden; heavy', Mlt. *ote* 'heavy'; cf. Santali *ota* 'to press down', Mundari *ota* 'to cover and press with the hand', etc. (p. 78, *DEDR* 977).

However, some others are open to question. In Krx. *xollā* 'razor', Mlt. *qole*, attributed to Santali *holaʔt*, Mundari *holaʔd* 'id.' (p. 149), we are not sure if the precursor of Kherwarian *h* was phonetically similar enough to Proto-Kurux-Malto *q. *āli* 'hailstone' from Santali *arel* 'id.', Mundari and Ho *aril*, etc. (p. 44, *DEDR* 384), and *isuṅg* 'oil', Malto *isɢnu*, from Santali, Mundari, Ho *sunum* 'id.', etc. (p. 47, *DEDR* 422) look phonetically too divergent. While Pfeiffer connects *arg-* 'to be yet in the process of' with Santali *ạuri* 'not yet' (p. 341), this auxiliary verb has a unique present-preterite inflexion (Grignard 1924b, s.v.), which would be quite unusual for a loanword.

3.6. Expressives

Onomatopoeia and echo-words are often regarded as transient and marginal constituents of the lexicon in historical reconstruction. However, Kurux has a rich variety of more than 900 expressives, and Pfeiffer does them justice by discussing quite a few of them. Since we do not have a uniform framework or even terminology for this category, and since different

languages use similar sounds for forming expressives, the explanations unavoidably involve some inconsistency. For example, Pfeiffer attributes *kabkubᵘr-* 'to curve the body forward' (p. 102) and *pahpahr-* 'to dawn' (p. 234) to Munda origins (Santali *kabaˀc kubuˀc* [cf. Mundari *kabaeˀ kubuiˀ*, Osada and Badenoch 2019, s.v.], Santali *pah pahao*, Sadri *pahpahāek*), while he labels *xaṛaṛ-xaṛaṛ* 'the sound of articles loosely packed and playing against one another' (p. 90) and *kusmusaˀ-* 'to whisper' (p. 118) simply 'onom.', which seems to mean original onomatopoeia.

4. DISCUSSION

4.1. Pfeiffer's Reconstruction of Proto-Dravidian and McAlpin's "Three-dorsal" Model

Expanding the view mentioned in Pfeiffer 1972 (pp. 65, 102), Pfeiffer (2018: 432) argues that Proto-Dravidian *k- became Proto-Kurux-Malto *k- before high vowels and *q- before non-high vowels; e.g., Kurux *kiyyā* 'beneath', Tamil *kīḻ* 'underneath', etc. < Proto-Dravidian *kīẓ (p. 118) vs. Kurux *xess* 'paddy', Kannada *key* 'crop', etc. < Proto-Dravidian *key(VcV) (p. 132). In medial position Pfeiffer considers that Proto-Dravidian *-k- and *-kk- became Proto-Kurux-Malto *-q- and *-k- respectively. On this "split" of Proto-Dravidian *k to Proto-Kurux-Malto *q before nonhigh vowels, McAlpin (2003: 528, 533) points out that "*q has cognates with high vowels elsewhere in Dravidian," citing forms such as Kurux *xōṇḍ-* 'to bring together', Tamil *kūṭu* 'to come together', etc., and explains the apparent complementary distribution by the lowering of original *i and *u to *e and *o after *q in Proto-Kurux-Malto. Based on sound correspondences McAlpin (2003: 543) posits Proto-Dravidian *k and *q, which became Proto-Kurux-Malto *k and *q respectively, and Proto-Dravidian *k̂, which became *k in Proto-Kurux-Malto but a palatal stop in other languages; e.g., Kurux *kuṛ-* 'to grow warm', Tamil *cuṭu* 'to be hot', etc. (*DEDR* 2654); Krx. *kẽ̄s-* 'to winnow', Mlt. *kēs-* 'id.', Malayalam *cēṟuka* 'id.', Kannada *kēṟu* 'id.', Telugu *cerugu* 'id.', etc. (*DEDR* 2019); Kurux *kīdˀ-* 'to lay down', Mlt. *kīd-* 'id.', Tamil *cē-* 'to dwell, lie', Kannada *kē-* 'to lie down', etc. (*DEDR* 1990). Pfeiffer labels the last correspondence "divergent" (p. 356).

If we stick to the traditional single-dorsal reconstruction of Proto-Dravidian, some Kurux and Malto facts are left unexplained. Pfeiffer derives medial *x* from *VkV as in Krx. *nunx-* 'to swallow without chewing', Mlt. *nunɢ-* 'to swallow' from PDr. *nuṇVkV, Tamil *nuṅku*, etc. (p. 227); and Krx. *berxā* 'cat', Mlt. *berɢe* 'id.' from PDr. *verVkV, Tamil *veruku* 'tomcat', Kannada *berku*, etc. (p. 332). In contrast, medial *k* in *bālkā* 'turmeric, yellow' is explained from PDr. *valVkV/ *valVkkV (p. 248), without discussing how the latter reconstruction is supported by the sole cognate, Tamil *vallikam*, *valliyam*. And the same context *VkV is given for explaining *-g-* as well as in *telg-* 'to disclose' from *teḷVkV (p. 209), *basg-* 'to peel' from *vacVkV (p. 323), and *bāg-* 'to scrape' from *vārVkV- (p. 325). Pfeiffer labels both "regular reflexes" (p. 384) and "alternative" (p. 456), and it is not explained how the different reflexes *-x*, *-k*, and *-g* are conditioned. McAlpin's reconstruction gives a more consistent explanation of the distribution of Kurux and Malto dorsals, even though it requires us to revise the traditional Proto-Dravidian phonemic inventory and posit three dorsal stops instead of one.

