The Pre-Toda Verb
A Reconstruction

Surya Sanjay
University of Michigan, USA

Abstract　Toda is a Dravidian language that is well known for its aberrant phonology, namely due to ubiquitous vowel dropping, simplification of consonant clusters, and phonemic diversification. Although efforts have succeeded to some extent in mapping these phonemes to those of related languages, the origins and implications of Toda morphology have not yet been explored in detail. This work aims to reconstruct key aspects of the Pre-Toda verb in order to provide a dataset to be faithfully used in comparative Dravidian linguistics. Here, the formation of the secondary stem and the nonpast suffixes are demonstrated to show more affinity towards Old Kannada rather than Old Tamil. At the same time, the tenseless and dubitative conjugations, along with personal terminations, are found to retain archaic Dravidian suffixes.

Keywords　Dravidian. Toda. Verb morphology. South Asian linguistics. Reconstruction.

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1 Introduction

Toda is a Dravidian language spoken by approximately 1,600 people in the Nilgiri and Kunda hills of Tamil Nadu. It is a member of the Tamil-Kannada subgroup within the South Dravidian branch (*Ethnologue* 2022). The Todas themselves are a well-documented people group (Emeneau 1984, 1), and, as such, three grammars of their language have been written over the past two centuries (Hammarström et al. 2022). Emeneau's, the most extensive of these, is an invaluable resource, providing a definitive verb list and an elaborate description of verb morphology (1984) from which much of this report derives.

The language has been subject to some theoretical phonology research, namely because it contains phonemes, such as the three coronal trills [r], [r̩], and [r̺] that are not known to contrast anywhere else in the world (Ladefoged, Maddieson 1996, 223). However, even more of the phonemic inventory is atypical in the context of other Dravidian languages, given that it features a wide range of fricatives (Krishnamurti 2003, 66) while only one (*H) can be reconstructed for Proto-Dravidian (Krishnamurti 2003, 91). Although much of the origins of these phonemes has been solved, reconstructions are still subject to ambiguities. Namely, Toda, along with its closely related neighbour Kota, commonly drops all short vowels and shortens all long vowels in non-initial syllables (Emeneau 1957, 63), resulting in reconstructions with a lessened ability to provide detailed value in comparative Dravidian linguistics.

Work on historical morphology in Toda has been limited and usually restricted to propositions described within grammars. Aside from this, comparative works on Dravidian linguistics have used examples from Toda to posit reconstructions for Proto-Dravidian, although these are sometimes misattributed.[1] Given the plentiful corpus available for this language, there is a need for a more complete deconvolution of its phonology and morphology, so that it can provide more nuance to reconstructions of historical stages of Dravidian.

As such, this work has two main focuses: (1) reconstructing the components of the finite verb in Pre-Toda,[2] and (2) working out certain issues in phonology to assist (1).

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1 For example, Krishnamurti (2003, 298) endorses Emeneau's (1957, 46) interpretation of the sibilant origin of Toda's past stem, and he uses it as evidence to posit *-cc-* as a past morpheme for Proto-Dravidian. However, the phoneme identified within the past suffix, [š], is acknowledged by Emeneau to be a reflex of Proto-Dravidian *ẓ and *r (1970, 112).

2 As the ages of these precursor forms are relative, it is impossible to determine which specific stage each belongs to (i.e. Proto-South-Dravidian, Proto-Tamil-Kannada, etc.) with just Toda forms. As a result, a blanket term "Pre-Toda" is used within this study.

2   Phonological Considerations

Verb inflection evolves in various ways throughout the Dravidian family tree. Finding similarities amongst these diverse manifestations requires precise phonetic information around the environment where the inflection occurs. In Dravidian languages, since there are no prefixes and only suffixes (Krishnamurti 2003, 28), this 'inflectional environment' is usually comprised of the final one or two phonemes of a verbal base and all suffixes that follow it. Seven out of nine tense suffixes that Krishnamurti posits for Proto-Dravidian contain stops, and three contain vowels (291-307), meaning that understanding the distribution of reflexes of vowels and stops in Toda may provide crucial information on how verbs inflected in Pre-Toda.

Two remaining problems in the origins of Toda phonology are directly related to the reconstruction of vowels and plosives, and they will be addressed in this section accordingly. The first results from the loss of short vowels in non-initial syllables, as described earlier (Emeneau 1957, 63). These vowels can be recovered to some extent, as Pre-Toda vowels in non-initial syllables (mainly $*V_2$) can affect the vowel quality of Toda vowels in initial syllables (V_1). This phenomenon, referred to here as 'V_1-umlaut,' has been partially described by Gopinathan Nair (2009), and below is included a more in-depth evaluation of this hypothesis. The second problem, stemming from homorganic consonant cluster simplification, already has a solution, but this study revisits that, scrutinising the alleged common descent paths of a couple of members of two distinct consonant series: (1) voiced plosives & affricates, and (2) fricatives and trills.

Toda transcription is not standardised, since many of its phonemes are not featured in the ISO15919 transliteration scheme for Indic scripts. This report uses the scheme used in Emeneau's grammar, with three changes: [c] generally represents a voiceless (alveolo-)palatal affricate in Indic languages, and, as such, it is used here to represent the voiceless alveolo-palatal affricate in Toda, in lieu of Emeneau's [č]. At the same time, Emeneau also represents post-dental affricates with [c] and [z]; this is replaced with [ṣ] and [ʐ] to distinguish from the aforementioned alveolo-palatal affricate, and for phonological consistency (i.e. a swash tail makes the sibilant an affricate) (1984, 11). Finally, long vowels are represented with superposed macrons rather than following interpuncts.

2.1 V$_1$ Umlaut

Toda vowels in initial syllables generally exhibit the following sound changes (Emeneau 1970, 8-27):

- *a; *ā > [o], [a]; [ō], [ā]
- *i; *ī > [ï], [i]; [ī]
- *u; *ū > [ü], [u];[3] [ū]
- *e; *ē > [ö], [e]; [ȫ], [ē]
- *o; *ō > [wï], [wa]; [wī̄], [wā][4]

Aside from [ī] and [ū], each vowel has two reflexes, implying that each Pre-Toda vowel has a basic 'unconditioned' reflex (henceforth, V^u), as well as a 'conditioned' reflex (V^c). To isolate the vowel qualities that can be considered V^u, first, the verbs being considered must be monosyllabic to ensure that there are no other vowels that can influence V$_1$.

Dravidian verbs that are monosyllabic can have either a long or short V$_1$ (Krishnamurti 2003, 378), but the loss of vowels in non-initial syllables makes it difficult to separate those that are originally monosyllabic and polysyllabic. It is uncommon for verbal bases with a long V$_1$ to be longer than a single syllable[5] within Dravidian, as roots with long V$_1$ usually shorten when are followed by a [vowel-initial] derivative suffix (Krishnamurti 2003, 96). Therefore, this section begins by examining all bases with long vowels.

V̄$_1$ mostly retains its length in Toda (Emeneau 1970, 8-27), although some instances of long vowels in Toda result from the dropping of C$_2$ in a Pre-Toda base of structure *C$_1$V$_1$C$_2$V$_2$C$_3$$^?$,[6] wherein V$_2$ is elided and V$_1$ is lengthened (Emeneau 1957, 60-3). This is identifiable when the C$_2$ attested elsewhere in Dravidian is not present in a Toda cognate.[7] Sometimes an extension can be added to the base to add more

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3 [wï] and [wa] are listed erroneously as reflexes of *u in Emeneau (1970, 17), although the example given to corroborate this – *wïḷd-* (*wïḍ-*) "to exist, to be in a place" – clearly descends from an *o, given analogous Kota *oḷ-* (*oḍ-*) "id.". This source also does not acknowledge the presence of [ü] in Toda altogether, but it is included as a reflex of *u based on forms given in Emeneau 1984.

4 Initial [w] cannot appear after [p] (1984, 19), which is why Emeneau also lists [ï], [ī], and [a] as reflexes, as well.

5 Many Dravidian languages, and also Proto-Dravidian, add an epenthetic, or 'enunciative', vowel after word-final plosives, although this vowel is not phonemic (Krishnamurti 2003, 90). This means that these bases can still be considered monosyllabic. This vowel is reconstructed for Toda, since final plosives in monosyllabic verbs take the same form as the intervocalic variant, eg. *pōṛ-* 'to sing' < Pre-Toda *pāṭə*, which demonstrates {*VṭV > [ṛ]}.

