RESEARCH REPORT

The Maldivian Scripts and Thaana: History, Arabic and Persian Influences, and prospects for refinement

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ABSTRACT

That alphabets follow trade and religion is evidenced by the history of scripts in South and Southeast Asia. When the inhabitants of the Maldives embraced Islam, the prevalent script associated with Buddhism was supplanted by a new script known as Thaana. This script is influenced by both Arabic and Persian. The present report examines the contributions of Arabic and Persian to Thaana development. Unlike Jawi and other scripts that use Arabic letters, Thaana is unique in using Persian numerals to represent some phonemes. The diacritics used are inspired by Arabic. Thaana is classified as an abugida script.

Thaana is considered to be highly phonetic script and easy to learn—an opinion articulated by script experts. The report discusses the merits of Thaana and explores ways in which it can be modified to enhance the legibility and internal logic of its letterforms and diacritics in light of practical experience and research.

The Arabic and Persian scripts had a significant influence on the development of the current vernacular script used to write Dhivehi, the language of the Maldives. In the 16th century—this script known as Thaana—replaced the previous script which had been in use for a thousand years. To understand the contribution of Arabic and Persian to the evolution of Thaana, it is important to consider the geographical and cultural context of the Maldives at the time of its adoption.

Background

Geographically, the Maldives comprises a number of atolls (groups of islands) stretching for over 1800 miles from the north to the south. The extent of the country had diminished due to colonization in the 19th century. Small islands suitable for habitation exist in these atolls. Most islands are less than a square kilometre in area, though there are a few larger islands. The total land area at present is less than 325 square kilometres making 99.7% of the total territory sea. The islands were formed from living coral which had kept growing as the sea level rose over the years. Rather recently, boreholes have been drilled in the substrata, and the dead coral which formed the bedrock of the islands has

been radiocarbon dated. The investigations showed that some of these islands, formed entirely of coral, were about 4000 years old (Ali, 2000). Thus, the country is, in geological terms, very young.

The earliest people who settled in the Maldives were thought to be from Sri Lanka and neighbouring regions. Sri Lanka (also called Serendib in Arabic folklore) had a number of kingdoms then as was the case with south India. That people from Sri Lanka and the region could have travelled by boat is attested by the discovery of ships in Sri Lanka. For example, the Godavaya shipwreck near the fishing village of Godavaya on the western coast of Sri Lanka has been dated to the second century CE (Unesco, 2025). A number of studies of the human genetic origin of the Maldives population structure had been conducted. The results indicate South Asian ancestry with multiple independent immigration events (Pijpe et al., 2013). The local name for the Maldives is *Dhivehi Raajje*, and the people are known as *Dhiveheen*. *Dhivehi* is the name of the language as well as the adjectival form for/of Maldives and Maldivian.

Language

The Maldivians speak a language, called Dhivehi, not too dissimilar to the old Sinhala language of Sri Lanka in it is syntax. However, the years of isolation have caused the two languages to be mutually unintelligible. There are a number of theories about the evolution of Dhivehi. One common theory as depicted by NCDLH (1998) is shown in Figure 1.

The evolutionary path of Dhivehi, as depicted by the precursor to the National Centre for Linguistic and Historical Research, states that Dhivehi Language and Sinhalese (or Sinhala) have the same roots. The language was derived from the Proto-Dhivehi-Sinhala—a Prakrit which was itself derived from ancient Sanskrit. Prakrit is a group of classical Middle Indo-Aryan languages that were used in the Indian subcontinent from around the 5th century BCE. These languages were vernacular among many communities in South Asia until they gave rise to mutually unintelligible languages from the 12th century CE. The Proto-Dhivehi-Sinhala language evolved into Sinhala and Dhivehi around 500 BCE. This earlier time is based on a historical incident unnarrated in the original treatise referenced above. However, there is historical evidence that ambassadors from Serendib and Divi visited the fourth Roman Emperor Julian bearing gifts in 362 CE. The Maldives is still known locally as *Dhivehi Raajje*. Divi is very likely the Maldives. This account, written by Ammianus Marcellinus, the famous Roman historian, is extant (Rolfe, 1937). The fact that Macellinus mentioned that the ambassadors as hailing from two countries strongly suggests that, even by then, the Maldives was a separate country.

