# Malayalam Reph with ZWJ joiner

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## 1.0 Virama as a Vowel-Reducer in Indian scripts:

Virama in South Indian scripts have a function: Virama acts as a vowel-reducer, but never upon dead consonants like Malayalam Chillus. Normally, Virama reduces the inherent vowel /a/ to zero. In Tamil, Virama has an additional vowel-reducer function: it acts upon both /i/ and /u/ maatras visually to reduce their vowel length, called short-i and short-u. In Malayalam, short-u, called samvruthokaram, also employs Virama visually to reduce /u/ vowel length. In sum, Virama acts as a vowel reducer in all situations in Indic scripts, whether the vowel is /a/, /i/ or /u/.

Because in Indian scripts like Tamil Grantha and Malayalam, chillu dead consonants are never followed by either a vowel maatra or a viraama, it is not necessary to have Unicode sequences like <Chillu, Virama, ..> in 5.1. If done, it will radically alter the properties of Virama in Indian scripts including Malayalam.

## 2.0  Kerala Government Order (G.O.) giving the Relationship between Malayalam Dot-Reph (Old orthography) and Chillu R/RR (Reformed Orthography).

In Malayalam script, reph form is obsolete just as in Gurmukhi(Punjabi) and Telugu scripts. Kerala Government Order, originally issued in 1968,  is a governing document advising on the rules of how old orthography letters need to be treated in the reformed orthography. This Kerala G.O rule clearly advises users to use Chillu R/RR (ർ) in place of Malayalam dot-reph when reformed orthography is needed. Kannada and Malayalam reph is represented as <ra, virama, C2> while Telugu and Gurmukhi rephs are <ra, virama, zwj, C2>.

**GOVERNMENT OF KERALA**
Abstract

MALAYALAM SCRIPT-ADOPTION OF NEW SCRIPT FOR USE-ORDERS ISSUED

EDUCATION 'P' DEPARTMENT

| G. O. (P) 37/71/Edn. | Dated, Trivandrum, 23rd March 1971. |
|---|---|

Read:  G.O. (P) 329/68/Edn.dated 11-7-1968

[http://www.malayalamresourcecentre.org/Mrc/order.pdf](http://www.malayalamresourcecentre.org/Mrc/order.pdf)

2 മുമ്പിൽ രേഫം (ര്) ചേരുന്ന കൂട്ടക്ഷരങ്ങൾ ഇപ്പോൾ രണ്ടുതരത്തിൽ എഴുതാറുണ്ട്

ഉദാ:- അക്കൻ, അർക്കൻ.   പാത്ഥലം, പാർത്ഥലം.   നേച്ച്, നേർച്ച.

ഇതിൽ ആദ്യത്തെ രീതി ('.'ചിഹ്നം മുകളിൽ ഇടുന്ന രീതി) ഉപേക്ഷിക്കാവുന്നതാണ്. അതിനു പകരം എല്ലായിടത്തും 'ര്' എന്ന ചില്ല് മുൻപിൽ എഴുതുക എന്നു വ്യവസ്ഥ ചെയ്താൽ മതിയാകും.   വാർത്ത, പാർക്കുക എന്നിങ്ങനെ.

Figure 1. Kerala G.O. on Chillu-R/RR for replacing Dot-reph.
(Note the Examples when consonants doubling with a dot-reph
are written Chillu R/RR followed by the double-consonant)

Figure 1 is given as the Rule 2 on page 6 of the Kerala Government Order (pg. 6 in a total of 8 pages given as pdf.).



Fig. 2 Malayalam letters in Old and Reformed orthographies (B. Syamala Kumari, 1981).