6 C$^?$ refers to a consonant or a consonant cluster, whereas V$^?$ indicates either a vowel or a diphthong.

7 Exceptions to this include loanwords, such as *öt-* "to stick to" (DEDR 4034; < PS-Dr *paṭṭə*), which is likely loan from Badaga, since {*ṭ > [t]} is not a common sound

information about valency, such as -(*v*)*i* ~ -(*p*)*pi* in Tamil and Malay-alam (McAlpin 1981, 45). A common extension in Toda is the causa-tive suffix -*ṣ*, which seems to be closely related to, if not borrowed from, Kannada -*isu* (Subrahmanyam 1971, 86). *ōṟ*-*ṣ*- "to reopen set-tled dispute because the settlement was unjust", for example, is at-tested as a causative form of *ōṟ*- 'to cool'. Since [ṟ] in the extended base warrants Pre-Toda *Vṯ̣V – that is, an intervocalic plosive (Eme-neau 1970, 68) – this suggests either the addition of an epenthetic vowel in between these two suffixes or that the suffix had an initial vowel, possibly [i], like in the Kannada equivalent -*isu*. These verbs are omitted to ensure the lack of a conditioning V_2.

Finally, reflexes of *ī* and *ū* are not considered in this analysis, as they each only have a single alloform in Toda. This further makes it more difficult to explain the reflexes of short *i* and *u*, so these vow-el qualities are beyond the scope of this study.

From the verb list, it was shown that the majority of Pre-Toda monosyllabic verbs with the long vowels *ā*, *ē*, or *ō* resulted in To-da [ō], [ȫ], and [wɪ̈]. There was one such verb with [ā], six verbs with [ē], and none with [wā], whereas 34 had [ō], 13 had [ȫ], and 11 had [wɪ̈]. The one verb with {*ā* > [ā]}, *nāṣ*- "to play" (DEDR 3612) was likely a loan: the Kota (*nayḷ*- "id.") and Malto (*lal*- with past in *laḍ*- "to dance") equivalents suggest a retroflex lateral for Proto-Dravidian, even though the placement of the DEDR entry implies a root of *nal* (Burrow, Emeneau 1984, 319), whereas the Toda form warrants an alveolar lateral. On the other hand, only one of the six verbs with {*ē* > [ē]} could be explained: *tēṭ*- "fold (leaf for drinking cup)" could be better placed with DEDR 3245, implying Pre-Toda *teraṭṭǝ*, instead (cf. Ko. *teṛṭ*- "to make round").

Thus, it was shown that [ō], [ȫ], and [wɪ̈] are unconditioned reflex-es of *ā*, *ē*, and *ō*, respectively, with the caveat that {*ē* > [ȫ]} is an irregular sound change and must be looked into further. See below (Badugu examples from Hockings, Pilot-Raichoor 1992):

(C₁)āC₂ᵊ(ǝ) > (C₁)ōC₂ᵊ
$$*(C_1)\bar{a}C_2^{?}(ǝ) > (C_1)\bar{o}C_2^{?}$$
1. Toda *kōṭ*- "to show" < Pre-Toda *kāṭṭǝ* (DEDR 1443). Cf. Ta. *kāṭṭu* and Ko. *kāṭ*- "id.".
2. Toda *kōy*- "to bear fruit" < Pre-Toda *kāy* (DEDR 1459). Cf. Ta. *kāy* "id." and Ka. *kāy* "[of fruit] to grow or develop".

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change in Toda. However, loanwords should similarly not be considered, since it is un-clear whether they were borrowed before or after the V_1-umlaut sound change took place. Therefore, those bases that are clearly loanwords (i.e. those marked as such by Emeneau or that do not follow known established sound changes) are omitted, as well.

3. Toda *nōṯ-* "to make to get wet in rain" < Pre-Toda *$nā(n)ṭṭə$ (DEDR 3630). Cf. Ko. *nāt-* "to make to become wet in the rain" and Ka. *nādu* "to moisten".

*$(C_1)ēC_2^?(ə) > (C_1)ȫC_2^?$
1. Toda *ȫx-* "to scream" < Pre-Toda *$ēkə$ (DEDR 879). Cf. Ta. *ēṅku* "to sound".
2. Toda *ȫɬ-* "to be fat" < Pre-Toda *$ēl$ (DEDR 916). Cf. Ta. *ēl* "to be excessive".
3. Toda *kȫšt-* "to lean against (tr.)" < Pre-Toda *$kērttə$ (DEDR 2012).

*$(C_1)ōC_2^?(ə) > (C_1)wïC_2^?$
1. Toda *wïṭ-* "to drive calf" < Pre-Toda *$ōṭṭə$ (DEDR 1041). Cf. Ta. *ōṭṭu* "to cause to run".
2. Toda *twïy-* "to wash" < Pre-Toda *$tōy$ (DEDR 3555). Cf. Ta. *tōy* "to dip", Ko. *tōy-* "to wash clean", Bad. *tai* "to wet", and Ka. *tōyu* "to wet".
3. Toda *nwïṭ-* "to look at" < Pre-Toda *$nōṭṭə$ (DEDR 3794). Cf. Ko. *nōṯ-* "to look at".

This sound change can be further extrapolated to short vowels, suggesting that [a], [e], and [wa] are the conditioned counterparts of [o], [ö], and [wï], respectively. In order to recover the vowel(s) that cause V_1-umlaut, the cognates of Toda verbal bases that possess this sound change can be examined. Although there are quite a few exceptions, Toda verbs with V^c were found to generally have a $V_2^?$ of either [a] or [ai] in Tamil, and [a] or [e] in Kannada. Therefore, *a and (*ay >) *e[8] can be posited as initial candidates for the conditioning $V_2^?$ that is later elided. The other possible vowels include *i, *u, and *o,[9] of which the latter two are never found in the $V_2^?$ position. Aside from certain cases,[10] *u and epenthetic *$ə$ become complementary in the Tamil-Kannada subgroup and often fully merge in Modern Tamil and Kodava, amongst others, in all word-final syllables (Krishnamurti 2003, 49-51). For that reason, it is unlikely that an epenthetic vowel influences a preceding vowel, rather than the reverse. Finally,

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[8] Kannada [e] (Krishnamurti 2003, 119) and Tamil [ai] (Krishnamurti 2003, 48) both come from earlier *ay. However, reconstructing *ay or *ai for Pre-Toda would be problematic in that *y and *i both always reflect as [y]. Even in later Tamil loans, [ai] seems to be approximated with Toda [y]: To. *kōṇiky* "offering to a Hindu temple or to Kurumba" and Ta. *kāṇikkai* "gift to a temple" (DEDR 1443).

[9] Long vowels are rarely found in the V_2 position of verbal bases in Dravidian (Krishnamurti 2003, 277).

[10] The one oft-described example in Old Tamil is *nŭntai* "your father" (Rajam 1992, 45), which contrasts with *nuntŭ* "to propel" (*Tamil Lexicon* 1924-36).

*i, as described in footnote 8, leads to Toda [y] (Emeneau 1979, 225), meaning that, although the vowel is lost, its reflex is rarely elided.

Although Kannada has both [a] and [e] and Tamil has both [a] and [ai], their distribution is to some extent patterned. In cognates to Toda bases with V_1-umlaut, Kannada [e] was found to appear in the V_2 of all but the past stems of some Kannada bases with the shape $C_1V_1C_2V_2^?$, and [a] appears everywhere else. Tamil [ai] and [a] can both be found in $C_1V_1C_2V_2^?$ verbs, although the V_2 of verbs with a $C_3^?$ are almost always [a]. Therefore, Pre-Toda verbs with a third $C^?$ likely also had a V_2 of *a, whereas all other situations are subject to ambiguity. Reconstructions in this study follow this model, and where unknown, this vowel is represented as a small-caps A, since Krishnamurti uses this same symbol to describe an analogical situation in Proto-Dravidian (2003, 143).