NCDLH (1998) claimed that there could have been a distinct language being spoken by the local inhabitants at the time the Proto-Sinhala-Dhivehi arrived in the Maldives underpinning their argument by pointing to Dhivehi features uncharacteristic of Prakrit and Indic languages. Sinhala and Dhivehi began to develop independently since the 10th century, until they became mutually incomprehensible.

Whatever the origin of Dhivehi is, figure 1 shows contributing languages to

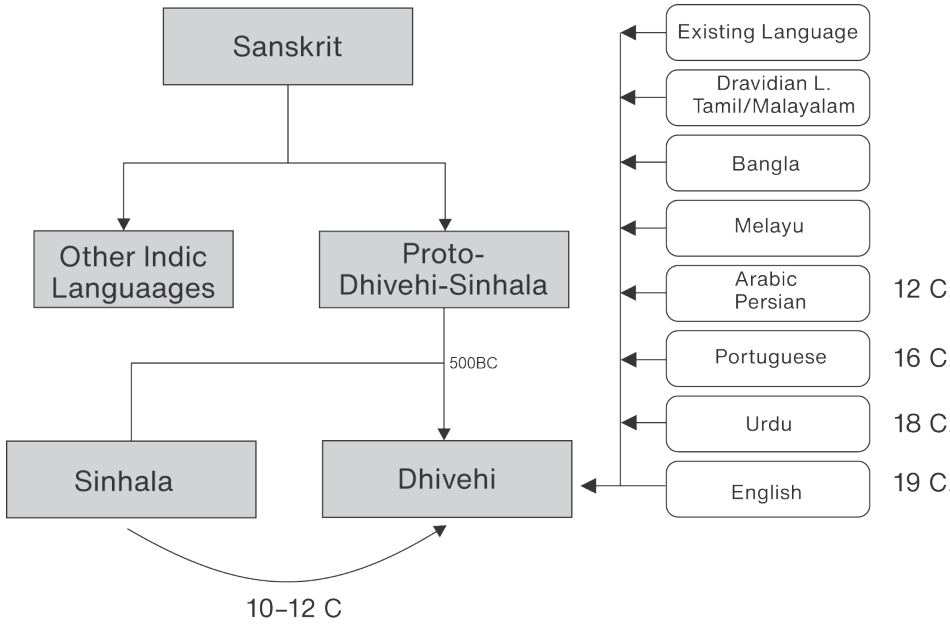


Figure 1. Evolution of Dhivehi

the vocabulary of Dhivehi. Apart from the unknown native vernacular that may have existed in the Maldives before groups of settlers from South Asia and other regions arrived in the Maldives, chronologically, Tamil, Malayalam, Bangla, Bahasa Melayu, Arabic, Persian, Portuguese and English have had varying influences on the language. A common feature among all these languages is that Maldives had intercourse with the speakers of these languages, either by them travelling to the Maldives or Maldivians travelling there.

It is logical to conclude that the north of the country would be more prone to the influence of the people on the west coast of South India owing to its proximity. Thus, Dravidian languages would have been the first to influence any native language being spoken in the Maldives. Not long after, Bangla contributed some words to Dhivehi. People from Bengal travelled to the Maldives and vice versa for trade since the 10th century. There are local accounts of Maldivians travelling to what is now Malaysia and Indonesia further contributing from these languages to the vocabulary and structure of the language.

Of special interest is Arabic and Persian which became the *lingua franca* of the trade routes to and from South East Asia. The Arabs and the Persians dominated this route until the Portuguese displaced them. The Portuguese, eager to monopolize the profitable trade of the Maldives invaded the Maldives and ruled it for 15 years (from 1558 to 1573) before they were driven out. Due to their short interaction, words from the Portuguese were the fewest in Dhivehi. In the 18th and 19th centuries, Urdu and English began to predominate after the English started colonizing the Indian subcontinent and Sri Lanka.

Early epigraphy and the scripts of the Maldives in the pre-Islamic

period

The Maldives officially adopted Islam in 1153 CE. Prior to that, there is evidence that people of the Maldives practiced Buddhism and other religions. Heyerdahl (1986) argued that sun worshippers arrived in the Maldives through India and Sri Lanka in the first century BCE. He based his theory on Roman coins found in the Maldives. However, his theory is not widely accepted.

