

Chillaksharam of Malayalam Language

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Some persons put forward some proposals to make the chillaksharams of Malayalam, basic characters by encoding them into independent codepoints. They even suggested positions at which these characters should be placed. However, they have neither made available the rationale behind this proposal, nor the necessity of this proposal for computing, nor the required linguistic basis of the chillaksharams. As a result, much debate has occurred on this subject, yet no meaningful evaluation of this “problem” has been made available by anyone. Moreover, they have not realized the problems that would arise at the application level in Malayalam computing, from this move.

Even though they have proposed the chillaksharam as independent characters, they have been unable to identify the linguistic evidence to support this. Also, they have not provided any detailed observations on the characteristics of chillaksharam.

It is interesting to see some of these persons requesting the Unicode consortium for the chillu codepoints on the one hand, and on the other hand, they themselves have asked to remove existing basic characters (such as ള and ഴ) and the Malayalam numerals from the current Unicode standard. They have not understood, nor investigated, the reasons why the Unicode excluded the chillaksharams from the basic character set. Also, they have failed to put forward any reasons to consider them as basic characters.

If the chillaksharams are placed as basic characters, it will cause untold damage to the determination of the very identity of Malayalam characters, and through this the alphabetical order and the principles on which it is based will descend into disorder.

In this context, we provide a detailed analysis of the chillaksharams and their features and functions in Malayalam script:

1. In Malayalam, words always end in a vowel. This is purely a Dravidian characteristic. But, the following consonants: ന (na), ണ (ṇa), ര (ra), ല (la) and ള (ḷa) and their corresponding chillus are റ (ṅ), റ്റ (ṇ), റി (ri), റി (li) and റി (ḷi) in certain contexts, occur at the end of the word without the implicit vowel. These characters are called *chillaksharam*.

Chillaksharams are certain consonants which occur without vowel at the word-end, within combinations of words, or within combinations of a base form and suffixes, and having a special graphic form. (Normally, they are 5 in number.)

2. In the Malayalam script, even though chillaksharams have a separate rendering, their phonetic value remains the same as the consonant from which the implicit vowel has been removed.
3. The chillaksharams, which have a separate rendering from its base consonant, undergoes the same phonological transformations as the base consonant. For e.g. 'ശ' acts the same as 'ശ്' in all phonological transformations.
 1. അവൾ + ഇൽ = അവളിൽ (avaḷ + il = avaḷil)
 2. കാർ + ന്റെ = കാറിന്റെ (kāṛ + nṭe = kāṛinṭe)

*Some grammarians are of the view that, even though it seems voweless, in actuality, a vowel is implicit in a chillaksharam. However, the vowelessness of chillaksharam is evident.

The following are the main phonological transformations of chillaksharam:

1. The word-ending consonant written as chillaksharam, is geminated and a samvrukthokaram is attached:
 1. വിൺ -> വിണ്ണ (viṇ -> viṇṇu)
 2. മൺ -> മണ്ണ (maṇ -> maṇṇu)
 3. പൊൻ -> പൊന്ൻ (poṇ -> poṇṇu)
 4. പുൽ -> പുല്ല് (pul -> pullu)
2. To the word-ending consonant written as chillaksharam, a samvrukthokaram is attached
 1. പാൽ -> പാല് (pāl -> pāl̥)
 2. മലർ -> മലര് (malar -> malar̥)
 3. കോൺ -> കോണ് (kōṇ -> kōṇ̥)
 4. തേൻ -> തേന് (tēṇ -> tēṇ̥)
3. The chillaksharam undergoes the same phonological changes (in progressive/regressive assimilation, gemination, etc) as in the case of other consonants in the context of combination of syllables :
 1. വെൺ + നിലാവ് -> വെണ്ണിലാവ് (veṇ + nilāv -> veṇṇilāv)
 2. കൺ + നീർ -> കണ്ണീർ (kaṇ + nīr -> kaṇṇīr)
 3. പൊൻ + ഓണം -> പൊന്നോണം (poṇ + oṇam -> poṇṇoṇam)
 4. വിൺ + തലം -> വിണ്ടലം (viṇ + talam -> viṇṭalam)
4. In sandhi, when a vowel follows a chillaksharam, they join in the same way as when vowels follow other consonants:
 1. അവൻ + ഓട് -> അവനോട് (avan + oṭ -> avanōṭ)
 2. നീർ + ഇൽ -> നീരിൽ (nīr + il -> nīril)
 3. കവിൾ + ഇൽ -> കവിളിൽ (kaviḷ + il -> kaviḷil)

Since the chillaksharams are special forms of vowelless consonants that occur at the middle and end of words, they have been given special glyphs in the Malayalam script. However, they behave the same as the base consonant in all environments. All the great grammarians of Malayalam have given elaborate descriptions of chillaksharams, but they have stopped short of adding these to the list of basic characters, not only to avoid unnecessary confusion, but also because such an action would be contrary to basic linguistic principles.