The following summarises the three umlaut rules concluded by this section, while also providing examples thereof:

*$(C_1)aC_2^?$A# > $(C_1)aC_2^?$#
1. Toda *kaṛt-* "to send" < Pre-Toda *kaṭattə* (DEDR 1109). Cf. Ta. *kaṭattu* "to cause to go", and Ko. *kaṛt-* "to make to cross".
2. Toda *part-* "to pray" < Pre-Toda *parattə* (DEDR 3951).
3. Toda *taṛ-* "to get stuck" < Pre-Toda *taṯᴀ* (DEDR 3142). Cf. Ta. *taṛai* "to rivet".
4. Toda *pax-f-* "to distribute" < Pre-Toda *pakᴀ-wə* (DEDR 3808). Cf. Ma. *pakayuka* "to distribute".

*$(C_1)eC_2^?$A# > $(C_1)eC_2^?$#
1. Toda *eṛt-* "to overcome in contest" < Pre-Toda *eṭattə* (DEDR 515).
2. Toda *teṛ-* "to open" < Pre-Toda *teṯᴀ* (DEDR 3259). Cf. Ta. *tiṛa*, Ko. *terv-* "id.", and Ka. *teṛe* "to be unclosed".
3. Toda *neṛ-* "to become full" < Pre-Toda *neṯᴀ* (DEDR 3682). Cf. Ta. *niṛai* "to become full", Ko. *nerv-* "[of a girl] to reach puberty", Bad. *nere* "to become accomplished", and Ka. *neṛe* "to become entire".
4. Toda *peḷ-* "to grow (intr.)" < Pre-Toda *beḷᴀ*[11] (DEDR 5437). Cf. Ta. *viḷai* "to be produced", Ko. *veḷv-* "to grow", and Ka. *beḷe* "to grow (intr.)".

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11 PDr *w becomes *p-* initially and *-f-* elsewhere in Toda (Emeneau 1970, 89), and *p-*, whether from PDr *p or *w, may become *b-* (optionally after nasals) or *f-* (elsewhere) when not sentence-initial (Emeneau 1984, 34). This directly parallels the Kannada sandhi rule wherein word-initial *p-* and *b-* (< PDr *w) may become *-v-* when preceded by a vowel. As such, the sound change PDr *w- > Pre-Toda *b- > Toda *p-* is better supported, and therefore *b-* is used in Pre-Toda internal reconstructions.

$$*(C_1)oC_2{}^?A\# > (C_1)waC_2{}^?\#$$

1. Toda *waṟx*- "to sleep" < Pre-Toda **oṭakə* (DEDR 707). Cf. Ta. *uṟaku*, Ko. *org*-, Bad. *oragu*, and Ka. *oṟagu* "to sleep".
2. Toda *waṟ*- "to break in pieces" < Pre-Toda **oṭA* (DEDR 946). Cf. Ta. *uṭai* "to crack", Ko. *oṟv*- "to break (intr.)", Bad. *oḍe* "to break (intr.)", and Ka. *oḍe* "to be broken".
3. Toda *kwaṟ*- "to be reduced in size" < Pre-Toda **koṭA* (DEDR 1851). Cf. Ta. *kuṟai* "to diminish", Ko. *korv*- "to be reduced in size or number", and Ka. *koṟe* "to grow little less or short".
4. Toda *twalx*- "[of plank] to be out of plumb" < Pre-Toda **tolakə* (DEDR 3519). Cf. Ko. *tolg*- "to be released from debt" and Ka. *tolagu* "to go away".

2.2 A Three-Fold Model for Intervocalic Plosives

Toda has plosives in six places of articulation – bilabial, dental, alveolar, retroflex, (alveolo-)palatal, and velar – as Krishnamurti (2003, 48) suggests for Proto-Dravidian (Emeneau 1984, 11). These plosives demonstrate voicing contrast, which commonly results from a single vs. geminated (or lax vs. tense) contrast across Dravidian (McAlpin 1981, 23). All word-initial stops are unvoiced, but when preceded by a word of the same sentence, they are spirantised (Emeneau 1984, 34), and, as a result, it has been noted that these fricatives are also reflexes of ungeminated plosives. At the same time, **c*, **ṭ*, and **ṯ*, which do not appear word-initially in Toda (34),[12] are lenited intervocalically to [s], [ṛ]/[ḍ], and [ṟ] (Emeneau 1970, 60-8), forming three parallel, six-member series that represent reflexes of Pre-Toda plosives (51-72; 1984, 41):

Table 1   Reflexes of Pre-Toda Stops

PDr phoneme	Voiceless reflex	Voiced reflex	Continuant reflex
*k	[k]	[g]	[x]
*c	[ṣ], [c]**	[ʐ], [j]**	[s]
*ṭ	[ṭ]	[ḍ]	[ḍ], [ṛ]
*ṯ	[ṯ]	[d]	[ṟ]
*t	[t]	[d]	[θ]
*p	[p]	[b]	[f]

**   In palatalising environments (preceding **i* > [y]).

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[12]   **c* is allowed word-initially elsewhere in Dravidian, but an initial {**c* > [t]} sound shift in Toda removes all inherited (alveolo-)palatal plosives (Emeneau 1970, 58). Any word with an initial [s], thus, must be a loanword.

Proto-Dravidian homorganic consonant clusters can appear in three different forms: NP, PP, and NPP (Krishnamurti 2003, 163). NPP forms the most complex consonant cluster that is possible within Dravidian (90). The existence of a separate NPP category aside from PP is reflected in Kannada and Telugu, although the initial nasal is notably lost in Tamil and Malayalam (34). Toda denasalisation makes impossible the separation of reflexes of *PP and *NPP, and both of them attest as the voiceless plosives [tab. 1]. This study reconstructs all occurrences of these two clusters as *PP, since the existence of a preceding nasal cannot be confirmed.

Emeneau (1970, 53-72) rationalises voiceless and continuant series by suggesting that, for some places of articulation, the continuant descends from *P and its voiced stop from *NP (bilabial, alveolar, palatal), and in others *NP becomes both the continuant and the voiced stop but *P only reflects as a continuant (dental, velar). Finally, the retroflex stop *ṭ lenites into both [ḍ] and [ṛ], while the homorganic cluster *ṇṭ merely denasalises and voices into [ḍ].

Here, it is argued that {*NP > B} applies to all places of articulation. In the same way that vowels that did not undergo umlaut were isolated using monosyllabic verbs, a similar process may be performed to isolate *NP and *P.

Denasalisation of homorganic clusters in Dravidian is also somewhat common outside of Toda. Although it does not happen as much in Tamil, Kannada commonly undergoes this change (Krishnamurti 2003, 167), making it unclear whether the Pre-Toda form for a given reflex was ever nasalised. One place where denasalisation does not occur in South Dravidian (aside from Toda) is in *(C)V̆NP roots (167-70), since removing the nasal changes syllable stress patterns.[13] Therefore, if the plosives in *(C)V̆nt and *(C)V̆nk never become continuants, then that suggests that the {*NP > B} stands for all places of articulation.

Five such verbs that had South Dravidian cognates with [nk] ~ [ng] and [nt] ~ [nd] were found, all of which demonstrated {*nk > [g]} or {*nt > [d]}:

*(C)V̆nk > CV̆g
1. Toda *pɨ̱r eg-* "to contract the stomach" < Pre-Toda *enkə (DE-DR 774). Cf. Ma. *eṅṅuka* "to become contracted".[14]

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13 The syllable-final epenthetic allows the final consonant to be pronounced in a second syllable, meaning that the first syllable only comprises the sequence *(C)V̆N. If the nasal is dropped, *(C)V̆N, a dimoraic syllable, becomes unimoraic, in *(C)V̆.

14 This term can also be argued to be a loanword and not from *enkə, especially since the Malayalam form given for comparison is intransitive, whereas the Toda form is transitive. It could be the case that the Toda base was originally intransitive but

2. Toda *tog-* "to be humbled" < Pre-Toda *tankə* (DEDR 3178). Cf. Ta. *taṅku* "to be obedient", and Tu. *daṅguni* "to bend".

3. Toda *nug-* "to gulp down" < Pre-Toda *nunkə* (DEDR 3697). Cf. Ta. *nuṅku* "to swallow", Ko. *nuṅg-* "to gulp down", and Ka. *nuṅgu* "to swallow".

4. Toda *pïg-* "to bubble up" < Pre-Toda *ponkə* (DEDR 4469). Cf. Ta. *poṅku* "to boil up", Ko. *poṅg-* "[of water] to spring forth magically", and Ka. *poṅgu* "to boil over".