One of the earliest artefacts in the Maldives is shown in Figure 2. It shows a coral stone found in an island in on of the northern atolls. The discovery of this artefact suggests that Buddhism was present in the Maldives in the 6th century CE.

The geographical isolation of the Maldives and Sri Lanka would have engendered a modified script to be developed from those scripts used in the southern kingdoms of India. Indeed, evidence of such a development is seen in the script eventually used in the Maldives in the 12th century. For example, a gold leaf found inside a coral casket from the island Veymandhoo of Kolhumadulu Atoll (Figure 3) has letters reminiscent of the script that eventually developed both in the Maldives and Sri Lanka. NCDLH (2004, p. 2) states that:

> However, the nature of the writing in some of the letters show affinities to the Sinhala alphabet and Tamil Vatteluttu of that period and to Maldivian *Eveyla Akuru* of the later period … This inscription on the gold leaf may show a stage in the development of *Eveyla Akuru*, the first truly Dhivehi script.

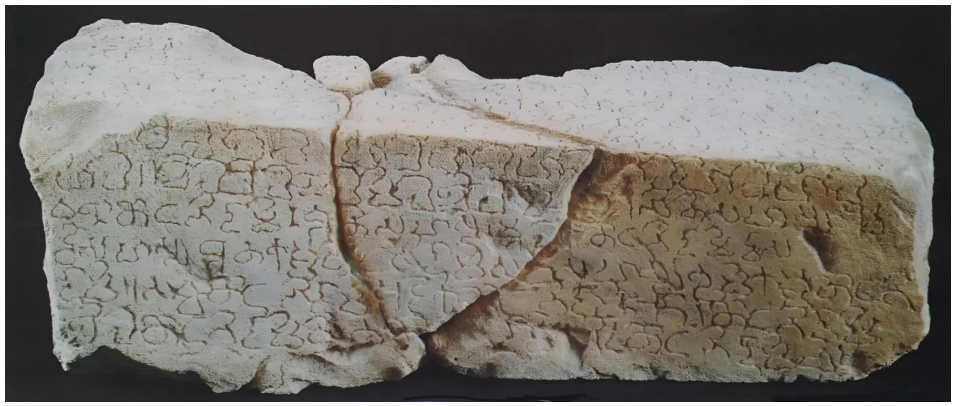


Figure 2. An inscription in Southern Brahmi script found on a coral stone block in Noonu atoll Landhoo island. This artefact has been dated to the 6th century. The text is a mantra of Vajrayana Buddhism indicating the religion's presence in .the Maldives at that time

Additionally Mohamed and Ragupathy (2005) states that "… parallel to the rise of the Dhivehi language, a Maldivian alphabet with its own identity also got evolved to write language. The process is notices in all the above-mentioned records." (p. 29). However, the script is not particular to the Maldives. The

Figure 3. (Left) Lid of a coral stone casket showing Nagari alphabet found in Nilandhoo Island of Nilandhe Atoll. (Right) Gold leaf found inside a coral stone casket in Veymandhoo Island. Both incriptions show some resemblance to the early forms of Eveylaa script. (source: NCLHR, 2005)

same script with minor differences were also used in Sri Lanka at that time. The postulation is evidenced by the fact that Sri Lankan historians versed in their old alphabets are able to read the grants in copper plates dated to the 12th century. There are a number of these copper plates discovered in the Maldives written in a script called *Eveylaa Akur*u (meaning old letters/script).

Islam in the Maldives and the South Asian littoral regions

By the beginning of the 12th century, and perhaps even earlier than that, the sea routes between the Middle East and the South Asia including the South East Asia were dominated by the Arab and Persian traders. Trade across oceans has always played a major role in changing the cultural practices of countries. The trade routes of the 11th century Asia are shown in Figure 4 after Beaujard (2005).

