Malayalam Orthographic Reforms. Impact on Language and Popular Culture

Kavya Manohar & Santhosh Thottingal

Abstract. Malayalam is a language spoken in India, predominantly in the state of Kerala with about 38 million native speakers. The Malayalam script evolved from Brahmi through Grantha alphabet and Vattezhuthu writing systems. The script orthography has acquired its uniqueness with its complex shaped ligatures formed by the combination of consonants and vowel sign forms. The number of unique graphemes in this system exceeds 1,200. The orthographic styles were constantly evolving. In 1971 there was a Governmental intervention in the orthography, to reduce its complexity and to address the difficulties in typesetting and printing. This paper is an attempt to explore the impact of this orthographic reforms on various aspects of script usage including popular culture, media, textbooks, graffiti and handwriting. We will also analyse the impact of Unicode and the advancement in digital typography on the orthographic diversity of Malayalam script.

1. Introduction

With 38 million native speakers Malayalam is the official language of Kerala, in southern India. Malayalam used to be written in Vattezhuthu,the earliest known sample dating back to 830 AD. The modern Malayalam script evolved from Grantha alphabet which was a script for Sanskrit. Both Vattezhuthu and Grantha have their roots in the Brahmi script. As of today, Unicode has encoded 18 vowels and 37 consonants, some of them being archaic. Figure 1 illustrates the Malayalam code block as per Unicode 12.1[1].

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1. Malayalam Unicode block: https://Unicode.org/charts/PDF/U0D00.pdf

	0D0	0D1	0D2	0D3	0D4	0D5	0D6	0D7
0	◌ഀ 0D00	� 0D10	ഠ 0D20	ര 0D30	◌ീ 0D40		ൠ 0D60	൰ 0D70
1	◌ഁ 0D01		ഡ 0D21	റ 0D31	◌ു 0D41		ൡ 0D61	൱ 0D71
2	◌ം 0D02	ഒ 0D12	ഢ 0D22	ല 0D32	◌ൂ 0D42		◌ൢ 0D62	൲ 0D72
3	◌ഃ 0D03	ഓ 0D13	ണ 0D23	ള 0D33	◌ൃ 0D43		◌ൣ 0D63	൳ 0D73
4		ഔ 0D14	ത 0D24	ഴ 0D34	◌ൄ 0D44	ൔ 0D54		൴ 0D74
5	അ 0D05	ക 0D15	ഥ 0D25	വ 0D35		ൕ 0D55		൵ 0D75
6	ആ 0D06	ഖ 0D16	ദ 0D26	ശ 0D36	െ◌ 0D46	ൖ 0D56	൦ 0D66	൶ 0D76
7	ഇ 0D07	ഗ 0D17	ധ 0D27	ഷ 0D37	േ◌ 0D47	ൗ 0D57	൧ 0D67	൷ 0D77
8	ഈ 0D08	ഘ 0D18	ന 0D28	സ 0D38	ൈ◌ 0D48	൘ 0D58	൨ 0D68	൸ 0D78
9	ഉ 0D09	ങ 0D19	ഩ 0D29	ഹ 0D39		൙ 0D59	൩ 0D69	൹ 0D79
A	ഊ 0D0A	ച 0D1A	പ 0D2A	◌ൺ 0D3A	ൊ◌ 0D4A	൚ 0D5A	൪ 0D6A	ൺ 0D7A
B	ഋ 0D0B	ഛ 0D1B	ഫ 0D2B	◌ൻ 0D3B	ോ◌ 0D4B	൛ 0D5B	൫ 0D6B	ൻ 0D7B
C	ഌ 0D0C	ജ 0D1C	ബ 0D2C	◌ൽ 0D3C	ൌ◌ 0D4C	൜ 0D5C	൬ 0D6C	ർ 0D7C
D		ഝ 0D1D	ഭ 0D2D	◌ൾ 0D3D	◌ൄ 0D4D	൝ 0D5D	൭ 0D6D	ൽ 0D7D
E	എ 0D0E	ഞ 0D1E	മ 0D2E	◌ൿ 0D3E	◌ൄ 0D4E	൞ 0D5E	൮ 0D6E	ൾ 0D7E
F	ഏ 0D0F	ട 0D1F	യ 0D2F	◌ൃ 0D3F	൏ 0D4F	ൟ 0D5F	൯ 0D6F	ൿ 0D7F

FIGURE 1. Unicode 12.1 Malayalam Code block

Vowel (a)   Consonant (pa)   Consonant +   Consonant + Virama +
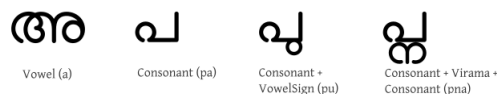   VowelSign (pu)   Consonant (pna)

FIGURE 2. Few samples of graphemes in Malayalam

Malayalam script is abugida, or alphasyllabary. That is, consonant–vowel sequences are written as a unit: each unit is based on a consonant or conjunct letter, and vowel notation is secondary. Vowels are noted by modifying the consonants in the form of diacritics or vowel signs. Vowels have independent existence only at word beginnings. This is the common characteristic of the Brahmic family of from South and Southeast Asia.

The script has acquired its uniqueness with its complex shaped ligatures formed by the consonants and conjuncts with signed vowel forms. Conjuncts are formed by a sequence of two more consonants. The conjunct grapheme usually has a shape smoothly blended from the constituent consonants. Figure 2 illustrates some samples.

2.   Nature of Malayalam Script

Malayalam script as known today has 18 vowels, 39 consonants apart from various numerals, measuring units etc. Some are archaic in nature. The general nature of the script since its early days of evolution can be consolidated as below (Daniels and Bright, 1996; Varma, 2007).