*(C)V̆nt > CV̆d

1. Toda *kïd-* "to sprinkle" < Pre-Toda *kintə* (DEDR 1546). Cf. Ta. *cintu* "to be strewn".

A very small sample size was availed in support of {*(C)V̆₁nt > (C)V̆₁/₂d}, but, as described by Emeneau (1970, 77), the occurrence of [nt] ~ [nd] outside of tense suffixes is rare. Therefore, this will be discussed in further detail in section 3 as a rebuttal. For velars, however, Emeneau uses the example of To. *tūx-* "to hang" to explain his proposed {*NP > F} by comparing this with Ta. *tūṅku* "id." and various other forms in Dravidian that retain *nk. However, closely related Kannada loses the preceding nasal (Emeneau 1970, 56). Therefore, the Toda base could be interpreted in three ways, of which the first was chosen by Emeneau: (1) the form was inherited as *tūṅkə, (2) the form was borrowed from Kannada, or (3) the form was inherited as *tūkə.

Alongside this, there are two minimal pairs that maintain a distinction between [g] and [x] and between [d] and [θ] and also a distinction in meaning. *ūr-* (DEDR 647) has two secondary stems, wherein *ūd-* means "to disappear suddenly by magic", whereas *ūθ-* means "to disappear". At the same time, *wïṇx-* means "to wither (intr.)", although *wïṇg-* means "to be scorched". Since [d] and [g] are definitive reflexes of *nt and *nk, respectively (Emeneau 1970, 56, 77), [θ] and [x] need to have come from *t and *k to have retained both semantic and phonetic distinctions.

Table 2 Summary of Proposed Sound Changes

Index	Sound Change
(a)	*#_Cᴀ# | *a, *e, *o, *ā, *ē, *ō > [a], [e], [wa], [ā], [ē], [wā]
(b)	*#_Ci#,*#_Cu# ~*#_C(ə)# | *a, *e, *o, *ā, *ē, *ō > [o], [ö], [wï], [ō], [ȫ], [wï̄]
(c)	*#V_V# | *k, *c, *ṭ, *ṯ, *t, *p > [x], [s], [r], [r], [θ], [f]
(d)	*#N_# | *k, *c, *ṭ, *ṯ, *t, *p > [g], [ʐ]/[j], [ḍ]/[r], [d], [d], [b]

later became transitive, or vice versa with the Malayalam base. However, even otherwise, this does not prove that *nk can become [x], since this form does not have an [x].

3   Secondary Stem Formation

Fully-inflected verbs in Dravidian languages are made up of a base, an augment, and a termination, or, alternatively, stem-medial-ending (McAlpin 1981, 41). The base is not always a single morpheme, but it is usually the smallest unit that can stand alone. Bases are derived by adding suffixes to a root, although most suffixes aside from those that indicate valency have since lost productivity and sometimes nuance in meaning, as well (Krishnamurti 2003, 277-8). The augment includes all suffixes that mark valency, tense, aspect, and mood but are not incorporated into the base. Finally, the termination is where suffixes that mark subject agreement are placed.

In Toda, the majority of conjugations are based off of two stems, the primary (S^1) and the secondary (S^2). Whereas the S^1 is usually only made up of the verbal base, the S^2 seems to show similarities with the past stem found elsewhere in South Dravidian (Emeneau 1967, 374). But, unlike the rest South Dravidian, both the nonpast and the past conjugations arise from S^2 (Emeneau 1984, 114), meaning that the nonpast is probably periphrastic. As many other aspects of verbal inflection in Toda are more innovative, S^1 and S^2 are much easier to compare to other Dravidian languages.

Secondary stems in Toda are generated either by adding either a -*y*- suffix or any of the three dental suffixes -*t*-, -*d*-, or -*θ*- (Emeneau 1967, 376). The -*y*- is clearly related to the Modern Tamil past suffix -*i*(*ṉ*)- and Kannada converbial in -*i*-, and it takes the same general distribution,[15] so *i- can be reconstructed as an S^2 formative for Pre-Toda. -*t*- is related to the 'strong pasts' found in the *Tamil Lexicon*'s classes 9, 10, 11, and 12 (387). They are similar in function, as well, marking the effective counterparts of affective verbs that would take the -*θ*- suffix (Emeneau 1984, 114). In accordance with the described phonological rules, *-*tt*- can be reconstructed as an effective past. Some strong verbs, specifically those that do not end in [y], [ɭ], or [ɻ], take an additional -*f*- in the S^1. This is analogical to either the converbs of Old Tamil strong verbs in -*ppa* or those in -(*p*) *pŭ* (Rajam 1992, 756, 760). Since some of these verbs do not always have a V^c_1, it is proposed that the final vowel was *ə in Pre-Toda, but this may have originally come from *a, which was centralised since it may have been unstressed. See examples below:

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[15]   Krishnamurti (2003, 296) describes these verbs as ending in plosives and having more than three morae (one of which would be the final syllable added by the epenthetic [ə]).

Trimoraic Pre-Toda bases take -*y*-
1. Toda *tïrb*-, *tïrb-y*- "to twist (tr.)" < Pre-Toda **tirəmpə, *tirəmp-i*- (DEDR 3246). Cf. Ta. *tiruppu, tirupp-i(ṉ)*- "to cause to return"; and Ka. *tirumpu, tirump-i(d)*- "to cause to go round".
2. Toda *oẓ*-, *oj*- (< *oẓ-y*-) "to fear" < Pre-Toda **ancə, *anc-i*- (DEDR 55). Cf. Ta. *añcu, añc-i(ṉ)*-; and Ka. *añju, añj-i(d)*- "id.".
3. Toda *pōṛ*-, *pōṛ-y*- "to fly" < Pre-Toda **pāʈə, *pāʈ-i*- (DEDR 4020). Cf. Ta. *pāṛu, pāṛ-i(ṉ)*- "to run"; and Ka. *pāṛu, pāṛ-i(d)*- "to leap up". Also note Ka. *pāṛ, pār-d*- "id.".

Strong pasts and their weak counterparts
1. Toda *waṛ*-, *waṛ-θ*- "to break in pieces (intr.)" and *waṛ-f*-, *waṛ-t*- "to break in pieces (tr.)" < Pre-Toda **oʈA-pə, *oʈA-tt*- (DEDR 946). Cf. Ta. *uʈai-nt*- "to break as a pot"; and *uʈai-tt*-, *uʈai-ppa*, *uʈai-ppŭ* "to break in pieces (tr.)".
2. Toda *kaṛ*-, *kaṛ-θ*- "to become tight" and *kaṛ-f*-, *kaṛ-t*- "to tighten" < Pre-Toda **kaʈA-pə, *kaʈA-tt*- (DEDR 1399).
3. Toda *peɭ*-, *peɭ-θ*- "to grow (intr.)" and *peɭ-f*-, *peɭ-t*- "to grow (tr.)" < Pre-Toda **weɭA-pə, *weɭA-tt*- (DEDR 5496). Cf. Ta. *viɭai-nt*- "to be produced"; and *viɭai-tt*-, *viɭai-ppa*, *viɭai-ppŭ* "to raise".

The suffixes in -*d*- and -*θ*- are described by Emeneau, just as in Kannada, to have both come from the same Proto-South-Dravidian past suffix in **-nt-*, and thus Pre-Toda,[16] based on comparisons with the verbal system in Tamil. This further suggests the rule $\{*nt > *d/[d] > [\theta]\}$. He states that instances of **-nt-* that appear at the end of an initial syllable shift to [d] and all others become [θ] (Emeneau 1967, 383), although both can occur in the same environments (e.g. two verbs with an S¹ in *ūr*- have secondary stems in *ūd*- and *ūθ*-, respectively).

When the distribution of -*θ*- and -*d*- in Toda is compared to the distribution of -*d*- and -*nd*- in Kannada, however, there are some striking similarities. Kannada -*d*- is much more common than -*nd*-, although, when added to short, monosyllabic verbs with a final nasal or lateral (eg. *uṇ* "to eat" or *koɭ* "to seize"), it can create homorganic clusters (*uṇḍ*- and *koṇḍ*-) (Kittel 1903, 98) which may otherwise be assumed to result from the addition of -*nd*-. However, the sandhi rules [ṇ]/[n] + -*d*- → [ṇḍ]/[nd] and [ɭ]/[l] + -*d*- → [ṇḍ]/[nd] are supported by analogous rules in Tamil suggested by Agesthialingom (1971, 122) and Graul (1855, 38).[17] Toda has a similar phenomenon where verbs end-

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16   By stating that Toda is a closer relative to Tamil than Kannada, he also suggests that the merger of **t* and **nt* as past tense suffixes in non-initial syllables took place in Proto-Kannada-Badaga and Toda independently.