4.2. Development of Medial Vowels in Proto-Kurux-Malto

In both Pfeiffer 1972 and Pfeiffer 2018, Pfeiffer gives Proto-Dravidian reconstructions always with a V (an unidentified vowel) between a root and a suffix, or between suffixes, as in *cor-V-k- > *curx-* 'to pour' (Pfeiffer 1972: 37) and *ūṭ-V-t-V-r- > *udᵘr-* 'to lean upon a walking stick' (p. 38), following the view that "[v]owels in second syllables which have to

be reconstructed for P[roto-]Dr[avidian] because of the evidence from S[outh]Dr[avidian] have been lost in Kur[ux] as well as in the other N[orth]Dr[avidian] languages" (Pfeiffer 1972: 13; cf. McAlpin 2003: 528). Pfeiffer considers that the vowels were lost in medial syllables between Proto-Dravidian and Proto-Kurux-Malto (Pfeiffer 2018: 383, 454), but more could have been said about the consequences of the vowel loss, especially for the change in syllabic structure. For example, Pfeiffer (1972: 38) posits the alternation *pūṇ- vs: *puṇ-V-t- to account for the short vowel in (1):

1. Krx. *punɁ-* 'to yoke' vs. *pūn* 'necklace'; cf. Mlt. *pund-* 'to put on another's neck' vs. *pūn-* 'to put on one's own neck (as a necklace)'; Tamil *pūṇ* 'to put on', Telugu *pūnu* 'to undertake, wear', etc. (*DEDR* 4361)

with the comment "[s]hortening of vowel due to following suffix beginning with a vowel," but without adducing similar examples. On the same word Pfeiffer (2018: 369) labels the shortening of *ū* as "divergent." In this section we will examine cases of shortening that Pfeiffer calls divergent and explore the possibility of explaining them as regular phonological developments (cf. Caldwell 1956: 215f., Krishnamurti 1961: 123, Andronov 2003: 92f.).

Kurux and Malto have pairs like the following in which originally long vowels appear to be shortened before a consonant cluster (Kobayashi and Tirkey 2017: 63). In (5) to (10), Kurux and Malto show different length alternations:[2]

2. Krx. *mōx-* 'to eat', Mlt. *mōq-* vs. Krx. *mokkh-as* past 3sg. masc., Mlt. *moq-ah* 'id.', Malayalam *mōkuka* 'to drink, sip', etc. (*DEDR* 5127)

3. Krx. *ṭūṛ-*, *ṭuḍḍy-* 'to draw, to write', Mlt. *ṭūḍ-*, *ṭuḍy-* 'to smear, to paint' (only in Kurux and Malto, *DEDR* 2968)

4. Krx. *pīt-*, *pitty-* 'to fart', Southern Mlt. *pīt-*, *pity-* (Northern *pīty-*) 'id.', Pengo *pīt-* 'id.', etc. (*DEDR* 4167).

5. Krx. *pāk-*, *pakky-* 'to take in the lap'; cf. Mlt. *pāk-*, *pāky-* (only Kurux and Malto, *DEDR* 4050)

6. Mlt. *ēk-*, *eky-* 'to go'; cf. Krx. *ēk-*, *īky-* 'to walk', Tamil *ēku-* 'to go', Telugu *ēgu* 'id.' (*DEDR* 871)

7. Krx. *xāy-*, *xayy-* 'to dry'; cf. Mlt. *qāy-*, *qāy-*, Tamil *kāy-* 'to grow hot', etc. (*DEDR* 1458)

8. Krx. *pā̃n-* , *pañj-* 'to ripen'; cf. Mlt. *pān-*, *pāñj-*, Tamil *paḻu* 'to ripen', Telugu *paṇḍu* 'id.', etc. (*DEDR* 4004)

9. Krx. *ṭāṭ-*, *ṭatty-* 'to lick'; cf. Mlt. *ṭāṭ-*, *ṭāṭy-* 'id.' (only Kurux and Malto, *DEDR* 2952)

10. Krx. *mū̃ṛ-*, *muḍḍy-* 'to strike or dash against an obstacle'; cf. Mlt. *mūṇḍ-*, *mūṇḍy-* 'to gore' (only Kurux and Malto, *DEDR* 5039)

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2. There are also inherited words in which the root vowel appears to be lengthened in Kurux and/or Malto, e.g., Krx. *ōl-* 'to burn' vs. Telugu *oliki* 'funeral pile', Parji *olip-* 'to char, scorch' (*DEDR* 1001). In addition, Malto has a few roots with lengthened vowels, e.g., Mlt. *ōn-* 'to drink', *oṇḍ-* past 3sg. masc. vs. Gadaba *un-*, *uṇḍ-* 'to eat, drink', etc. (*DEDR* 600). In Southern Malto vowel lengthening often occurs in disyllabic words of two open syllables.