1. Vowels and consonants are the basic building blocks of Malayalam script.
2. Vowels have stand alone existence in their pure form. Vowels in Malayalam are അ (a), ഇ (i), എ (e) etc. See Figure 3.
3. Vowels also appear as signed form modifying a consonant sound. Vowel signs have no existence without a consonant. Vowel signs in Malayalam are ി (i), ീ (iː), െ (e), ൊ (o)etc. See Figure 3.
4. Consonants in Malayalam always have the inherent vowel /a/, also known as *schwa* present in them. Consonants in Malayalam are ക (ka), ട (ṭa), ഗ (ga), ഠ (ḍa), ധ (ḍʰa) etc.
5. Any other vowel sound, other than /a/ associated with a consonant is written as a signed form of the consonant. The vowel signs can appear on the left, on the right or on both sides with respect to a consonant. Some signs modify the shape of base grapheme. Here are examples of consonants with vowel signs: കി (ki), ഗു (gu), ധെ (ḍʰe), ഠൊ (ḍo). See Figure 4.

Independant Vowels in Malayalam Script																	
അ	ആ	ഇ	ഈ	ഉ	ഊ	ഋ	ൠ	ഌ	ൡ	എ	ഏ	ഐ	ഒ	ഓ	ഔ	അം	അഃ
a	a:	i	i:	u	u:	rɨ	rɨ:	lɨ	lɨ:	e	e:	aɪ̯	o	o:	aʊ̯	am	ah

Dependant Vowel signs in Malayalam Script																	
	ാ	ി	ീ	ു	ൂ	ൃ	ൄ	ൢ	ൣ	െ	േ	ൈ	ൊ	ോ	ൌ	ം	ഃ
a	a:	i	i:	u	u:	rɨ	rɨ:	lɨ	lɨ:	e	e:	aɪ̯	o	o:	aʊ̯	am	ah

FIGURE 3. The vowels in Malayalayam. The independant vowels and dependant vowel sign forms are indicated along with their IPA in the bottom rows.

Consonant ക(ka) with various vowel signs																	
ക	കാ	കി	കീ	കു	കൂ	കൃ	കൄ	കൢ	കൣ	കെ	കേ	കൈ	കൊ	കോ	കൌ	കം	കഃ
ka	ka:	ki	ki:	ku	ku:	krɨ	krɨ:	klɨ	klɨ:	ke	ke:	kaɪ̯	ko	ko:	kaʊ̯	kam	kah

FIGURE 4. The consonant ക (ka) is shown with all possible associated vowel signs with corresponding IPAs indicated in the bottom rows.

6. The removal of inherent /a/ in a consonant is marked in the script by a special character *virama*. Here is an example of consonant with *virama* (്) sign: ക് (k). *Virama* after a consonant not only removes inherent /a/ but also indicates that there is no vowel sound following it.
ക (ka) + ് (*virama*) → ക് (k)

7. A conjunct is formed by a sequence of consonants connected using *virama*. Examples:
ക (ka) + ് (*virama*) + ത (t̪a) → ക്ത (kt̪a)
ഗ (ga) + ് (*virama*) + ദ (d̪a)→ ഗ്ദ (gd̪a)
A conjunct can again connect to another consonant using *virama* and form a longer conjunct as in:
ഗ്ദ (gd̪a) + ്(*virama*) + ധ (d̪ʰa) → ഗ്ദ്ധ (gd̪d̪ʰa)

8. Every conjunct can be modified by a vowel sign forming a new ligature.
ഗ്ദ (gd̪a) + ് (*virama*)+ ധ (d̪ʰa) + ു (u) → ഗ്ദ്ധു (gd̪d̪ʰu)

9. Some consonants involved in the formation of conjuncts have signed forms. Example:
ക (ka)+ ്(*virama*) + ര (ɾa) → ക്ര (kɾa)
ക (ka)+ ് (*virama*) + ല (la) → ക്ല (kla)
ക (ka)+ ് (*virama*) + യ (ja) → ക്യ (kja)

ക (ka)+ ് (*virama*) + വ (ʋa)→ ക്വ (kʋa)

ര (ɾa)+ ് (*virama*) + ക (ka) → ൎക (ɾka) : This special sign is named *dot reph*.

10. Certain consonants have a unique grapheme representation in their pure form named *chillu*. ക് (k), ൾ (ḷ), ൺ (ɳ) , ൻ (ṉ), ൽ (l), ർ (r)

The above nature of the script makes the number of unique graphemes to exceed 1,200 (Peani, 1772). Attempts of script reformation that occurred during the later half of 20th century aimed at simplifying the script to bring down the number of graphemes. Detailed discussion on script reform will follow in a later section.

3. Script in Early Printing Era

The shapes of conjuncts, relative positioning of signs and their sizes have changed over time to match the needs of writing methods.

The first ever book in Malayalam script was printed in Rome, in 1772. Printing technology demanded casting of movable types in huge numbers. Even though there were less than a hundred basic characters, the orthographic style demanded separate types for conjuncts, and their signed vowel forms. Apart from vowels, some consonants too have signed notations, further increasing the number of types needed in the foundry.

The first printed book in Malayalam using movable types, സംക്ഷെപെ– വെദാർഥം (*Samkshepavedartham*) in 1772 had more than thousand unique types (Cheriyan, 2008). It is a catechism book in the question answer form written by Clement Pianius[2]. Figure 5 shows pages from the book. As it is perceivable from the figure, the script is mostly rectangular. The types were made in Rome and that is also where the book was printed.