Beaujard does not mention Maldives but the map serves to show trade routes in the vast region of southern and eastern Asia. However, he does mention cowrie shells which were used as money in the region which is now called Bangladesh and as far as Africa. These shells are found in the Maldives. That a brisk trade took place between overseas visiting ships and the Maldives is evidenced in the pottery and other archaeological finds (Jaufar, 2019). Indubitably, the Maldives' conversion to Islam was facilitated through contact with the Arab and Persian traders. There is a local legend of how it came to be. The legend narrates that every month an evil monster lit like a galleon appeared at night from the sea for whom a virgin had to be kept in a shorefront idol-temple for it. In the morning, the virgin was invariably found dead. On one occasion, a visiting Islamic scholar went to the edifice instead of the virgin

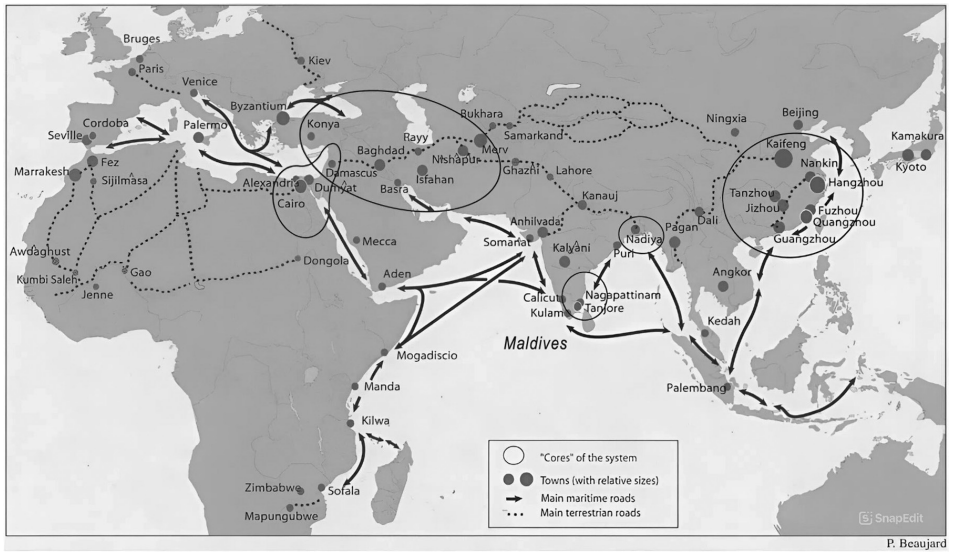


Figure 4. Some of the main trade systems in the Indian Ocean region in the 11th century CE. Source: Beaujard (2005).

and recited Quran. The monster appeared, and upon hearing the recitation, vanished. When the inhabitants returned in the morning, they found that scholar hale and safe. When the "miracle" was repeated, thereupon the King embraced Islam and as did the whole country soon after. The scholar who read the Quran was, according to some historians, from one of the Berber states of Western Africa, more specifically present day Morocco (Lee, 1829).

Today, an alternative view is gaining currency. The person is said to be from Tabriz in Persia. Similar conversion legends are in the folklore of the Laccadive Islands where the vast majority are Muslims even today. Folklore in the southern islands of the Maldives, particularly Hulhudhoo-Meedhoo of Addu Atoll narrates that the Southern islands embraced Islam some 300 years earlier than Male', the capital of the Maldives. It would indicate Arab and Persian traders to be active in the region in the 9th century. In fact, these traders were travelling the Indian Ocean coast regions much earlier. With the advent of Islam, the coastal regions of Kerala, South India had muslims even during the lifetime of the Prophet. However, the earliest concrete evidence of muslims in Kerala is a tombstone in Pantalayini Kollam (a port) dated 785 CE (Kunhali, 1975).

Script used in the Maldives between 12th and 16th centuries

By the late medieval period, a script for writing Dhivehi had been fully developed. However, only a few records of the early script survive. In south Asia, the medium used for everyday writing are palm leaves, more specifically the dried leaves of the talipot palm. In the Maldives where talipot palms were not commonly grown, the preferred media were the leaves of coconut palm

and screw pine. In fact, the Dhivehi gloss for document is "leaf." The leaves were processed by boiling, drying in the sun and trimming to the required size. There are books written about 150 years ago on screw pine still extant in the Maldives. However, the humid hot climate and the low altitude of the islands soon spoil documents written on palm leaves. Therefore, there are no surviving palm leaf books from the Late Middle Ages. Ibn Batuta who stayed in the Maldives in 1344 narrated: "It is a custom with them to write out copies of the