On the grounds of these examples we might be able to extend the explanation by pre-cluster shortening to *pundʔ-* by positing *pūṇ-t(t)- for Proto-Dravidian and the rule (11) (following Zvelebil [1970: 37]):

11. Pre-Cluster Vowel Shortening: PDr. *V̄ > Proto-Kurux-Malto *V̆ /_CC (in derived environments)

The reason most of the examples are from the alternation of present and past tenses is that the past suffixes begin with a consonant (if we reconstruct the PKM Class 1 suffix as *-y) while derivative suffixes are often reconstructed with an initial formative vowel. Another reason is that derived words do not always make alternating pairs. For example, the short vowel in Kurux *putt-* '(of sun) to set' might also be a result of pre-cluster shortening from *pūẓ-tt- judging from Malayalam *pūẓuka* 'to be buried' ~ *pūttuka* 'to press into, bury' (p. 262, *DEDR* 4376), but we do not find an etymologically related Kurux word with long *ū*.

Since Kurux and Malto have many words with V̄CC, this shortening rule needs to be restricted to a pre-Proto-Kurux-Malto period and in derived environments, and not in tauto-morphemic sequences or in inflection as in *xēnd-* 'to buy', *kīndā* 'palm tree', and *cōc-kan* 'I got up'. While Pfeiffer's argument to attribute the shortening to a suffix-initial vowel is well grounded in evidence from other Dravidian languages,[3] pre-cluster vowel shortening is attested in Kurux and Malto anyway, and it would be simpler to reconstruct *pūṇ- ~ *pūṇ-t(t) without an intervening vowel for Proto-Dravidian (Krishnamurti 2003: 282) and explain the shortening with a common shortening rule.

Proto-Dravidian is reconstructed with consonant-initial suffixes as well as vowel-initial ones, in both inflectional and derivational morphology, e.g., the tense suffixes, past *-tt and future *-pp, and deadjectival suffix *-may, as in Tamil *ciṉ-mai* 'smallness' from *cil* 'small' and Telugu *pēr-mi* 'greatness' from *pēru* 'great' (Zvelebil 1970: 178, Krishnamurti 2003: 200). If we set up the distinction between *C-VC and *C-C in Proto-Dravidian boundaries of roots and derivational suffixes, we might also be able to explain differential consonant assimilation. For example, Kurux and Malto oblique pronominal bases, first person singular *eṅg-* and second person singular *niṅg-*, can be explained as reflecting Proto-Dravidian dative, *en-k(k) and *nin-k(k),[4] with place assimilation of *nk to *ŋk. In contrast, the above-mentioned Malto word *kank* 'firewood' (Krx. *kaṅk* 'id.') resists place assimilation and voicing even though it also results from medial vowel loss, and we can explain the difference by reconstructing PDr. *kaṇakk-, based on reflexes such as Tulu *kaṇakụ* 'firewood' (p. 95 *kaṇVkkV, *DEDR* 1165).[5]

4.3. Loss of Liquids in LC Clusters

If, unlike Pfeiffer's reconstruction, we posit heterorganic consonant clusters without an intervening vowel in the derivational morphology of Proto-Dravidian or of the earliest stage of Proto-Kurux-Malto, we might also be able to explain the sound change of liquid-stop (LC) clusters in Kurux and Malto. Loss of liquids in LC clusters is reported for other Dravidian

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3. Krishnamurti (2003: 96): "All Dravidian languages carry evidence of alternation between heavy and light root syllables, when a 'formative' vowel follows as V₂, or when a monosyllabic root becomes disyllabic." This alternation was originally pointed out in Krishnamurti (1961: 123) and is known as Krishnamurti's Law.

4. *-kk or *-k depends on how we reconstruct the Kurux-Malto dative suffix (cf. Krishnamurti 2003: 232, 244). For (13)(15) *odʔ-* and (21) *ēdʔ-*, the standard Proto-Dravidian reconstruction of the transitive-causative suffix is *tt (Krishnamurti 2003: 280). Andronov (2003: 159) traces the *g* of *eṅg-* and *niṅg-* to the plural suffix *-k.

5. The difference in place assimilation might be due to difference between *n and *ṇ, which merged in Proto-Kurux-Malto.

languages such as Kannada and Koḍagu (Emeneau 1967: 386, §3.13, 14), and Kota and Toda (Subrahmanyam 1971: 12–15, 116–24). Kobayashi and Tirkey (2017: 62) discuss that in Proto-Dravidian sequences of a liquid (*l, *ḷ, or *r) and a stop, the liquid sometimes drops in Kurux and/or Malto reflexes, as in the following examples:[6]

12. Krx. *ijj*-, past stem of *ijʔ*- 'to stand', Mlt. *ij*-, past stem of *il*- 'id.' < *(n)ilj- (Andronov 2003: 90) < PDr. *nil-Vc- 'to stand', Tamil *nil* 'to stand', Telugu *nilucu* 'to stand, to rise', Kolami *il*- (*ilt*-) 'to stand', etc. (*DEDR* 3675)