The comments of some persons indicate that they have not identified the real value and implications of chillaksharam. In fact, they are confused by the different manifestations of a consonant. The problem in this regard is as follows:

A special feature of the Malayalam script which must be considered is:

1. Characters which are different from the perspectives of position, pronunciation and value, may have the same rendering, for e.g., : 'ന' has 2 values: the dental and the alveolar nasals, both of which have the same character. In Malayalam, the actual value of the 'ന' character is identified by the position of its occurrence in the word, i.e., dental 'ന' (na) usually occurs in word-initial position, whereas the alveolar 'ന' (ṇa) occurs normally in the word-medial and word-ending positions. Thus, even though they have different pronunciation and value, the same 'ന' is used for both characters and they have the same sort position.
2. A character, may have multiple renderings, for e.g., ' റ് ' and ' റ് ', ' ല് ' and ' ല് ', etc. In application level,
 1. അല്പം, അൽപം, അല്പം (alpam) have the same value
 2. കണ്മണി, കൺമണി, കഞ്ചണി (kaṇmaṇi) have the same value
 3. വെണ്മ, വെൺമ, വെഞ്ച (veṇma) have the same value

In all these cases, the same basic character has 3 manifestations: one in which the the character is followed by chandrakkala, one in which the character is changed to its chillaksharam and finally, one in which the character is ligated with the following character, all of which have the same value. It is because of this reason that, the alphabetical order defines these 3 words to have the same primary weight, and if the chillaksharam is given its own identity, this order is disrupted.

Another opinion that was raised was that, when searching for a chillu, a pseudo-samvruthokaram appears in the search result. In defence of this opinion, the example of the contrast between അൻ (avan) and അൻ് (avanu) (അൻ in the Typewriter script) was put forward.

This problem is not due to any illogical feature of the Malayalam script, rather it is one among the several severe handicaps caused by the Typewriter reform to the logical mechanism of Malayalam script. In the Original script, these two (i.e., അൻ and അൻ്) represented the same vowelless consonant. In the typewriter script, the chandrakkala was given the additional function as pseudo-samvruthokaram. It was this action, that lead to the above confusion.

The distinction between pseudo-samvruthokaram and chillaksharam (and, vowelless consonants in general) is not apparent at a plain text level. This is because they consist of the same written characters. Moreover, this problem occurs only in the single case of റ് (റു) (ൻ in Typewriter script) when used as a dative case marker in a set of റ്-ending nouns. This contrast is not applicable in any of the other chillaksharams. This error caused by the Typewriter script should not lead to further errors in Malayalam, rather at this point it should be allowed to take its natural mechanism, where there is no confusion.

Thus, the fact that there are 3 ways of writing each of the 5 chillaksharams is demonstrated. This is neither an accidental occurrence, nor added for fancy, rather it has a basis in the context of Malayalam script which we describe below:

1. Vowellessness as manifested with a chandrakkala e.g: നല്കുക (nalkuka)
2. Vowellessness as manifested with a chillaksharam at the end of a word, and the middle of the compound words e.g.: ഞാൻ (ñāṅ), പുൽക്കൊടി (pulkkoṭi)
3. As in any other conjunct, the mechanism of joining a vowelless consonant with another e.g., നന്ന (nanṅa), വെണ്ണ (veṅṅa), നല്കൂ (nalkū)
4. When a conjunct forming pair is split into a chillaksharam and the succeeding consonant, and, where the a conjunct is not possible/available, e.g: നൽക (nalku), ബാൾബ് (ba|b),

The important point to be noted is that, although there are different renderings, these sequences are exactly the same from the perspective of pronunciation and value, and they are manifestations of one and the same basic character. For e.g.

1. നല്കുക (nalkuka), നൽകുക (nalkuka), നല്കുക (nalkuka),
2. അൻപ് (anṅp), മാൻപ് (māṅp), നേർത്ത (nēṅtta), അൽഖ് (alkh), പൾസ് (pa|s)
3. ഞാൻ (ñāṅ), പെൺ (peṅ), കാർ (kāṅ), വേൽ (vēl), ആൾ (ā|)
4. പൊൻകാരം (ponṅkāram), മൺകട്ട (maṅkaṭa), ഉൾവലിവ് (u|valivu), ആൾരൂപം (ā|rūpam), നേർരൂപം (nēṅrūpam), ആൾക്കൂട്ടം (ā|kkūṭṭam), പുൽക്കൊടി (pulkkoṭi)

The case of ക് (k) does not follow the same genetic characteristics as the Dravidian chillaksharams. Due to high frequency of vowelless ക mainly in Sanskrit borrowed words, the ക് gained importance merely as a convenient rendering. Here also it is evident that chillu is attested as a vowelless consonant.

To give different values to different manifestations of one consonant, is as problematic as giving 2 values to the same basic character. In the alphabetic order, it will create utter confusion and considerable difficulties in implementing sorting engines as well as higher level systems such as grammar checkers.

In the logical model of Unicode standard, once ᵆ has been accepted as a basic character, then ᵆᵆ (nna), ᵆᵆᵆ (ᵆma), ᵆᵆᵆᵆ (ᵆ) cannot be given separate codepoints as this violates the basic principle of the Unicode which is that only abstract characters will be encoded. Symbols which are represented as sequences of basic characters, cannot be given its own codepoint.

Thus, we have seen that Chillaksharam is an original feature of Malayalam used only with 5 consonants. Initially, the chillu was used only in the word-ending position. It also appears in word-medial position maintaining its original identity. In the same way, chillu was also extended to certain Sanskrit words to manifest vowellessness of these very consonants. We have also seen that it was innovatively applied like in the case of ഛ . Today, these chillus are also being used extensively in writing English words, in word-medial and word-ending positions, just as in the case of Malayalam. This mechanism of the chillu which has been widely extended in its range of application while still retaining in its original value, should be maintained without error in all spheres of use, including the machine.

In fact, even $\text{പിറ്റർ കോൺസ്റ്റബിൾ}$ (pittar kōṇṣṭṭabīḷ) holds three chillus!