Printing in Malayalam started natively during the 1820s (ibid.). The first native type casting and printing was done by Benjamin Bailey, an Anglican missionary in 1829. His contributions as a typographer made the curvy style of the Malayalam orthography popular (Nair, 1986). Figure 6a, shows pages from The New Testament printed using the types designed by Benjamin Bailey, printed in 1829 (Cheriyan, 2008). The script continued to evolve by separating some vowel sign types (ി, ീ) from the consonant or conjunct grapheme. Still the richness of conjuncts and their signed forms were largely retained. This can be seen in the page samples of the second edition of ശബ്ദതാരാവലി (Sabdatharavali),in Figure 6b, a comprehensive Malayalam dictionary prepared by Sreekanteswaram Padmanabha Pillai and published in 1930.

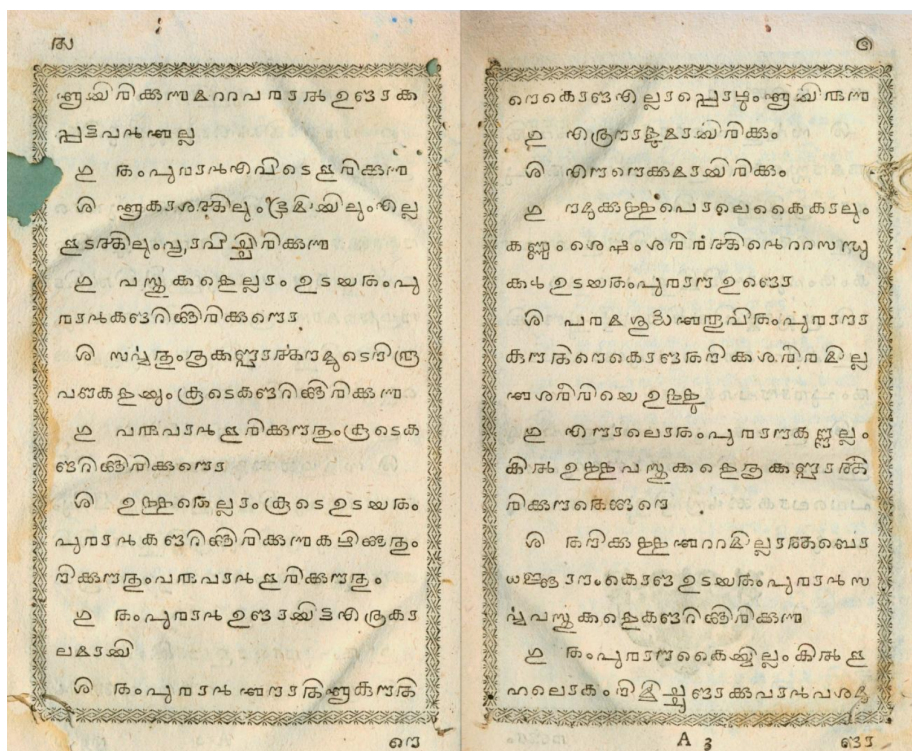2. https://archive.org/details/SamkshepaVedartham_201311/page/n5

FIGURE 5. Pages from the book *Samkshepavedartham*, printed in 1772 at Rome. It is a catechism book written by Clement Pianius

4. Script Reform

Typewriters became very popular around 1960s in Kerala. They used the design of English typewriters with the keys re-purposed for Malayalam. Obviously the keys were not enough to support all complex ligatures. The end result was Malayalam with all ligatures split up. It was a painful experience for reading and did not do any justice to the beauty of script as we can see from Figure 7.

To solve this problem, either the typewriter, or the language had to be redesigned. There were demands from newspaper and publishing industries to reduce the script complexity so that Malayalam becomes better suited for typewriters and printing. Based on this, in 1967 Kerala government appointed a committee to study script reformation. The committee submitted their report and in 1971 Kerala government published an order to reduce the complexity of the script ("Malayalam Script. Adoption of New Script for Use. Orders Issued" 1971).
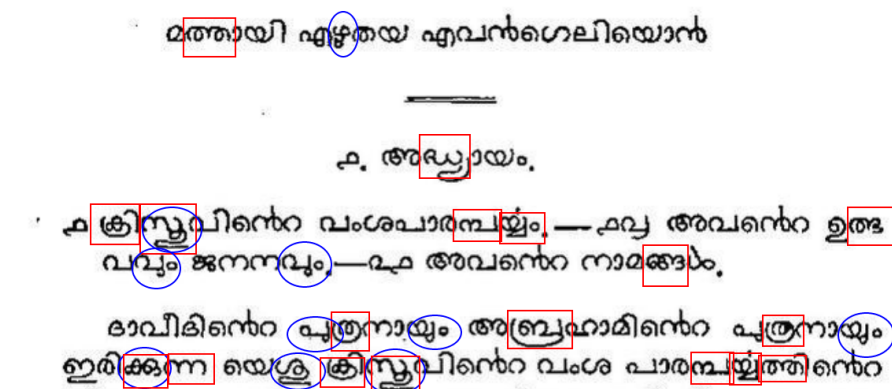
(a) A page from New Testament in Malayalam published in 1829

(b) The Preface page of *Sabdatharavali*, a dictionary published in 1930

FIGURE 6. Samples of print documents. Complex graphemes formed by consonant sequences are indicated in rectangles and attached vowel sign forms are indicated in ellipses

The order was to discard the usage of complex conjuncts and to detach the vowel notations from the consonants and conjuncts. Being a forced intervention, this was a major event to be marked in the history of orthographic evolution.

The script variant of Malayalam that came into existence after the reformation order will henceforth be referred as *reformed orthography*. Reformed orthography consists only of a smaller set of graphemes than in the exhaustive set described in Section 2.