13. Krx. *idʔ*- 'to plant', Mlt. *id*- 'to plant, to erect' < *ilt- < PDr. *(n)il-tt- or *(n)il-t- (*DEDR* 462, Pfeiffer 2018: 49: "Probably a variant of Kuṛ. *ild*- 'to erect, set up'")[7]

14. Krx. *ūjʔ*- 'to collect from door to door', Mlt. *ūj*- 'to collect taxes or contributions' < *ulj- < PDr. *ūlVc-, Parji *ulj*- 'to gather', Kui *ūja*- (*ūji*-) 'to assemble' (*DEDR* 734)

15. Krx. *odʔ*- 'to set fire, to kindle', *ōl*- 'to burn', Mlt. *od*- 'to burn (as fuel)' < *old- < Proto-Dravidian *ol-t- (*DEDR* 978, 1001, Pfeiffer 2018: 79: "probably a variant of Kuṛ. *olᵒd*- 'to set fire to, scorch'"). We posit a short root vowel *o based on Parji *olip*- (*olit*-) 'to char, scorch'

16. Krx. *kūg*- 'to doze', Mlt. *kūg*- 'id.' < *kurg- < PDr. *kūrVk, Gondi *kūrkānā* 'to doze', Parji *kūrk*- 'to nod in sleepiness' (*DEDR* 1902)

17. Krx. *bāg*- 'to scrape', Mlt. *bāg*- 'to pare (as bamboo)' < *bārg- < PDr. *vāru-(k-), Tamil *vāru* 'to trim', Kui *vrapka*- (*vrakt*-) 'to cut open and disclose contents', Kolami *vark*- (varakt-) 'to saw' (*DEDR* 5363a)

18. Krx. *nāx* 'four' < *nālɢ < PDr. *nāl-V-q 'four', Tamil *nāl*, *nālku*, etc. (*DEDR* 3655)

19. Krx. *mukkā* 'woman' < *muḷkkā- (?), Pengo *muṇkāni*, *mulkāṇi* 'wife' (*DEDR* 4944)

20. Krx. *xaḍḍ*-, past stem of *xaṛʔ*- 'to steal', Mlt. *qaḍ*- 'to steal', past stem of *qal* 'id.' < *qaḷḍ- < PDr. *qaḷ-t-, past stem of *qaḷ*- 'to steal', Tamil *kaḷ* 'to rob', Gondi *kallānā* 'to steal', etc. (*DEDR* 1372)

21. Krx. *ēdʔ*- 'to show', Mlt. *ēd*- 'id.' < *ērd- < PDr. *ēr-t(t)- 'to show', Kui *ēra* (*ēri*-) 'to spy, scout' (*DEDR* 903, 892), Pfeiffer (2018: 75) "-d- < *-rd-"

22. Mlt. *eju* 'bear' < *elj- < PDr. *el-Vc-, Tamil *eṇku*, *elu*, Gadaba (Ollari) *ilij*, Gondi *eṛj*, etc. (*DEDR* 857)

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6. We should probably treat separately the loss of *r before a nasal as in Krx. *ẽr*, *ēṇḍ*, Southern Mlt. *-ēṇḍ*, Tamil *iraṇtu*, Toda *e·ḍ*, etc. (*DEDR* 474); Krx. *mann* 'tree', Mlt. *manu* 'id.', Tamil *maram*, Toda *me·ṇ*, Telugu *m(r)ānu*, Konḍa *maran*, etc. (*DEDR* 4711). In this context, *r might be lost *between* vowels, especially when the second vowel is *a. Cf. a similar intervocalic loss of *r in Toda (Zvelebil 1970: 146). Krx. *mandar* 'medicine', Mlt. *mandru*, Tamil *maruntu*, etc. (*DEDR* 4719) is explained as a result of the metathesis of *r and *nt in PDr. *marunt- (Pfeiffer 2018: 279).

7. Since PDr. *nil-t- becomes Tamil and Malayalam *niṟu* 'to set, place' by Krishnamurti's "apical obstruent formation" (*l + *t → *ṭ, Krishnamurti 2003: 94), if *nil-t- > *niṭ- took place in Proto-Dravidian, it would become *iss- in Kurux. A possible example of the apical obstruent formation is Krx. *xos-/xot*-, past stem *xott*- 'to chop, to cut by striking', Mlt. *qōh-,* past stem *qot*- 'to cut down, to fell'. If this is connected with *DEDR* 2132, Tamil *kol*- 'to kill', Telugu *kollu* 'id.', etc., *qol-t- would have become *qoṭ- already in Proto-Dravidian. PDr. *qoṭ- and *qoṭ-t- would regularly become Krx. *xos*- and *xott*-, from which *xot*- was backformed. Zvelebil (1970: 178) connects this word with Tamil *koḻutu* 'to peck', Kannada *kottu* 'to hoe, peck', etc. (*DEDR* 2148), with the development *ḻt > *tt.