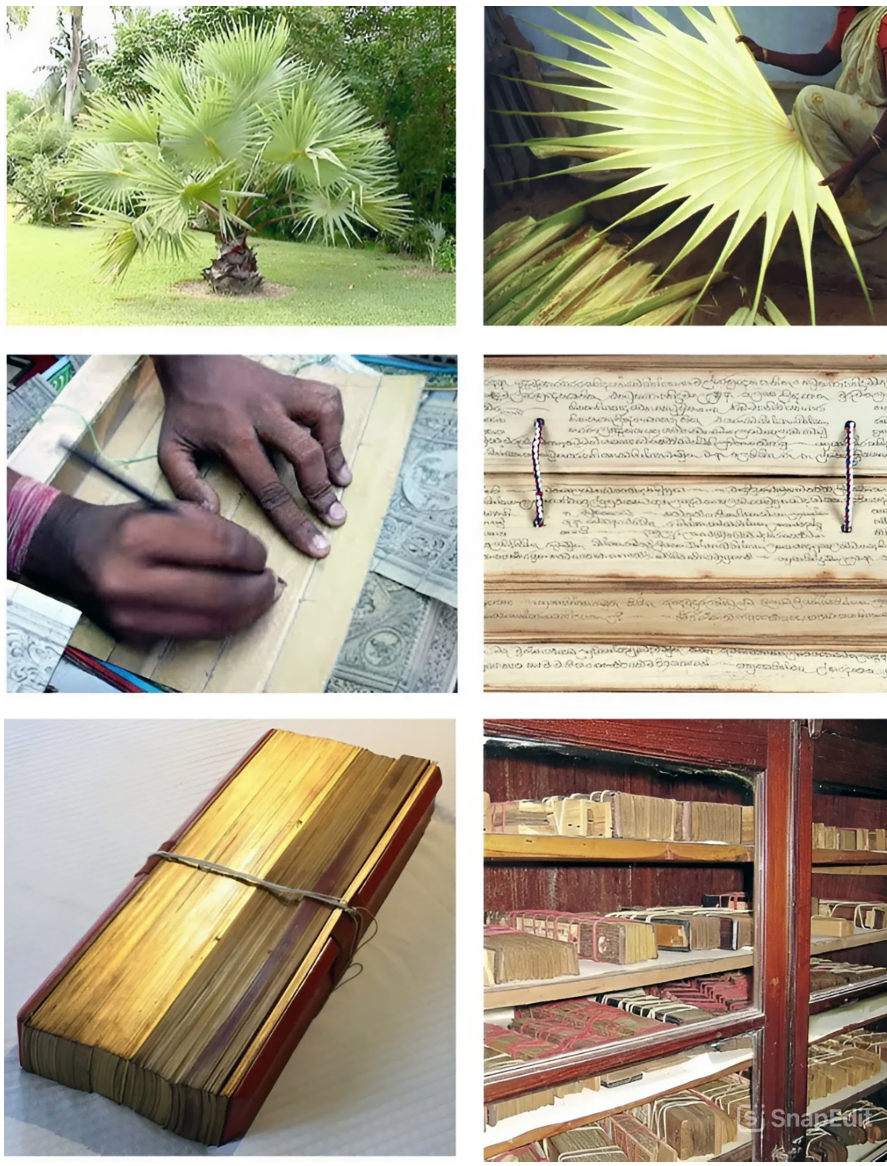


Figure 5. In ancient times, many South Asian cultures wrote documents on the processed leaves of the talipot palm. However, in Maldives, coconut and screw pine leaves were used.

Koran and other books on paper only. Letters, orders, and legal decisions, they inscribe on palm leaves of the cocoa-nut tree, with a crooked sharp-pointed instrument somewhat like a knife" (Lee, 1829, p. 181).

However, there is one medium which have survived the passage of time. The practice of writing important documents on copper sheets in the Middle Ages was well established in South Asia. Today, they are to be viewed in various museums in Sri Lanka and the rest of South Asia. In Dhivehi, these documents, known as *loaamaafaanu*, are mainly land grants inscribed on thin rectangular sheets of copper. Eight of these have been found in the Maldives, the oldest being Isdhoo loamaafaanu written in 1194 CE around the time the whole of the Maldives embraced Islam. By then, the writing had been well developed. As noted earlier, the inscriptions are not very dissimilar to the old Sinhalese script, indicating the close association between the peoples of Sri Lanka and the Maldives.