(a) Keyboard of Godrej typewriter repurposed for Malayalam
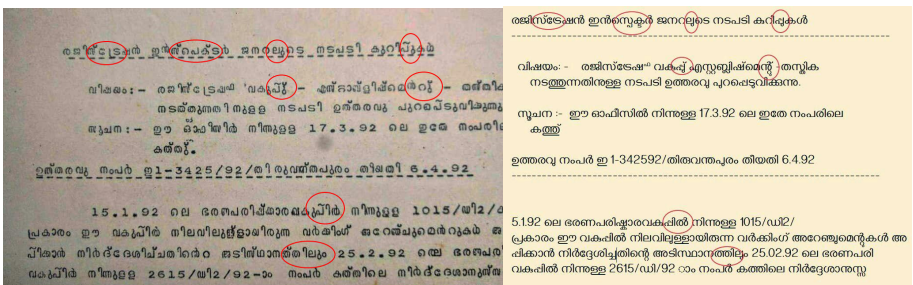
(b) On the left: Malayalam script typed by a typewriter. On the right: The same text rendered in a traditional orthography Unicode font

FIGURE 7. A typewriter and a sample of Malayalam document prepared using a typewriter. No complex graphemes are used in the document generated by the typewriter. Consonant sequences remain separated with virama (ം) in between. The ellipses encircled in the left image of 7(b) represent how conjuncts are split up and vowel signs are separated. The corresponding rendering in a traditional orthography Unicode font is shown to the right in ellipses.

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

ORDER

The question of reducing the unwieldy number of alphabets and signs in Malayalam which consume much time and labour in the process of printing and typewriting, has been under consideration of Government for some time. In 1967 Government appointed a Committee with Shri Soornad P. N. Kunjan pillai, Editor, Malayalam Lexicon as convener to advise them on the question of reformation of Malayalam script. The committee in its report has made recommendations to reduce 75% of the total number of existing characters in printing and typewriting. The reformed Malayalam script recommended by the above Committee was revised with slight modifications by another committee appointed in 1969 to expedite the adoption of the new script for use. The recommendations of the above two committees in the matter of reformation of the Malayalam script are in brief as follows:

i.   ഉ, ഊ, ഋ, റ എന്നിവയുടെ മാത്രകൾ വ്യഞ്ജനങ്ങളിൽ നിന്നും വിടുവിക്കുക

ii. പ്രചാരം കുറഞ്ഞ കൂട്ടക്ഷരങ്ങൾ ചന്ദ്രക്കല ഉപയോഗിച്ച് പിരിച്ച് എഴുതുക.

FIGURE 8. The Government Order on Malayalam Script Reform in 1971

Figure 8 shows the front page of government order proposing the new orthography style. The proposal aimed at reducing the grapheme usage in Malayalam by 75%. The major proposals of ("Malayalam Script. Adoption of New Script for Use. Orders Issued" 1971) are the following:

- Detach the signs of vowels ഉ (u), ഊ (uː) and ഋ (ri) from the base grapheme.
  കു → കു , കൂ → കൂ , കൃ → കൃ .
- Detach the consonant sign of ര (ɾa), that is ്ര , from the base grapheme
  ക്ര (kɾa) → ക്ര (kɾa)
- Discard the usage of ര് in the consonant sequence in the form of dot reph ൎ sign . Instead use the alternate form ർ . അൎക്കൻ → അർക്കൻ.
- Discard the use of rare conjuncts by splitting them down into constituent consonant sequence separated by the *virama* sign. Those re-

TABLE 1. Traditional and reformed orthography differences

No .	Characters	IPA	Traditional Orthography	Reformed Orthography
1	ക, ാ	kaː	കാ	കാ
2	ദ,െ	d̪e	ദെ	ദെ
3	ക്, യ	kja	ക്യ	ക്യ
4	ക്, ക	kka	ക്ക	ക്ക
5	ക ,ു	ku	കു	കു
6	ഗ,ു	gu	ഗു	ഗു
7	ഗ്, ദ	gd̪a	ഗ്ദ	ഗ്ദ
8	ഗ്, ദ,ു	gd̪u	ഗ്ദു	ഗ്ദു
9	ഷ്, ട	ʂʈa	ഷ്ട	ഷ്ട
10	ക്, ര	kɾa	ക്ര	ക്ര
11	സ്, ത്, ര	st̪ɾa	സ്ത്ര	സ്ത്ര
12	ക്, ര,ു	kɾu	ക്രു	ക്രു

tained are: ക്ക, ങ്ക, ങ്ങ, ച്ച, ഞ്ച, ഞ്ഞ, ട്ട, ണ്ട, ണ്ണ, ത്ത, ന്ത, ന്ന,
പ്പ, മ്പ, മ്മ, യ്യ, ല്ല, വ്വ. Others are split down as: ഗ്ദ → ഗ്ദ .

- – The signed form of consonants are to be separated from the base
  grapheme as in ക്യ, ക്വ, ക്ര .
- – The signed *below base modifiers* of ്ല (ല) may be retained as such പ്ല
  or split using *virama* sign as പ്ല .

  As per the governement order the reformed orthography would re-
  tain only 90 unique graphemes.

Table 1 compares the graphemes formed by sequence of basic char-
acters in traditional and reformed orthography. As can be seen from the
first four rows, the detached sign forms in traditional orthography are
retained as such in the reformed one. Also some commonly used con-
juncts are retained as such. The difference between two orthography
variants becomes spectacular in the forthcoming rows. Complex liga-
tures formed by sequence of consonants gets split up by placing *virama*
sign in between. Joined signed forms in traditional orthography get de-
tached in the reformed variant.