23. Mlt. *laḍ-*, past stem of *lal-* 'to dance' (Krx. *nal-*) < *naḷḍ- < PDr. *naḷ-t-, Kannada *nali* 'to dance', etc. (*DEDR* 3612).[8]

While Pfeiffer (2018: 382) considers *LC > C to be a divergent development, it is worth exploring if the liquid was lost by a once regular simplification of *LC clusters.[9] In that case we also need to explain the difference between the many LC clusters present in Kurux and those that underwent simplification before Proto-Kurux-Malto. Firstly, we can exclude labial stops from the structural description of the rule, for liquids seem to be retained before Kurux *p* and *b*,[10] e.g., *kharpā* 'straps crossed over and worn round the ankle', Tamil *ceruppu* 'sandal', Kannada *kera*, *keravu*, *kerahu*, *kerpu* 'id.', Parji *cerup*, *cerpu* 'id.', etc. (*DEDR* 1963); Krx. *nalb-* 'to clean by rubbing', Telugu *nalapu* 'to crumple (flowers, etc.)', Koṇḍa *nalp-* 'to squeeze, crush', etc. (*DEDR* 3611). Secondly, there is a group of verbs ending in a liquid and a palatal stop.[11] Unlike (13) *ūjʔ-*, cognate forms of these verbs in other Dravidian languages do not have a palatal stop traceable back to Proto-Dravidian, and we can treat the final *-c* as an addition in Proto-Kurux-Malto, where LC simplification was no longer active. Even though we cannot identify the exact function of Proto-Kurux-Malto *-c, -c* is analyzable as a suffix in the verb-noun pair *bilc-* 'to shine, to glitter' and *billī* 'light'. There are a few more verbs ending in a liquid and c: Krx. *irc-* 'to scratch and turn over', Mlt. *irc-* 'to scratch the ground' (*DEDR* 493); Krx. *elc-* 'to fear', *elgtʔ-* 'to frighten', Mlt. *elc-* 'to fear', *elktr-* 'to frighten', Tamil *eḷku* 'to fear', Kannada *eḷaṟ* 'fear' (*DEDR* 858); Krx. *karc-* '(of food) to be tough', Tamil *karaṭu* 'roughness', Telugu *karusu* 'rough', etc. (*DEDR* 1265); Krx. *xerc-* 'to rub well off', Mlt. *qerc-* 'to scrape', *qēr-* 'to shave', Tamil *cirai* 'to shave', Naiki (Chanda) *ker-* 'to shave' (*DEDR* 1564); above-mentioned Krx. *bilc-* 'to shine, to glitter', *billī* 'light', Mlt. *bilpu* 'moon', Tamil *veḷ* 'white, pure, shining, bright', Telugu *velayu* 'to shine', etc. (*DEDR* 5496); Krx. *murc-* 'to twist and break', Tamil *muri* 'to break', Telugu *muriyu* 'to break off' (*DEDR* 4975).

Explanation is not as easy for the remaining cases of retained LC clusters, but we might be able to explain Krx. *ōltā* 'hiding' as an effect of the related word *ōlā* 'resting place of a wild beast'. Krx. *erx-* 'to have a motion', Mlt. *erɢ-* 'to go to stool', Tamil *eruku* 'to have loose motions', Telugu *ērugu* 'to go to stool', etc. (*DEDR* 813), Krx. *bālkā* 'yellow, turmeric', Mlt. *bālko* 'yellow', *bālke* 'turmeric' (*DEDR* 4102), and Krx. *corg-* 'to move or crawl on the ground', Mlt. *corg-* 'to creep' (*DEDR* 2854), might be due to avoidance of homophony with Krx. *ēx-* 'to lose heat', Mlt. *ēɢ-* 'id.', Krx. *bāk-* 'to brew', Mlt. *bāk-* 'to take up', and Krx. *cȭg-* 'to trot along with up and down jerks' respectively.

4.4. Development of Proto-Dravidian *ẓ and *y

Also relevant in this context is the development of Proto-Dravidian *ẓ before consonants. After a short vowel Pfeiffer (2018: 376) posits two "regular" developments, *ẓ > PKM *ṛ > Kurux *r* as in *naṛgā* 'bug', and *ẓ > PKM *y > Kurux *y* as in *kiyyā* 'beneath', and one "divergent" development, *ẓ > Proto-Kurux-Malto *0 > Kurux 0, e.g., *massā* 'axe'. However, Pfei-

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8. The correspondence Krx. *n-* : Mlt. *l-* also occurs in Krx. *nēlā* 'tomorrow' : Mlt. *lēle* 'id.', and Krx. *noll-* 'to scoop out' : Mlt. *lol-* 'id.'.

9. If loss of the liquid in an *LC cluster was a sound law, it operated in a period between Proto-Dravidian and Proto-Kurux-Malto, for it apparently stopped being active in Proto-Kurux-Malto, judging from the shared doublet, Krx. *idʔ-* 'to plant', Mlt. *id-* 'to plant, to erect, to build' vs. Krx. *ildʔ-* 'to erect', Mlt. *ild-* 'to make to stand'. Krishnamurti (2003: 166) posits simplification of *r, *ṭ, *l, *ḷ, and *ẓ before TT or NT clusters for South, South-Central, and Central Dravidian, and it is not an uncommon change.

10. Kurux *b* reflects either Proto-Dravidian *w or *pp, and in the former case it was originally not a stop.

11. Here we omit isolated etyma such as Krx. *jolj-* 'to fondle, to caress'.

ffer gives more examples of *ẓ > 0 than the former two "regular" developments. As Burrow (1968: 67–68) considered *ẓ > 0 to be a regular development in Kurux and Malto, there might be room to pursue the possibility that *ẓ > 0 was in fact phonologically conditioned.