In neighbouring Sri Lanka, comparatively fewer copper plates have been discovered. One notable one, Panakaduwa Copper-Plate Charter of Vijayabahu I, is dated to 1082. It would be helpful to compare one plate from it with one found in the Maldives. The Maldives' plate is dated 1196, more than a century later than the one from Sri Lanka. Two plates are shown in Figure 7. The scripts are closely related indicating that the people of the two countries were culturally closely related. However, once the Maldivians embraced Islam, the cultural practices began to diverge.

The script used in the loamaafaanu is now known as *Eveylaa Akuru*

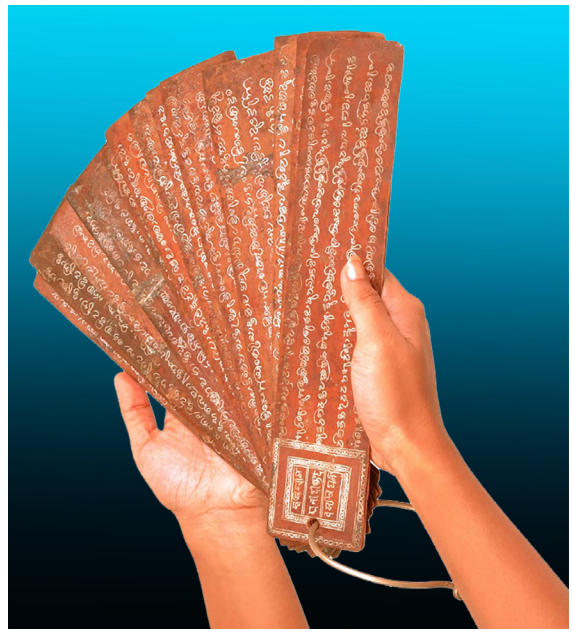


Figure 6. A loamaafaanu written at the end of the 12th century CE. The script used in the writing are no longer used, but is decipherable by historians.

(meaning ancient letters) as named by Bell (1940). He named it so as to distinguish it from the later version which had evolved to write the language spoken some 400 years later. The later form is called *Dhives Akuru* (meaning Maldivian or Dhivehi script). Eveylaa akuru is written from left to right using mainly consonants with diacritics before, after, below or above the consonant glyph to indicate vowels. Thus, it belongs to the abugida system of writing. The vowel /a/ is inherent if there was no diacritic associated with the consonant. Where a word starts with a vowel then, a separate glyph is used to indicate

Figure 7. Top: A plate from Dhan'bidhoo Loamaafaanu 1196 (Maldives). Bottom: A plate from Panakaduwa grant dated, 1082, (Sri Lanka). Some glyphs appear .the same

it. The consonants are curlicues. As writing was primarily inscribed on palm leaves using a metal stylus, straight strokes would piece the media. Word spaces are non-existent in the writing, as was the case with earlier forms of writing. Maniku and Wijayawardhana (1986) identified 23 consonants and 8 vowels from the plates.

The conversion to Islam would have introduced many new words to Dhivehi along with new phonemes for which there would not have been any glyphs. Arabic is a semitic language and its phonemes are markedly different from the derivatives of Dravidian languages. Additionally, all languages undergo phoneme changes with time. The process is usually slow and accretive.

Paper had been introduced to Arabia in the by the 8th century. At around the same time, paper would have travelled to Kerala and the Maldives by trade routes. By the 13th century it had become common. Compared to Loamaafaanu, documents on paper were written using pens with calligraphic nibs. Calligraphic nibs cut at an angle were used write Arabic since ancient times. These pens are mostly made from thin bamboo culms or reeds. One notable outcome of writing using these nibs is that the glyphs have thicker vertical or horizontal strokes depending on the pen-hold (Figure 8).