It is important to note that the reformation order introduce the de-
tached form of vowel signs for ഉ (u) and ഊ (uː) as ു and ൂ respectively.
In the exhaustive set of traditional orthography u and uː had very di-
verse sign forms Manohar (2018). Their usage is evident from rows 5, 6,
8 and 12 in Table 1.

4.1.   Adoption of Reformed Orthography

The print media switched to the reformed orthography to varying extends. The official prints of the government almost completely switched to the reformed style. Some publishers retained the graphemes for signed form of consonants but detached the signed vowel forms. Publishers adopted a set of conjuncts as per their choice and split down the others using *virama* sign. To quote from Daniels and Bright (1996):

> However what happened is that individual printers opted for "modernizing" some characters but not others, thereby creating an inconsistent script with a large number of random options.

Students started to learn reformed orthographic style from the textbooks. But they continue to observe and learn the usage of traditional complex orthography widely seen in wall graffiti, poster designs and handwriting. Figures 9 and 10 illustrate the co-existence of both orthographies in the 1980s. The book in Fig. 9, is a text book published by the State Council for Educational Research and Training (SCERT)[3], under the Government of Kerala, India for the third standard school students in 1988, and it uses reformed orthography. On the other hand in the Fig. 10 on can see a poster designed in traditional orthography for the popular movie നമുക്കുപാർക്കാൻ മുന്തിരിത്തോപ്പുകൾ [*Namukku Parkkan Munthirithoppukal*] "Vineyards for Us to Dwell In"[4] directed by P. Padmarajan, produced by Ragam Movies, and released in 1986.

5.   Script in Digital Era

The digitization of printing by the early 1990s was yet another remarkable event. The pre-Unicode digital fonts in Malayalam contained Malayalam glyphs mapped to the ASCII character space. Such fonts retained only a limited repertoire of conjuncts, because ASCII had a limitation of 128 code points (and other legacy fonts had similar limitations to 256 code points). Also the signed notations of vowels and consonants were detached from the base grapheme. Digital fonts before the Unicode era embraced the reformed orthography more closely. The publishing industry largely depended on these fonts for decades.

At the same time, people writing Malayalam in non-digital, non-printing contexts continued to use traditional orthography. Wall paintings, notice boards, artistic lettering used in magazines, movie titles continued using the traditional typography as illustrated in Fig. 11.

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3. http://www.scert.kerala.gov.in/
4. https://en.wikipedia.org/wiki/Namukku_Parkkan_Munthirithoppukal