24. Krx. *uss-*, past stem of *uy-* 'to plough', *ugtā* 'a plough', Mlt. *us-*, past stem *us(y)-* 'to turn up the soil', Tamil *uḻu* 'to plough', Parji *uṛ-* 'to plough', etc. (*DEDR* 688)

25. Krx. *paccā* 'old', *pacc-* 'to grow old', Mlt. *pace* 'old', *pac-* 'to grow old', Tamil *paḻa* 'old', etc. (*DEDR* 3999)

26. Krx. *pīx-* 'to squeeze, press out', Mlt. *pīq-* 'to wring or squeeze out, to milk', Tamil *piḻi* 'to squeeze' (*DEDR* 4183)

27. Krx. *pūxʔ-* 'to boil', Mlt. *pūɢ-* 'id.', Tamil *puḻukku* 'to boil before husking', Kannada *puṛgu* 'to burn' (*DEDR* 4315)

28. Krx. *pocgō* 'worm', Mlt. *pocru* 'id.', Tamil *puḻu* 'worm, maggot', etc. (*DEDR* 4312)

29. Krx. *mūkā* 'knee', Mlt. *mūke* 'id.', Tamil *muḻaṅ kāl* 'knee', etc. (*DEDR* 4990)

8. Krx. *pā̃n-*, *pañj-* 'to ripen' (see above)

The loss of PDr. *ẓ is quite similar to the loss of PDr. *y before consonants. Pfeiffer (2018: 379) gives sixteen cases of *y lost after a short vowel (compared to six cases of retention), such as Krx. *nuñj-* 'to ache' < PDr. *noy-nc-.[12] In fact, PDr. *ẓ and *y trace the same course of development in the following pairs:

30. Krx. *poy-*, *poss-* 'to rain' < PDr. *poy, *poy-c, Kannada *poy* 'to pour, cast', Gondi *poy-* 'pours, flows', etc. (*DEDR* 4407) vs. (24) *uy-*, *uss-* 'to plough' < *uẓ-*, *uẓ-c-*.

31. Krx. *xañjʔ-* 'to bear fruit' < *kāy-nc-* or *kāy-nt-* (*DEDR* 1459) vs. (8) *pañj-*, past stem of *pā̃n-* 'to ripen' < *paẓ-nc-* or *paẓ-nt-*.

Proto-Dravidian medial *ẓ and *y both undergo deletion before a consonant while they are reflected as *y* before a vowel, at least in *uy-* and *kiyyā* 'beneath'. We do not have a sufficient number of examples reflecting final *ẓ and *y, and Pfeiffer does not discuss the development of final consonants, but judging from (32), (33), and (34), it is possible that final *ẓ and *y were also lost in Kurux.

32. Krx. *xāxā* 'crow', Mlt. *qāqe* < *qāqqāy, Tamil *kākkai*, *kākkāy* 'id.' (*DEDR* 1425)

33. Krx. *xekkhā* 'hand', Mlt. *qeqe* (Droese 1884) < *-qay, Tamil *kai*, Parji *key*, etc. (*DEDR* 2023)

34. Krx. *ṭaṭxā* 'mango', Mlt. *ṭāṭɢe* < *-qāy (section 3.4)[13]

PDr. *ẓ and *y might have undergone deletion independently. Since the reflexes of *ẓ and *y are usually the same, we might be able to dispense with the development *ẓ > 0 by positing a merger of PDr. *ẓ with *y before a consonant or pausa in Proto-Kurux-Malto. We

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12. Subrahmanyam (1971: 204) and Krishnamurti (2003: 296) derive this verb from *nōy-nt-, with the Proto-Dravidian rule palatalizing *tt and *nt after *i/*y. Since Kurux also has palatal suffixes where there is no preceding *i/*y reconstructed, e.g., *mañj-* past stem of *man-* 'to become', I posit *-nc as the suffix here.

13. However, final *y appears to be preserved in the monosyllabic noun Krx. *baī* 'mouth', Tamil *vāy* 'id.', etc. (*DEDR* 5352).

cannot decide whether *ẓ and *y were deleted independently, or merged first before they were lost.

35. Merger of *ẓ and *y: *ẓ > *y /__{C, #} (Proto-Kurux-Malto)

36. Loss of *y: *y > 0 /__{C, #} (Proto-Kurux-Malto). Ordered after (35).

4.5. Development of Word-Final Consonants

In addition to etymology, understanding the development of Proto-Dravidian final consonants in Kurux and Malto also helps in reconstructing the agglutinative morphology of Dravidian. Especially, the development of sonorants, which occur in many functional morphemes and were not protected from sound change by the enunciative *u in many Dravidian languages, is crucially important for reconstructing the original person-number-gender agreement of Kurux and Malto verbs. The current agreement markers or pronominal suffixes are partly similar to personal pronouns, but they might not necessarily be markers inherited from Proto-Dravidian. Southern and Central dialects of Malto have long and short inflecting converbs, the latter of which show person-number-gender agreement different from the personal pronouns (Kobayashi 2012: 71). The Kumarbhag dialect of Southern Malto (Paderkola B, Pakur District) still has the full paradigm as in (37).