NCDLH (1998) states that the oldest extant document written in Dhives Akuru dates back to 1356. The script began to fall out of use in the 18th century. Since 1778 there had not been many documents in that script. With

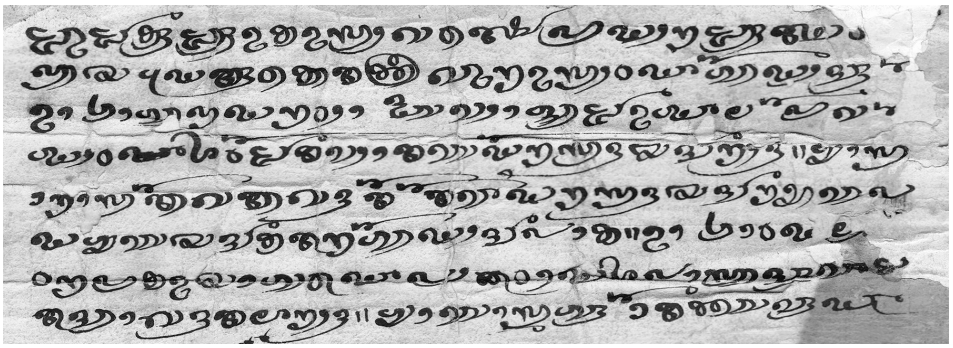


Figure 8. A document written in Dhives Akuru. By the late Middle Ages, paper began to be used to write documents using pens.

regard to phoneme changes, NCDLH identifies the following additional sound in Dhives Akuru: /f/, /gn/, /z/, /ch/, /j/. These new phonemes must have been introduced because of the influence of languages that had these sounds.

The Arabic-Persian Influence and the Development of Thaana

During what is termed as the Islamic Golden Age which spanned a period of five centuries starting from mid-8th Century, Arab and Persian traders (and among them, possibly religious scholars) frequented Maldives and the neighbouring regions. Through their interaction and intercourse with the people and the kingdoms then prevailing there, Islam was introduced to these regions. The history of the Maldives recounts many instances of their influences.

Religious conversions invariably bring with it a new vocabulary and, if the religion is not local, new phonemes. Initially, the local language would adopt the new phonemes by adapting them to the vernacular sounds. This was, indeed, the case. Gippert (2014) outlines the changes the Dhivehi phonemes had undergone from the earliest written Dhivehi to modern times. Gippert (2024) enumerates many instances where Arab-Persian words had been Maldivianized to fit into Dhivehi. But, such adaptations can go so only so far. In the Maldivian case, the direction of writing Dhives and the language of the religion are opposite. Arabic which is a right-to-left (RTL) language has to be written together with Dhives, a left-to-right (LTR) language. This would cause force-fitting Arabic text into gaps left in the lines of Dhives text. In fact, there are such historical documents written in both languages. A sample is shown in Figure 9.

In the late Middle Ages, in a large part of Western Asia and in North India, Arabic and Persian were major scripts of science, religion, law and commerce. It is in these areas of human enterprise, that most books get written. In particular, the reading of Quran is an essential tenet of Islamic faith. The Arabic script is quite unlike the prevalent Dhives script of the time. Therefore, it is quite likely that scholars in the Maldives would have thought of inventing a new script that follows the Arabic RTL direction as well as a similar system of indicating

vowels. Such a change would make reading Quran very easy. The new script invented out of this necessity is called Thaana.