പാഠം 1
ഞാൻ

പല പല നാളുകൾ ഞാനൊരു പുഴുവായ്
പവിഴക്കൂട്ടിലുറങ്ങി
ഇരുളും വെട്ടവുമറിയാതങ്ങനെ
ഇരുന്നു നാളുകൾ നീക്കി.
അളിച്ചെടിയുടെ ഇലതന്നടിയിൽ
അരുമക്കിങ്ങിണി പോലെ
വീശും കാററത്തിളകിത്തുള്ളി
വീഴാതങ്ങനെ നിന്നു.
ഒരുനാൾ സൂര്യനുദിച്ചുണരുമ്പോൾ
വിടരും ചിറകുകൾ വീശി,
പുറത്തു വന്നു അഴകുതുടിക്കും
പൂമ്പാററത്തളിരായി.
വിടർന്നു വിലസും പനിനീർപ്പൂവിൽ
പറന്നു പററിയിരുന്നു
പുവിൽ തുള്ളും പൂവതുപോലെ
പൂന്തേനുണ്ടു കഴിഞ്ഞു.
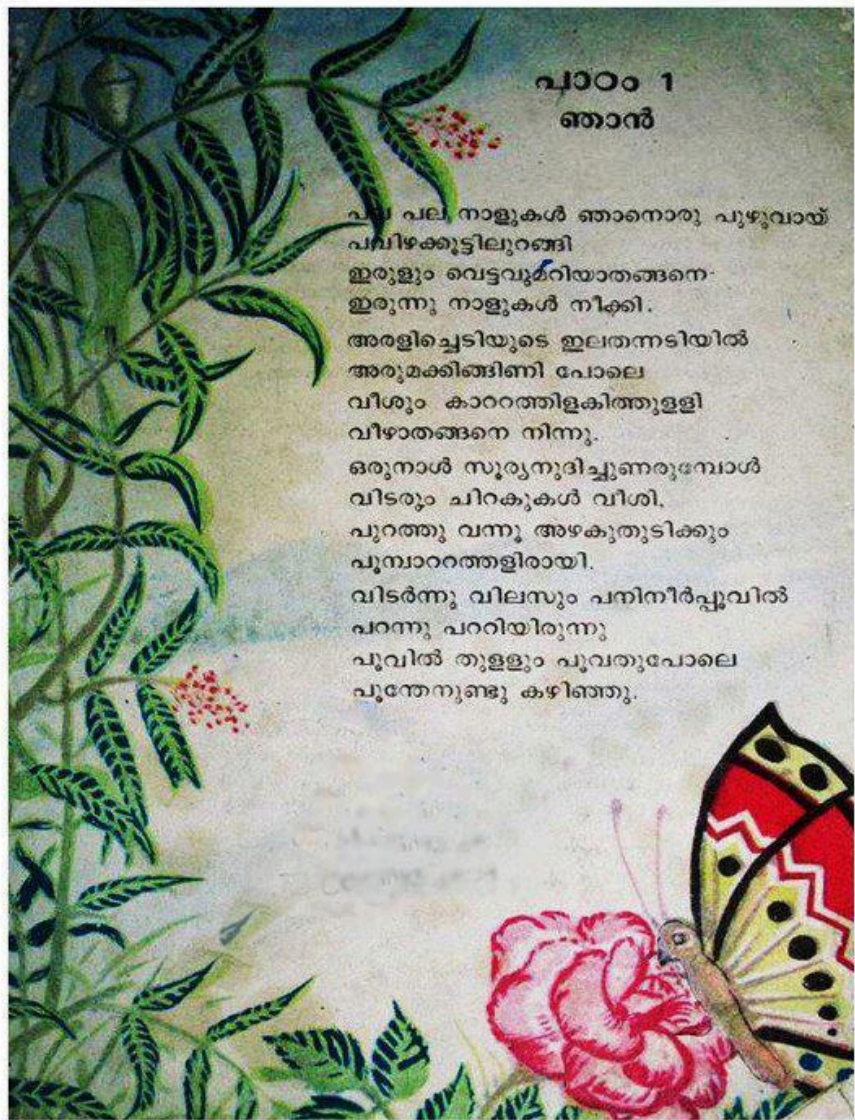
FIGURE 9. Reformed Orthography in a Malayalam textbook, published by the Government of Kerala in 1988
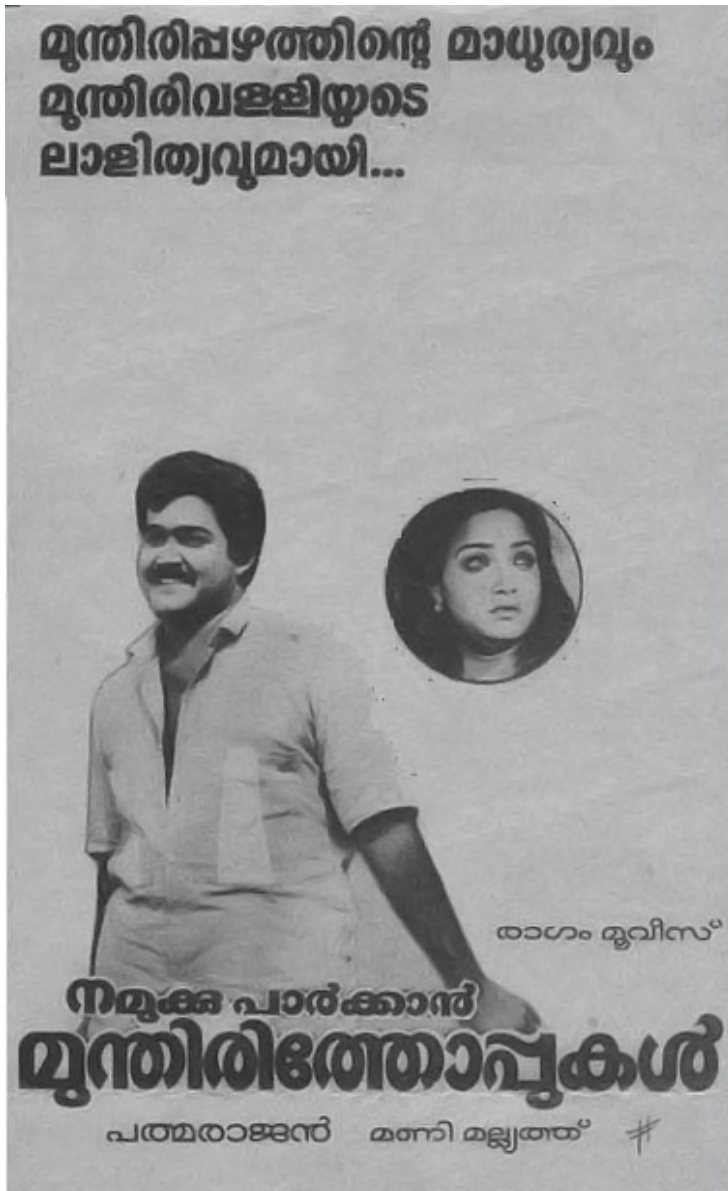
FIGURE 10. Poster of the Malayalam movie *Namukku Parkkan Munthirithoppukal*, "Vineyards for Us to Dwell In," released in 1986, designed in traditional orthography

FIGURE 11. Sample of handwritten notice board by the Department of Forests, Goverment of Kerala. It is written in traditional orthography.

Rachana Aksharavedi, an organization formed in 1998, was successful in bringing back the exhaustive traditional orthography set with the help of then existing technology. At that time, Malayalam was not encoded in Unicode. Rachana Aksharavedi developed a font named *Rachana* with about 1,200 glyphs. Since it used no Unicode or OpenType technology, it was a set of 6 fonts, each covering about 200 glyphs mapped to 8-bit codepoints. A special editor known as Rachana Editor was required to automatically switch between these fonts and display Malayalam with data being English. This brave attempt was widely appreciated. A couple of years later, in 2001, Unicode encoded the Malayalam script.

5.1.   Unicode and Advanced Digital Typography

Unicode did not differentiate between the traditional and reformed orthography. Orthography style was left to the typography and fonts layers. The ISO 639−1 standard for language names does not differentiate between the traditional and reformed orthography (Thottingal, 2016). This means that the digital representation using Unicode code points remains the same. Readers see that data using a font following traditional or reformed orthography as per their choice. Because of this abstraction,[5] the reform had no impact on textual data processing.

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5. *Note by the Editor.* This was unfortunately not the case for the 1982 Greek monotonic reform, which resulted in a loss of information so important that no Advanced Digital Typography technology will ever be able to reestablish.