17   The verbal sandhi rules posited for Tamil are essentially the same as those for Kannada: Agesthialingom (1971, 122) posits [ṇ]/[ṉ] + -*t*- → [ṇʈ]/[ṉṛ], and Graul (1855, 38) proposes [ɭ]/[l] + -*t*- → [ṇʈ]/[ṉṛ] by placing verbs that follow this sandhi rule in the

ing in [ṇ] or [ḷ] form their S^2 by replacing the nasal or lateral with [ḏ], and those ending with [n] or [l] replace the final consonant with [ḏ] (Emeneau 1967, 376). Since [ḏ] < *ṇṭ and [ḏ] < *nṯ, these can also be considered analogical to the Tamil and Kannada sandhi rules described above.

Therefore, there are only five Kannada verbs that take a past in *-nd-* (Subrahmanyam 1971, 198): *bār, band-* "to come"; *tār, tand-* "to lead or conduct near"; *nō, nond-* "to suffer"; *mī, mind-* "to take a bath"; and *bē, bend-* "to be burnt up".[18] On the other hand, Toda was found to have eight verbs that take this past suffix, three of which are clearly loans.[19] Four of the other five are cognates with the Kannada *-nd-* verbs [tab. 3].

Table 3 Past stems in Kannada and Toda cognates

DEDR	Reconstructed Gloss	Kannada	Toda
1372	"to steal"	*kaḷ, kaḷd-*	*koḷ-, koḷd-*
3098	"to give to 1st or 2nd person"	*tār, tand-*	*tōr-, tod-*
3793	"to pain"	*nō, nond-*	-
4878	"to bathe"	*mī ~ mīyu, mind-*	*mīy-, mīd-*
5270	"to come"	*bār, band-*	*pōr-, pod-*
5517	"to roast, fry, heat"	*bē ~ beyyu, bend-*	*pöy-, pöd-*
Source (glosses): Krishnamurti 2003			

Since the distributions of the past suffixes *-d-* and *-θ-* in Toda are almost completely parallel to those of *-nd-* and *-d-*, respectively, in Kannada, it is suggested that only those five Toda verbs with a past in *-d-* can have a reconstructed past of *-nt- in Pre-Toda, and that all

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same class as verbs that take a simple *-t-* in the past (Class I). Agesthialingom actually disagrees with Graul's lateral approximant sandhi rule, since there are some verbs in Graul's Class Vb that take a past in *-ṭṭ-* instead of *-ṇṭ-* (e.g. *kēḷ* "to hear" with a past in *kēṭṭ-*). Agesthialingom proposes *-t-* for Graul's Class Vb and *-nt-* for Class I (1971, 125), but *-tt-* for Class Vb and *-t-* for Class I seem to form a much better explanation. For example, *mīḷ* "to return" belongs to Class I, but its effective counterpart *mīḷ* "to liberate" belongs to Class Vb. Agesthialingom's explanation would suggest loss of a nasal to be an effective marker in this word pair, which is not attested elsewhere, whereas this study's proposition would imply *-t(t)-* as an effective marker, supported by Krishnamurti's *-tt-* (2003, 280) effective.

18   There are two more verbs (*aytar-* ~ *eytar-* "to approach" and *āṭar-* "to fall upon") that take this suffix, but since they are derived from converbs followed by either *wār "to come" or *tār "to give to 1st or 2nd person", the author does not include them in this list.

19   These are *sōr-, sōd-* "to arrive" (DEDR 2814); *kwiḷ-, kwiḷd-* "to hatch" (DEDR 1835); and *pērf-, ped-* "to be born" (DEDR 4422). Emeneau himself describes *kwiḷ-* to be a loan from Badugu in the DEDR (Burrow, Emeneau 1984, 166). The other two are likely loans because they do not follow well-established sound changes – *sōr-* would otherwise have an initial dental plosive (*tōr-) and *pērf-* would instead be *peṟf-*.

verbs with a past in -θ- took a past in *-t- in Pre-Toda. Furthermore, more evidence is thus given to solidify the sound change {*nt > [d]} and not {*nt > [θ]}.

4 Finite Verbs

As was described in the previous section, the Toda finite verbal system is divergent from the rest of Dravidian. Although the overall structure of the verb (base-augment-termination) is a retention, the suffixes that are used in the augment are different from those commonly seen elsewhere. As was proven in section 3, both the primary and secondary stems are related to stems in Tamil, but in this section it is shown that the majority of the Toda tenses and moods were originally constructed using periphrasis, but any perception of a separate auxiliary verb has since been lost and it is now incorporated as a formative suffix.

Emeneau's description of Toda lists six main conjugations: the past, the present-future (here, the "nonpast"), the voluntative, the dubitative, the tenseless, and the imperative (1984, 114). Alongside this, there are three negative conjugations – one for the tenseless, another for the voluntative, and a third for the imperative (131) – that are inflected and not formed using an auxiliary verb. The past and nonpast also feature a second conjugation, which is used in interrogative and quotative contexts (131). Since many of these forms are contractions of their primary equivalents (e.g. primary *pod-p-en* vs. secondary *pod-n* "I go", and primary *pod-šp-en* vs. secondary *pod-š-n*), this paper contends that they were created as a result of the loss of intermediate [p] and shortening of the person-number-gender suffix as a result of stress elsewhere in a sentence, such as on the interrogative particle -ā or the quotative verb *ïn-* "to say".[20]

The origins of Toda personal terminations have already been addressed to some extent by Emeneau. He reconstructs the Pre-Toda personal endings *-ĕ̆n (1sg), *-ĕ̆m (1pl.excl), *-ŏ̆m (1pl.incl), and *-tti (2sg) (1979, 228; 1984, 132). To this list, this study initially adds *-i on the basis of Toda -y, *-ir and *-ttir (2pl) on the basis of Toda -š and -tš, and *-tə (3) on the basis of -θ. Any further discussions on terminations will be included in the section on whichever paradigm these terminations appear in. It is also worth noting that Toda verbs are

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[20]   This is not always the case, as the nonpast II and past II sometimes take unique terminations in the second and third persons. Such forms will be discussed separately in each conjugation's respective section. Emeneau also groups with these a 'negative II' conjugation, as it is also used in the same environments, although the only difference between it and negative I are the terminations it takes in the second-person singular and third person.

often followed by a declarative clitic =*i* (cf. the Tamil emphatic in =*ē*), and this leads to the raising of [e] in some terminations to [i], as well as the loss of final [y] (Emeneau 1984, 131-2). Since terminations can appear without the declarative, the forms without this suffix are used in the following sections for simplicity.

4.1 The Nonpast

In the primary conjugation, the Toda nonpast is formed with the suffixes -*p*- (1 and 2sg) or -∅- (2pl and 3) after the S^2, followed by terminations (Emeneau 1984, 130). Internal reconstruction of the first nonpast paradigm (i.e. 'Nonpast I') would imply the following Pre-Toda forms:

(1sg) S^2-*p-en*: *S^2-(ˇ V)-*pp-ēn*
(1pl.excl) S^2-*p-em*: *S^2-(ˇ V)-*pp-ēm*
(1pl.incl) S^2-*p-um*: *S^2-(ˇ V)-*pp-ōm*
(2sg) S^2-*p-y*: *S^2-(ˇ V)-*pp-i*
(2pl) S^2-∅-*tš*: *S^2-(ˇ V)-*ttir*
(3) S^2-∅-*t*: *S^2-(ˇ V)-*ttə*

Considering the first four forms, this looks very familiar in the context of Old Kannada. The Old Kannada present is formed by adding a nonpast finite form of the verb *agu* "to be" to a converb (analogous to the Toda S^2). This results in forms such as *kēḷ-d-a-pp-en* for "I hear" and *kēḷ-d-a-pp-ay* for "you hear" (Kittel 1903, 129). If the Old Kannada present and the Toda nonpast are similar in origin, the *ˇ V in the Pre-Toda reconstructions must have initially been *a* but later an *ə*, as not all secondary stems have conditioned vowels in the nonpast tense. This may also be a plausible explanation, since an {[a] > *ə} shift occurred in the present tense as early as Middle Kannada, as Old Kannada *appen* "I am", having already debuccalised the [p] into an [h] in Middle Kannada as in *ahen* "I am" (Steever 1993, 198), displaces the [h] and moves it to the beginning of the word, eliding V_1 and lengthening V_2 to form *hēnu* "id." (Kittel 1903, 129-31). This means that the initial [a] was unstressed later in Middle Kannada, which would have primed the conditions for its elision. The same seems to have also happened in Badugu, wherein V_2 is only sometimes lengthened, but an epenthetic vowel (of any quality but [u]) is added after the final consonant of personal terminations, as in *gīdane* "I do" (< *geyd-hanu*) and *gīd-āra* "they do" (Pilot-Raichoor 1991, 468) (< *geyd-hāru*).