Figure 2 is a scan from  B. Syamala Kumari, An intensive course in Malayalam, Central Institute of Indian Languages, Mysore, 1981. Note that here also dot-reph is replaced with Chillu R/RR for a doubling consonant example (last row in Figure 2).
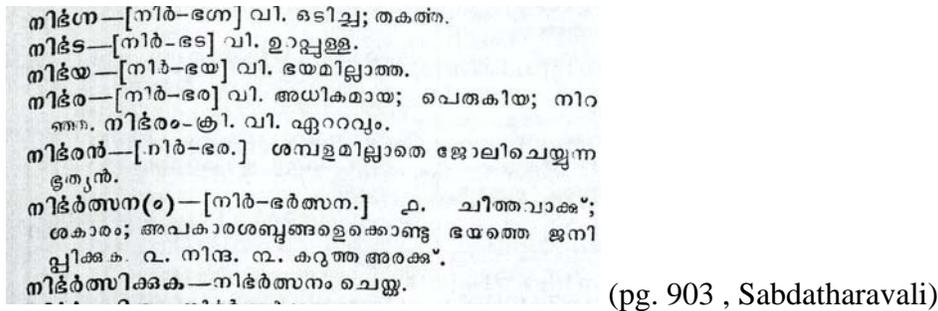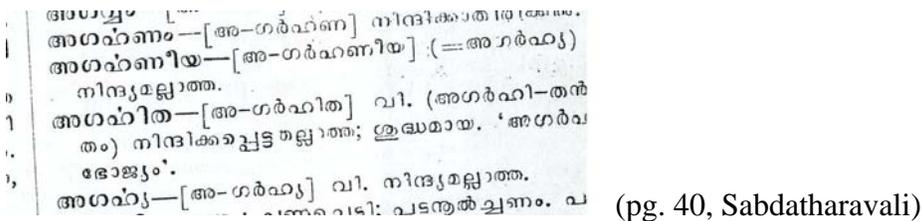


(pg. 40, Sabdatharavali)



(pg. 903 , Sabdatharavali)

Figure 3. Examples of Equivalence between Dot-Reph and Chillu R/RR (Sabdatharavali – Malayalam dictionary, Kottayam, 5th edition, 1964).

These examples show cases where dot-reph is replaced by Chillu R/RR, and double-consonant maintained to the right of Chillu R/RR (Figures 1 & 2).
For a one-to-one encoding of any text, it is better to maintain the consonant(s) below the dot-reph. Then, going between reformed and old orthographies will be straight forward. In sum, following the Kerala G.O.,

<reph, C2> ➜ <chillu r/rr, C2>
<reph, C2, virama, C2> ➜ <chillu r/rr, C2, virama, C2>

Of course, later on, one can run the text (of reformed orthography) through some program/s to convert double-consonant C2-C2 into single C2 etc.,. But that is beyond the scope of Unicode encoding of Malayalam texts which should faithfully maintain double-consonant if it is shown in the text.

## 3.0  Possible ZWJ sequence for Dot-Reph over Single VA

Reph occurs in all South Indian scripts like Malayalam, Tamil Grantha, Kannada and Telugu. Currently, Malayalam, like Kannada, is having the dot-reph using <ra, virama, C2>.

This reph handling works in almost all situations as shown in Tables 4a, 4b and 4c at, http://www.unicode.org/versions/Unicode5.1.0/#Significant_Character_Additions

In Table 4b, the dot-reph over VA is having an extremely rare attestation in very old print books. For this reph over VA, a suggested sequence is <RA, VIRAMA, ZWJ, VA>.
In old orthography fonts, it should display as dot-reph over (single) VA.
But the same sequence will fall back to visual representation as Chillu R with VA to its right side which is what is prescribed in Kerala G.O. rule (Section 2). The prime advantage of using this sequence is dot-reph over VA in old script, and chillu r followed by VA in reformed script will have the same coded representation.

In Table 4a, dot-reph over YA is given, and in Malayalam this is not attested.
If there ever is a need, it can be represented as <RA, VIRAMA, ZWJ, YA>
just like dot-reph over VA letter.

In sum, while the dot-reph representation in Malayalam can be continued in 5.1
as <RA, VIRAMA, C2>  as in previous versions of Unicode. Just for an extremely rare and obsolete case of dot-reph over VA, the sequence can be <RA, VIRAMA, ZWJ, VA>.
In this, the dot-reph will convert to chillu-R automatically if old style font is changed to reformed style font of Malayalam.