TABLE 2. List of popular Unicode fonts in Malayalam

No.	Font	Orth. style	Vendor	Remarks
1.	Rachana	Traditional	SMC	Available in Ubuntu and other Linux distributions
2.	Meera	Traditional	SMC	"
3.	Manjari	Traditional	SMC	"
4.	AnjaliOldLipi	Traditional	SMC	"
5.	Chilanka	Traditional	SMC	"
6.	Dyuthi	Traditional	SMC	"
7.	Keraleeyam	Traditional	SMC	"
8.	Uroob	Traditional	SMC	"
9.	Manjari	Traditional	SMC	"
10.	Gayathri	Traditional	SMC	Produced by Kerala Bhasha Institute, Government of Kerala.
11.	Karumbi	Traditional	SMC	"
12.	Noto Malayalam	Reformed	SMC	"
13.	NotoSans Malayalam	Reformed	Google	Default in Android OS
14.	Nirmala	Reformed	Microsoft	Default in Windows OS
15.	Sangam	Reformed	Apple	Default in Apple products

With the advent of Unicode based digital typography, complex conjunct formations and their rendering were no longer an impossibility. With only the basic graphemes encoded in Unicode, any long sequence of consonants and signs could be mapped to a single conjunct grapheme in signed or unsigned form. Complex rendering rules of the script can easily be handled by modern rendering engines. With these technical advancements, fonts which could very well support the traditional orthographic scheme of the Malayalam script emerged.

The Rachana font was ported to Unicode. Parallel to that, more Unicode fonts emerged, notably AnjaliOldLipi. In 2006, Swathanthra Malayalam Computing (SMC), a free software developer community became active in Malayalam computing. Along with various language processing tools and technology improvements, SMC released a dozen of Malayalam fonts. With one exception, all fonts followed traditional orthography and embraced the OpenType technology.

GNU/Linux systems came with these traditional orthography fonts by default. Schools and government institutions were using GNU/Linux systems because of Kerala government policy to use Free Software. The user base of traditional orthography started to expand among digital

ഇവൾക്കു മാത്രമായ്

സുഗതകുമാരി

ഇവൾക്കുമാത്രമായ്, കടലോളം കണ്ണീർ
കുടിച്ചവൾ, ചിങ്ങവെയിലൊളി പോലെ
ചിരിപ്പവൾ, ഉള്ളിൽ കൊടും തീയാളിടും
ധരിത്രിയെപ്പോലെ തണുത്തിരുണ്ടവൾ.

ചവിട്ടാൻ, നിങ്ങൾക്കു ചിലപ്പോൾ പൂജിക്കാൻ,
പരക്കെപ്പുച്ഛിച്ചിക്കാൻ, പരിത്യജിക്കുവാൻ,
തുണയ്ക്കു കൈകോർത്തു നടക്കാൻ, മക്കളെ
പിടയ്ക്കും നെഞ്ഞത്തു കിടത്തിപ്പോറ്റുവാൻ
ഇവൾക്കുമാത്രമായ് ഒരു ജന്മം; നെറ്റി
ത്തടത്തിലുണ്ടിവൾക്കൊരിറ്റു കുങ്കമം,

വിളർത്ത ചുണ്ടത്തു നിലാച്ചിരി, ഹൃത്തിൻ
വിളക്കുമാടത്തിലൊരു കെടാത്തിരി.

ഇവൾ ദൈവത്തിനും മുകളിൽ സ്നേഹത്തെ
ഇരുത്തിപ്പൂജിപ്പോൾ, ഇവൾ കാലത്തിന്റെ
കരങ്ങളിൽ മാത്രം സമാശ്വസിക്കുവോൾ.

ഇവൾക്കുമാത്രമായൊരു ഗാനം പാടാ–
നെന്നിക്കു നിഷ്ഫലമൊരു മോഹം, സഖീ...!

(സുഗതകുമാരിയുടെ കവിതകൾ)

FIGURE 12. Malayalam Textbook – 2011. 8-bit based reformed orthography fonts in print. It was published by the State Council for Educational Research and Training (SCERT), Kerala, India for the tenth standard school students in 2011.

Malayalam users. The IT education curriculum in schools also widely used these fonts.

Table 2 lists the Malayalam Unicode fonts available by default in various operating systems. Availability of good quality traditional orthography fonts accelerated the usage of traditional orthography in digital space.

The typesetting tools and software adapted to 8-bit based fonts were the default in the publishing industry since 1990s. Even after the encoding of Malayalam in Unicode in 2001, the printing and publishing industry continued their practices. The book in Fig. 12 was published by the State Council for Educational Research and Training (SCERT)[6], Kerala, India for the tenth standard school students in 2011. It shows the usage of ASCII based reformed orthography in school textbooks printed in 2011. This was largely due to lack of Unicode and complex script rendering support in major typesetting systems like Adobe InDesign. But these typesetting systems started supporting complex scripts and now we are seeing a highly accelerated adoption of Unicode and traditional orthography in print.

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6. http://www.scert.kerala.gov.in/

6. Contemporary Script Usage

Currently everyone learns to read and write reformed orthography as part of school curriculum, but in fact is accustomed to the traditional orthographic style in everyday life. Non-digital media including wall writings, graffiti, bill-boards and handwriting continued using the traditional orthographic set. An example is shown in Fig. 13: a recent art installation in Sweetmeat Street, Kozhikode, Kerala, India, using traditional orthography.

Now that the technology has matured enough to support the traditional orthography, it is becoming more and more popular in the digital domain as well. There are newspapers and portals that switched to traditional orthography. Popular illustrated weeklies and science magazines switched to traditional orthography style in print (cf. Figures 14 and 15).