Emeneau notes that Todas were in the Nilgiris by at least 1117 AD (1957, 30), whereas Kittel notes that the earliest Middle Kannada composition, Somēśvara's *Śataka*, was written in 1195 AD ([1894]

1964-71, XX). Assuming that the Toda had just entered the Nilgiris around this time, and that Kannada innovations appeared in spoken dialects prior to appearing in the written language, it is possible that both languages shared this innovation through contact, or that Toda borrowed this construction from Kannada.

At the same time, the second person plural and third person inflections, neither of which use the -*p*- suffix, take the personal terminations -*tš* (2sg), -*t* (3, nonpast I), and -*u* (3, nonpast II). -*tš* (< Pre-Toda *-*ttir*) can be compared to the Tamil second-person plural suffix in -*ttir*, which marks both person and number, as well as tense, i.e. a 'cumulative suffix' (Ramaswami Aiyar 1938, 768). If Pre-Toda *-*ttir* had the same meaning, this would explain why the *-*pp*- nonpast in the verb for "to be" is not needed beforehand. -*u* may be compared to Tulu -*u*, a third-person neuter subjunctive suffix (e.g. in *uppu* "it will be") (Brigel 1872, 106), and perhaps also to the Old Kannada -*kk-um* (> Middle Kannada -*k-u*),[21] although the loss of the final nasal is somewhat irregular if inherited, possibly *-*u*(*m*) (Kittel 1903, 147). Finally, the -*t* (< Pre-Toda *-*ttə*) is most definitely related to the third-person singular neuter suffix *-*t* found elsewhere in Dravidian (Krishnamurti 2003, 308-12). However, it is unclear why there is gemination, and why this can stand alone without a preceding tense suffix. One possibility might be that an archaic *-*t*- nonpast suffix, found in the Old Kannada simultaneous-prospective converb -*ttuṁ* and the Old Telugu imperfective in -*du*- (Krishnamurti 2003, 304), was added to the 3sg.n in *-*t*, and this led to gemination. However, the lack of attestation of a *-*t*- nonpast for other persons in Toda remains unexplained.

4.2 The Past and the Dubitative

As the past has been noted to differ from the nonpast mainly[22] in an infix -*š*- that precedes the -*p*- or -∅- of the nonpast and follows the S^2 (i.e. S^2-*šp*- or S^2-*š*-∅-) (Emeneau 1984, 131), it has been hypothesised that this, along with -*c*- in Kota, prove the existence of a *-*cc*- past in Proto-Dravidian (Emeneau 1957, 46). However, this infix likely comes from an auxiliary verb base for which the following -*p*- is a reflex of an earlier nonpast stem (Emeneau 1979, 229),[23] since the dubitative takes the same suffixes as the past, although it uses S^1, rather than S^2 (Emeneau 1984, 131). Therefore, since the dubitative is used for

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21 Although the -*kk*- suffix may indicate tense in Kannada, the suffix -*um* is also found at all stages of Tamil to mark both tense and person for weak verbs (Graul 1855, 45; Agesthialingom 1977, 178).

22 The nonpast sometimes uses different personal terminations (Emeneau 1984, 130).

23 Krishnamurti posits *-(*m*)*pp*- as a nonpast suffix for Proto-Dravidian (2003, 301).

(future) hypotheticals (142), the suffixes that inflect to form finite verbs in these paradigms do not convey information about tense, but rather the stem (secondary vs. primary) does.

The fact that [š] is a reflex of *r or *$ẓ$ in Emeneau (1957, 57) suggests *Vr and *$Vẓ$ as possible roots for an auxiliary verb that is used to form these two paradigms. Of these, only the DEDR entry 480 *ir "to exist/sit" is described by Krishnamurti to be used as an auxiliary verb elsewhere in South Dravidian (2003, 532). In Tamil and Irula, for example, its reflexes are used as a perfect, as in the forms *vant$_u$-irukkiṟēṇ* "I have come" (Arden 1910, 148-9) and *vanduge* "id." (Zvelebil 1973, 23), respectively. Aranadan, a language closely related to Malayalam, takes this even further, completely replacing the past paradigm with a similar periphrastic construction that likely uses *ir[24] (DEDR 480), such as in *pōyppe* "[I?] go" (< *pōvu* "to go") and *bīnduppe* "[I?] fall" (< *bīyu* "to fall") (Nair 2013, 10).

At the same time, Emeneau's grammar of Toda includes a verb *ïr-*, *ïθ-* that descends from the same root but does not demonstrate the {*r > [š]} sound change that would be required to support *ir as a past and dubitative formative. However, Pope's documentation includes the forms *ershpini* (perhaps *ïš-p-ini* or *eš-p-ini*) "I am" and *edd-er-sh-p-ini* (*ïd-ïš-p-ini* or *ed-eš-p-ini*) "I was"[25] (Pope [1873] 1995, 17). This both demonstrates the existence of an archaic[26] suffix in *-p-* to form what he describes as a present, as well the existence of a separate alloform of *ir that takes a secondary stem whose final consonant is [š]. This also suggests that the *ïr-* in Emeneau's corpus is a dialectal variant, a loan from Kannada or Badaga, or has been conditioned to have a final [r] due to contact with Badaga and Tamil. With this, the past stem can be reconstructed as *S^2 *ir-pp-*/*S^2 *ir-∅-*.

The dubitative, along with the voluntative, is notable for having different S^1 isoforms for the two verbs *pōr-* "to come" and *tōr-* "to give to 1st or 2nd person". Rather than just using the verbal base as the S^1, *paš-* and *taš-*, respectively, are used (Emeneau 1984, 144). The medial [a] suggests that a conditioning vowel appears after these two verbal bases, warranting *bar-A and *tar-A. Interestingly, similar forms

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[24]   This is suggested by the fact that the tense suffix used after the auxiliary is *-pp-*, a strong nonpast suffix that is used for reflexes of *ir in Tamil-Irula languages (Emeneau 1967, 388-9).

[25]   Pope's grammar sketch is unclear in its transcription and incomplete, to say the least. He, in fact, mostly uses [rsh] to refer to [ṣ], as in *parsh* for *paṣ* "tooth" and *bīrsh* for *pīṣ* "sunlight", but also for [š], as in *karsh* for elsewhere unattested *$kaš$, supposedly a cognate of Tamil *karaṭi* "bear". However, since the past inflection that he gives is analogous to what is seen in Emeneau's corpus, it can be assumed that all instances of *ersh* as a S^1 of "to be" have a final [š]. He also uses [ê] to represent [ï], as in *êvoth* for *ï-foθ*, which is why [ï] is also suggested as an interpretation of Pope's [e] ([1873] 1995).

[26]   This is unattested in Emeneau's corpus.

(i.e. *bar-a*/*var-a* and *tar-a*, respectively) can be found in Old Kannada and Old Tamil as a prospective converb and a purposive/resultative (Kittel 1903, 122; Wilden 2018, 85). A Pre-Toda purposive was also proposed as the reconstruction for bases that add *-f-* to form their S^1, suggesting that all primary stems were originally prospective converbs taking the suffix *-a*, when the S^2 was formed with *-i-*, *-t-*, or *-nt-*, and the suffix *-pa*, when the S^2 was formed with *-tt-*, but almost all verbs later centralised the final *-a* with *-ə*. Verbs that ended in *l*, *y*, and *i* (> later *y*) elided the *p* in *-pa*, explaining why a class of verbs that takes an S^2 in *-t-* does not add the *-f-* suffix to form its primary stems. As a result, the dubitative stem can be reconstructed as *S^1 *ir-pp-*/*S^1 *ir-∅-*, or, more specifically, *base-(*p*)*a* *ir-pp-* > *base-(*p*)*ə* *ir-pp-*.