37. Long and short inflecting converbs of *oy-*, *oc-* 'to take' in Kumarbhag Malto:

long converb		short converb	
singular	plural	singular	plural
oc-akan 1sg.	*oc-akam* 1pl.excl.	*oc-a(n)* 1sg.	*oc-a* 1pl.excl.
oc-ake 2sg.m	*oc-akay* 1pl.incl.	*oc-e* 2sg.m	*oc-a* 1pl.incl.
oc-aki 2sg.nm	*oc-aker* 2pl.	*oc-i* 2sg.nm	*oc-e* 2pl.
oc-akeh 3sg.m	*oc-akar* 3pl.	*oc-ah* 3sg.m	*oc-a(r)* 3pl.
oc-aki 3sg.nm		*oc-i* 3sg.nm	

Unlike the finite past paradigm, where the first- and second-person forms are doubly marked by the past-stem suffix and the past suffix, these short converbs have the same tripartite structure of the verb base, the past-stem suffix, and the agreement marker, found in most other Dravidian languages. If the vowel-final agreement markers originate from -VC# sequences with the loss of the final consonants, it is possible that they reflect the original agreement system of Proto-Kurux-Malto, while the current agreement markers were remade from the personal pronouns after the original markers became indistinct due to sound change. In previous discussions on the past forms of Kurux and Malto, the past suffix *-k* (*-t* in non-Northern Malto) attached after the past stem in the first and second persons has been focused on as deviation from the original Dravidian past formation with the suffixes *-t, *-tt, *-nt, and *-in. But if the past forms of Kurux and Northern Malto[14] in *-k* were originally inflecting long converbs, which are in fact past participles with the adjective suffix *-k* and agreement markers, we lose one of the arguments for grouping Kurux, Malto, and Brahui as North Dravidian.[15]

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14. In Southern and Western Malto the past suffix in the first and second persons is *-t*, which is explained from PDr. *-tt.

15. Kurux and Malto actually have verbal adjectives in *-k*: Krx. *-kā* as in *xaykā* 'dried' and Mlt. *-ke* as in *pañjeke* 'ripe'.

4.6. Reconstructing the Proto-Kurux-Malto Infinitive Suffix

By understanding the development of final sonorants, we are in a better position to tackle some difficult problems in Kurux-Malto morphology. Krishnamurti (2003: 342–46) reconstructed the Proto-Dravidian infinitive suffix *-an based on Old Telugu -*an*, etc., and considered the Kurux infinitive suffix -*ā* to be its reflex. While Kurux -*ā* is used as a complement of modal verbs and is functionally similar to Old Telugu -*an*, its Malto cognate -*e* is a verbal noun suffix and we are not sure what the function of their ancestral form in Proto-Kurux-Malto was. In fact, if final *l was lost in Proto-Kurux-Malto as in(29) Krx. *mūkā* 'knee' < PDr. *-kāl 'leg', it could also come from *-al as in the Old Kannada verbal noun (Caldwell 1956: 543), or from *-ay as in Sangam Tamil deverbative noun in -*ai* (Rajam 1994: 695) if final *y was lost in Kurux as in (32) (33), and (34) above.

This case of the Proto-Kurux-Malto infinitive might not simply be a matter of sound correspondence but have implications for the verb system. While Kurux has a single past participle suffix -*kā*, Malto has two functionally corresponding suffixes, -*ke* 'having Xed', a long converb suffix that shows concord, and -*ko* 'when one Xed', which forms a non-concord adverbial converb; for the Kurux verbal noun suffix -*pā* as in *xañjpā* 'fruit' from *xañjʔ*- 'to bear fruit', Malto has -*pe* 'Xed', a productive verbal adjective suffix with passive or perfective meaning, and the gerundive suffix -*po* 'to be Xed'. Since the Malto verbal noun suffix -*e* and the infinitive suffix -*oti*, which has a short allomorph -*o*, similarly correspond to the single Kurux infinitive suffix -*ā* in function, we suspect that Malto had a two-way system of suffixes contrasting in vocalism, and the verbal noun in -*e* and the infinitive in -*o(ti)* [16] are a part of that system. We are tempted to posit the contrast of *e and *o for Proto-Kurux-Malto, but if we explain Kurux -*ā* and Malto -*e* from Proto-Dravidian *-a(n), *-al, or *-ay, we face the problem of where the -*o* of the Malto infinitive came from. The infinitive in -*o* might be cognate with the -*u* infinitive in Parji (Burrow and Bhattacharya 1953: 61), if Parji final *u* corresponds to Kurux-Malto final *o*. However, Malto and Kurux have agentive participles in -*u* (Mahapatra 1979: 179, Kobayashi 2012: 51, Kobayashi and Tirkey 2017: 164), and it is difficult to explain how *-u would split into two different morphemes. Another possible origin is the Kurux imperfect participle in -*ō* (Kobayashi and Tirkey 2017: 161). [17] It is homophonous with the Kurux future third-person singular non-masculine ending -*ō*, to which the subjunctive suffix -*o* corresponds in Malto (Droese 1884: 58, Kobayashi 2012: 69). Parji also uses the third-person singular neuter form as a verbal noun (Burrow and Bhattacharya 1953: 61), and a similar extension might have happened in Proto-Kurux-Malto. To sum up, Proto-Kurux-Malto had suffixes *-a, which might be traced back to the Proto-Dravidian infinitive suffix *-an, etc., and *-o, which had future or subjunctive meaning and might be traced back to Proto-Dravidian future suffix *-um. The former became Malto -*e* and Kurux -*ā*, and the latter Malto -*o(ti)* and Kurux -*ō*. As mentioned above, better understanding of the development of Proto-Dravidian final sounds would help us judge about the connection of Proto-Dravidian *-an and Kurux -*ā* on the one hand, and of Proto-Dravidian *-um and Kurux -*ō* on the other.