Figure 14 shows the popular illustrated weekly, സമകാലിക മലയാളം *Samakalika Malayalam* "Contemporary Malayalam," announcing their return to traditional orthography in 2017 October stating the editorial decision summarized as:

FIGURE 13. Art installation in Kozhikode, Kerala, India

> Here returns the beauty of Letters: The weekly was always with the beautiful traditional orthography of Malayalam from the beginning. Later we had to stop it when the script reform occurred. But now that the traditional orthography is possible with the computers and with the fonts, we are returning to that orthography.

Kerala government is actively promoting Unicode usage in the official documents. Government orders are now mostly in Meera font, a traditional orthography font by SMC. Identity cards used for voting and public distribution system (See Figure 16) also uses traditional orthography. Gayathri, a traditional orthography typeface developed by SMC was sponsored by the Government of Kerala.

The traditional orthography fonts by SMC are widely used in web content and social media memes. See an example in Figure 17.

Figure 18 shows the use of a mix of traditional and reformed orthography based title design for the movie തൊണ്ടിമുതലും ദൃക്സാക്ഷിയും *Thondimuthalum Driksakshiyum*, "The Mainour and the Witness," directed by Dileesh Pothan, produced by Urvasi Theatres, and released in 2017.[7] Another sample illustrating the usage of traditional orthography is in the title of the movie ഒരു മുത്തശ്ശി ഗദ *Oru Muthassi Gadha*, "A Granny's Mace," in Fig. 19, directed by Jude Anthany Joseph, and released in 2016.[8]

7.   Conclusion

Technology played a crucial role in defining the orthography of Malayalam from printing to digital age. When technology, such as typewriters, had limitations, the Malayalam script went through a difficult reform. But it flourished again with the help of digital technology. A single human generation has witnessed Malayalam's transition from traditional orthography to reformed orthography and then again to traditional orthography. This fact has been illustrated through numerous examples in this paper.

Reformed orthography is sometimes referred as *modern* and traditional as *old*. But as traditional script is getting more popular in contemporary usage, calling it *old* may not be right. So we consciously avoided these terms in this paper.

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FIGURE 14. Samakalika Malayalam (*Contemporary Malayalam*), a popular illustrated weekly announcing their return to traditional orthography. 2017 October

ആഹാ... നമ്മു

കേരളത്തിൽ കാണപ്പെടുന്ന ഏറ്റവും ചന്തമുള്ള പക്ഷികളിൽ ഒന്നാണ് വേഴാമ്പൽ. നിറം കൊണ്ടായാലും വലിപ്പം കൊണ്ടായാലും വേഴാമ്പൽ വേറിട്ടുനിൽക്കുന്നു. കൊക്കിന്റെ മുകൾഭാഗത്തുള്ള മകടമാണ് മറ്റ് പക്ഷികളിൽ നിന്നും വേഴാമ്പലിനെ മാറ്റിനിർത്തുന്നത്. കേരളത്തിന്റെ സംസ്ഥാന പക്ഷി കൂടിയാണ് വേഴാമ്പൽ വിഭാഗത്തിൽപ്പെടുന്ന മലമുഴക്കി വേഴാമ്പൽ. ദേശീയ പക്ഷിനിരീക്ഷണദിനത്തിൽ നമുക്ക് മലമുഴക്കിയെ അൽപ്പമൊന്ന് അടുത്തറിയാം.

ആരാണീ മലമുഴക്കി?

ഇന്ത്യയിലെ ഏറ്റവും വലിയ വേഴാമ്പലിനം തന്നെ. മലമുഴക്കി വേഴാമ്പലിന് 3.9 കി. ഗ്രാം തൂക്കം കാണും. പശ്ചിമഘട്ടത്തിലെ മല നിരകളിലും ഹിമാലയ താഴ്വാരങ്ങളിലും പ്രധാനമായും ഇവയെ കാണുന്നു.

Great Hornbill, Great Pied Hornbill, Great Indian Hornbill എന്നീ ഇംഗ്ലീഷ് പേരുകളൊക്കെ മലമുഴക്കിയുടേതാണ്.

കട്ടോടംചാത്തൻ, മരവിത്തലച്ചി, മരിത്ത ലച്ചി എന്നൊക്കെ മലയാള പേരുകളും ഉണ്ട് ഇതിന്.

എന്താണ് 'മുഴ'ക്കുന്നത്?

മലമുഴക്കിയുടെ ചിറകുകളെ പരിചയപ്പെടാം. ഭീമാകാരമായ ഒന്നര മീറ്ററോളം നീളമുള്ള ഈ ചിറകുകൾ, ഇടയ്ക്കിടെ വീശിയാണ് ഇവയുടെ പറക്കൽ.

ചിറകിന്റെ പുറകുവശം നോക്കാം. അവിടെ, ചെറിയ തൂവലുകൾ മുളയ്ക്കുന്ന സ്ഥലം ഉള്ളോട്ട് വളഞ്ഞിരിക്കില്ല. അതി

യൂറിക്ക കുട്ടികളുടെ ശാസ്ത്ര ദ്വൈവാരിക

FIGURE 16. 2017 Identity card for public distribution system (Ration system). The Malayalam content is in traditional orthography font

FIGURE 17. Internet meme example in Malayalam from 2017 November, using traditional orthography font

FIGURE 18. Poster of the Malayalam movie,'Thondimuthalum Driksakshiyum' (*The Mainour and the Witness*), 2017. The title uses a mix of reformed and traditional orthography.

FIGURE 19. Poster of the Malayalam movie 'Oru Muthassi Gadha' (*A Granny's Mace*), 2016. The title uses traditional orthography.