For the second-person plural, the past I, past II, and dubitative take the termination *-š*, which combines with the tense formatives in *-š-(∅)-* to form *-š* (Emeneau 1984, 131, 142). This warrants *ir-ir* after the reconstructed primary stem. The lack of *-pp-* in between the auxiliary verb's base and the termination means that the reconstructed Pre-Toda auxiliary had no indication of tense. This could be explained by positing a formative suffix in *-š-p-š* that existed beforehand; the past II must have later lost the medial *p*, with the past I and dubitative analogising to this. At the same time, the third person suffix in *-k* for the past II may be related to the subjunctive *-(k)ka* in Old Tamil (Wilden 2018, 120).

The existence of a dubitative elsewhere in Dravidian is somewhat sporadic. It is present in Badugu as a prospective in {*-v-* ~ *-b-* ~ *-bb-*, *-mb-*, *-p-*} (Pilot-Raichoor 1991, 437), as a subjunctive in Tulu in {*-∅-*, *-v-* ~ *-b-*, *-mb-*} (Kekunnaya 1990, 144-6), as an indefinite tense in Kuvi in *-p-* (Schulze 1911, 117), and as a desiderative-permissive in *-i-* ~ *-pi-* in Konda (Krishnamurti 1969, 292). These same suffixes (*-p-*, *-mp-*, *-(m)pp-*) appear as nonpasts or futures in a wide variety of languages, and almost ubiquitously in South Dravidian (Krishnamurti 2003, 302-3). This suggests that suffixes with bilabial plosives may have had an irrealis meaning, instead, at least at the Proto-Peninsular-Dravidian stage. It is possible that another suffix, instead, had the meaning of a nonpast, or more precisely, an imperfective,[27] in Proto-Peninsular Dravidian.

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[27] McAlpin (1981, 47) describes the past-nonpast distinction for Proto-Tamil-Kodagu (but extrapolated to the rest of Dravidian) as 'specific' and 'nonspecific,' and Rajam (1992, 542, 562) uses 'perfective' and 'imperfective' to describe Old Tamil. This study uses the latter's terminology.

4.3   The Voluntative

-*k*- is added to S¹ to form the voluntative in Toda (Emeneau 1984, 141), warranting *-kk-* for Pre-Toda. However, as in the dubitative, the two verbs *pōr-* "to come" and *tōr-* "to give to 1st or 2nd person" take the special S¹ in *paš-* and *taš-* in the voluntative (141), suggesting that the voluntative paradigm in Pre-Toda originally used a prospective con-verb. This would further suggest that an auxiliary verb would have to be used to make the construct finite. Given that there is no consonant between [š] and [k] that hints to a Pre-Toda base in the voluntative for these two verbs, it is likely that the same verb used for the dubitative (**ir* > *iš-*) was used here, and the [š] in *iš-* was elided after the prima-ry stems *paš-* and *taš-*, suggesting -*šk*- for the voluntative, instead.

However, -*šk*- is not attested for any other verb. Therefore, there are two possibilities: (1) any remnant of the archaic auxiliary verb was lost in all verbs aside from *pōr-* and *tōr-*, with the rest analogis-ing the -*k*- suffix after the [š] in -*šk*- (< *S¹ *išk-*) was elided; and (2) the voluntatives for *pōr-* and *tōr-* were analogised to the S¹ in the dubita-tive. Although the voluntative negative also uses *iš-* as an auxiliary verb, the first-person plural inclusive imperative also analogises to the dubitative stem, suggesting that the second explanation is more probable. Therefore, *S¹-*kk*- is reconstructed for Pre-Toda.

Reflexes of *-(*n*)(*k*)*k*-, like *-(*m*)(*p*)*p*-, represent both irrealis moods and the nonpast/future in other Dravidian languages. As was men-tioned earlier, Belari and Irula both use it as a nonpast (Bhat 1971, 121; Zvelebil 1973, 23), whereas the Tulu epic poems of the sixteenth century also attest a full (optative?) paradigm with -*k*-.[28] Some oth-er South Dravidian languages lose the full paradigm, and one form is regularised for multiple persons, numbers, and/or genders, as in Modern Tamil *vāḻka* "let X live" (Krishnamurti 2003, 361) Here, too, the use of -*k*- as a voluntative in Pre-Toda suggests that *-(*n*)(*k*)*k*- may have also been used for an irrealis mood in Proto-Dravidian.

4.4   The Tenseless Conjugation

The tenseless conjugation in Toda represents both the past and the nonpast tenses, and it is only found in the songs. In every verb but those that form their S² with -*y*-, the tenseless stem is formed by at-taching personal terminations directly onto the secondary stem. All

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28   Old Tulu is a language for which a grammar is yet to be written. The form *cūker* "they see" attests in the *Mahābhārato* (1.188) (Puninchathaya 2000), but more analysis must be done to determine whether this is a nonpast, a present, or some form of an ir-realis mood. *kēḷŭkō* is also given in the Tulu Lexicon for "let us hear" (Upadhyaya 1995).

others add -*n*- to their primary stem. As described by Emeneau, verbs that add personal endings to the S^2 to form the termination are cognate to the past tense in other South Dravidian languages.

Although Emeneau also hypothesises that -*n*- is related to the Tamil and Telugu pasts in -*iṉ*- and -*in*- (Emeneau 1984, 134-5), it makes more sense to instead place it with the nonpasts in -*n*- in Koraga, Kurux-Malto, South-Central, and Central Dravidian, as well as with the nonpast agentives in -*n*- in Old Tamil (Krishnamurti 2003, 307; Bhat 1971, 45). If the -*iṉ*- past in Tamil were related to Toda -*n*-, *-*in*- would have to attest as *-*yn*- in Toda, or, more rather, S^2-*n*- instead of S^1-*n*-. However, there is no evidence of a palatal consonant preceding the nasal as part of the tenseless suffix, and, as such, *-*n*- can be reconstructed for Pre-Toda.

There is some semantic motivation for this, as well. If the past and nonpast (in *-*n*-) were both replaced by periphrasis, this may have been induced by the falling together of the original past (perfective) and nonpast (imperfective) paradigms. Their merging would create the conditions for periphrastic constructions, which were likely already formed, to become the new past and nonpast.[29] Therefore, if *-*n*-, *-*kk*-, and *-*pp*- were all retentions from Proto-Peninsular Dravidian that maintained a distinction in meaning in Pre-Toda while falling together in other languages, their meanings may also be retentions from Proto-Dravidian.

Interestingly, a third-person ending -*ïy*-*i* was only elicited in speech (and not in the more conservative language of the songs). While the final -*i* is the declarative clitic, the preceding -*ïy* may be related to the Old Tamil masculine agent noun suffix in -*i* (Wilden 2018, 35).

4.5 The Imperative

The 2sg imperative is homophonous with the base, although verbs that take an -*f*- in their primary stem may use S^1 as an imperative, as well (Emeneau 1984, 143). Therefore, *-∅- can be reconstructed for Pre-Toda. The bases *pōr*- "to come" and *tōr*- "to give to 1st or 2nd person" are irregular, losing final [r] in the imperative forms *pō* "come!" and *tō* "give!" (Emeneau 1984, 144). This is a shared feature across South Dravidian (Emeneau 1945, 187-8), suggesting that *bā* and *tā* can also be reconstructed for Pre-Toda.

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[29] If a tense distinction evolved from an aspectual distinction between the timestages of ancient dialects (i.e. Old Telugu and Old Tamil) and of modern, periphrasis may have been Toda's (and Kota's) strategy to mark tense distinction. The prevalence of {perfective aspect > past tense} and {imperfective aspect > nonpast tense} across Peninsular Dravidian is a testament to the fact that these languages have been in close contact with each other throughout their evolution.

The 2pl imperative adds -*š* to the S[1] (Emeneau 1984, 143), which comes from the 2pl personal ending in *-ir*. A separate first-person plural exclusive form adds -*u*(*m*) (< *-ōm*), a personal ending, to the S[1] (Emeneau 1984, 143). The verbs *pōr-* and *tōr-* also have irregular 2pl and 1pl.incl imperatives, *pōṣ* and *pašu*, and *tōṣ* and *tašu*, respectively (143). As indicated by the V$^u_2$ where a conditioning vowel cannot be reconstructed, the 1pl.incl forms likely analogised to the dubitative. The [ṣ] in *pōṣ* and *tōṣ* descends from Pre-Toda **l*, suggesting a common origin with Kannada and Tulu -*le* (Pre-Toda **lV*). Alternatively, this may descend from an infinitive form (cf. Tamil -*al*), which Steever (1993, 199) posits to have also resulted in the Kannada permissive -*ali* (< -*al* + *ī* "to give"). However, due to the lack of a final **-y* in this infinitive suffix, an analogous **-li* cannot be proposed for Pre-Toda.