16. -*oti* is probably analyzable into -*o* and -*ti*, for there are verbs such as *bed*- 'to want' that take only the infinitive in -*o*, and -*o* serves as the base of the present negative inflection. -*ti* is an optional instrumental suffix (Kobayashi 2012: 24, 61).

17. Final vowel length is not contrastive in Kurux or Malto, and traditionally Kurux final vowels are written long and Malto final vowels short.

5. CONCLUSION

In this review article, we discussed the possibility to give exact conditions on the sound changes Pfeiffer presented as alternative, following the Neogrammarian principle of the exceptionlessness of sound changes. In the work reviewed Pfeiffer presents all data available, and even though his analysis may sometimes be too inclusive and his argument difficult to trace due to the lack of cross-reference, he presents his explanations and reconstructions in a conscientious and falsifiable manner.

On the basis of Pfeiffer's work, we can develop the study of Dravidian historical linguistics in two ways. One is the better understanding of the final sounds of Proto-Dravidian in Kurux and Malto. By studying what changes occurred in the final syllables, we can reconstruct Proto-Kurux-Malto morphology and understand morphological changes better.

The other is identifying the innovations that Kurux-Malto shares with other subgroups. Since Grierson (1906: 284), a long-standing issue has been to which subgroup of Dravidian Kurux and Malto are closest. Kurux-Malto does not appear to share much of the reconstructed Proto-Dravidian morphology. In inherited Dravidian words Kurux-Malto typically share only the root part, as in Krx. *pard-* 'to grow', Mlt. *paðr-* 'id.' (with metathesis), of which only *par- occurs in cognate forms such as Tamil *paru* 'to become large', Tulu *pariya* 'plenty', etc. (*DEDR* 3972). In verb morphology the intransitive suffix *-r is productive in Kurux-Malto (Emeneau 1975: 2–3), but the contrast of intransitive-transitive suffix pairs *t~*tt and *p~*pp is apparently not shared. In derivational morphology too, there are very few shared suffixes, such as *b* of *xalb* 'thief', which seems to correspond to -*avu* in Tamil *kaḷavu* 'theft', etc., -*vaṉ* in Tamil *kaḷvaṉ* 'thief', etc. (DEDR 1372). Of the scanty traces of shared morphology, shared innovation is even scantier. Kobayashi (2012) argued that Kurux-Malto past stems reflect the suffixes *-t, *-c, *-cc, *-i, and base-final reduplication, but they are mostly retentions, which do not contribute to subgrouping.

At first sight Kurux-Malto appears to share more features with South-Central Dravidian than with other subgroups. For example, it appears to share the past stem in *-c and *-cc with South-Central Dravidian, as in Pengo and Kuvi *mac-* past stem of *man-* 'to be' (*DEDR* 4778; <*ṭṭ according to Krishnamurti 2003: 164–65); the past stem in *-i(n) with South and South-Central Dravidian; masculine and non-masculine gender dichotomy in the singular with South-Central and Central Dravidian; and the word *pun- 'new' with *n with South-Central and Central Dravidian (Krishnamurti 2003: 392). On the other hand, curious coincidences are found between Kurux-Malto and Parji of Central Dravidian, such as the past stem in zero, and the past stem in *-nt/*-nc, which is also found in South Dravidian (Caldwell 1956: 496f.). There are features Kurux-Malto shares with other languages, e.g., the adjective or genitive suffix *-ta shared by Brahui; and the geminating past stem shared by South Dravidian. At present, our data fall short of deciding which group is closest to Kurux-Malto. Historical phonology is the most promising field where we can expect to find innovations contributing to a more precise subgrouping of Kurux-Malto, and we are now in a better position thanks to Pfeiffer's work.[18]

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18. Even though we could not discuss it in this article, there are many other sound changes with unclear conditions, such as lowering of high vowels, as in Krx. *on-*, Mlt. *ōn-* for PDr. *uṇ- (*DEDR* 600); Krx. *xosɢā* 'thigh', Mlt. *qosɢe* 'id.' for PDr. *quṭ-, Telugu *kuṟuvu*, etc. (*DEDR* 1840); Krx. *embā*, Mlt. *embe* for PDr. *in-p-, Tamil *iṉpam* 'delight', etc. (*DEDR* 530); and Krx. *pellō* 'young woman', Mlt. *peli* 'id.', Tamil *piḷḷai* 'child', Telugu *pilla*, etc. (*DEDR* 4198).

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