The third-person imperative form, finally, takes the suffix -*mō* (Emeneau 1984, 143), which is reconstructed as **-mō* (and not **-mā*) for Pre-Toda, since suffixes and clitics with word-final long vowels seem to maintain their original quality (cf. -*ā* (interrogative) < PDr **-ā*).

Additionally, a suffix -*ō* (< **-ō*) may be added to second-person forms to make a polite imperative (Emeneau 1984, 143).

4.6 Negatives

As was stated earlier, there are negatives for the tenseless, voluntative, and imperative paradigms. The (tenseless) negative paradigm is similar to that found elsewhere in Tamil-Kannada, formed by attaching personal endings directly to the primary stem. The second-person -*fy* ~ -*ofy* ~ -*efy* is peculiar (Emeneau 1984, 135), given that it warrants **-aw-i* and **-ew-i*. Such forms are not found in other Tamil-Kannada languages, but a subjunctive negative suffix -*ay*- is found in Tulu, which descends from Proto-Dravidian negative **-aH*- (Krishnamurti 2003, 350). The final laryngeal in **-aH*- may explain the [y] in Tulu, and both the [w] and the fronting of [a] to [e] in the Toda negative. It is unclear why similar forms are not attested for other persons or numbers.

Emeneau's negative voluntative paradigm in S[1]-*š*- (1984, 142) seems to use a negative paradigm of an auxiliary verb **ir* "to be", and the 1sg, 1pl, and 2pl terminations support this, as they are all directly added to the stem. However, the 2sg and third-person suffixes used in this paradigm are -*ty* (< **-tti*; cf. Ta. nonpast 2sg in -*ti*) and -*k*, respectively (Emeneau 1984, 142), which are suffixes that code for tense as well as for subject agreement. Therefore, if added directly to a base, they would indicate an affirmative nonpast, rather than a negative. Here, since the past II and voluntative negative are very similar, with the only difference being that past II uses S[2] instead of S[1] (Emeneau 1984, 131), the voluntative negative terminations were

later analogised to those of the past II. Thus, $*S^1$ *ir-(aw)-* ~ $*S^1$ *ir-(ew)-* can be reconstructed for Pre-Toda.

The negative imperative takes the form S^2-*oṭ-i* in the second-person singular and S^2-*oṭ-ṣ-i* (144). The *-i* is the declarative clitic, and the *-ṣ-* is a form of *-š*, the second-person singular termination, which appears after retroflex consonants. *oṭ-* is homophonous with Toda verbs *neṣ-oṭ-* "to put forehead to ground" (DEDR 79) and *oṭ-* "to pour" (DEDR 97), neither of which seems plausible as an auxiliary to form a prohibitive. *oṭ-* implies **aṭṭə* for Pre-Toda,[30] which may be an archaic but now unattested verb "to prevent" (cf. Ta. *aṭṭi* "hindrance"). This suggests $*S^2$ *aṭṭə* and $*S^2$ *aṭṭ-ir* as prohibitives.

5　Conclusion

In this study, the Pre-Toda forms of all simple finite forms attested in Toda were reconstructed, based on new conclusions about sound changes that led to Toda. Comparative evidence further allows us to hypothesize an evolutionary timeline.

Initially, Pre-Toda verbs could inflect to show the perfective/past (**-i-*, **-t-*, **-nt-*, **-tt-* = S^2) and the imperfective/nonpast aspects or tenses (**-n-*), the voluntative (**-kk-*), dubitative (**-pp-*), and imperative (**-mō*, **-lV*, **-ir*) moods, and negative polarity (**-aw-* ~ **-ew-*, **-∅-*). Later, periphrasis generated a nonpast perfect (*S^2 *ir-pp-/ir-∅-*) and a secondary dubitative (*S^1 *ir-pp-/ir-∅-*). The past and nonpast tenses then fell together to produce a tenseless conjugation (*S^2-, *S^1-*n-*); the nonpast perfect replaced the past, and the voluntative, dubitative, and the secondary dubitative were used to refer to present and future events. Finally, a new nonpast (*S^2 *(a)-pp-/(a)-∅-*) was formed, possibly from contact with Kannada-Badaga languages.[31]

It is hoped that this study will allow further reconstruction of Pre-Toda, which, along with this, will make Toda more useful within Dravidian linguistics. At the same time, a reevaluation of the position of Toda within South Dravidian is suggested, since it seems to share affinities to both Kannada and Tamil, some of which may be a result of areal influence.

30　However, why the initial [o] did not drop out remains unexplained.

31　At some undefined point, the dubitative perfect almost completely replaced the dubitative, and a negative voluntative and negative imperative were formed.

Appendix: A Partial Reconstruction of the Pre-Toda Paradigm for "To Come"

The following reconstructs the precursors of modern Toda conjugations, although no claim is made about when each of these forms was used and what they originally meant. Unless otherwise stated, each paradigm is listed in the order 1sg-1pl.excl-1pl.incl-2sg-2pl-3. [à] indicates that the [a] was unstressed, and that it first shifted to [ə] before dropping out.

Past
- *ba-ntə ir-pp-ẽ̄n*
- *ba-ntə ir-pp-ẽ̄m*
- *ba-ntə ir-pp-ȭm*
- *ba-ntə ir-pp-i*, or *wa-ntə ir-tti*
- *ba-ntə ir-pp-ir*
- *ba-ntə ir-t-tə*, *ba-ntə ir-kka*

Nonpast[32]
- *ba-ntə à-pp-ẽ̄n*
- *ba-ntə à-pp-ẽ̄m*
- *ba-ntə à-pp-ȭm*
- *ba-ntə à-pp-i*, or *ba-ntə à-tti*
- *ba-ntə à-ttir*
- *ba-ntə à-ū*, or *ba-ntə à-t-tə*

Tenseless
- *ba-nt-ēn*
- *ba-nt-ēm*
- *ba-nt-ōm*
- *ba-nt-i*
- *ba-nt-ir*
- *ba-nt-ī(-ē)* (?)

Negative
- *bār-ēn*
- *bār-ēm*
- *bār-ōm*
- *bār-aw-i*, or *bār-ew-i*
- *bār-ir*
- *bār-ātə*, or *bār-ī* (?)

Voluntative
- *bar-kk-ēn*
- *bar-kk-ēm*
- *bar-kk-ō(m)*
- *bar-kk-i*
- *bar-kk-ir*
- *bar-kk-ətə*

Voluntative Negative
- *bar-a ir-en*

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32   *a-* in the auxiliary verb later shifted to *ə-*.

- **bar-a ir-em*
- **bar-a ir-om*
- **bar-a ir-tti < *bar-a ir-i* (?)
- **bar-a ir-ir*
- **bar-a ir-kkə < *bar-a ir-ətə* (?)

Dubitative

- **bar-a ir-pp-ḗň*
- **bar-a ir-pp-ḗm*
- **bar-a ir-pp-ṓm*
- **bar-a ir-pp-i*
- **bar-a ir-pp-ir*
- **bar-a ir-t-tə*

Imperative

- **bā, *bār-ō* (2sg)
- **bā-lV* (2pl)
- **bā-mō* (3)
- **bar-o(m)* (1pl.incl)

Imperative Negative

- **ba-ntə aṭṭə* (2sg)
- **ba-ntə aṭṭ-ir* (2pl)

List of Abbreviations

1 = first person
2 = second person
3 = third person
B = voiced plosive
C = consonant
C$^?$ = consonant or consonant cluster
cf. = compare
DEDR = Dravidian Etymological Dictionary (second edition)
excl = exclusive
i.e. = that is
incl = inclusive
N = nasal homorganic with the following stop
P = (voiceless) plosive
S^1 = stem 1
S^2 = stem 2
sg = singular
pl = plural
V = any vowel
V^c = conditioned vowel
V^u = unconditioned vowel
V$^?$ = vowel or diphthong

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