The earliest set of Thaana alphabet the author has been able to find is from

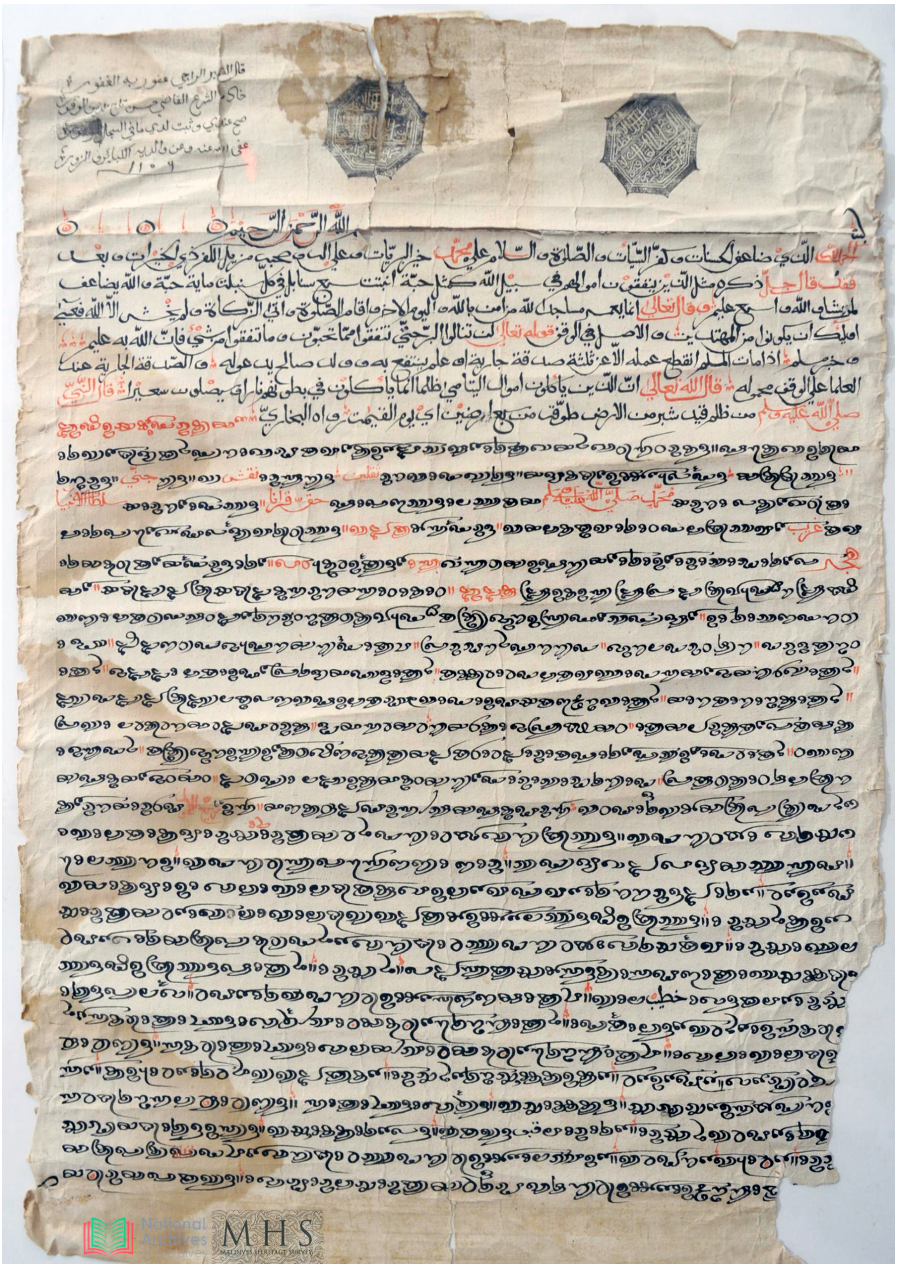
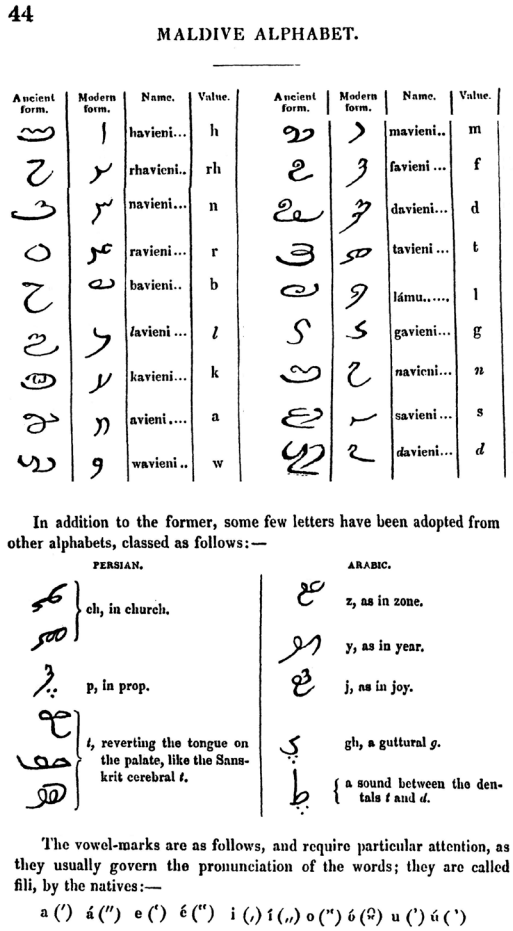


Figure 9. Dhives text with some Arabic words and phrases (Source: R. Michael Feener (Ed.) Maritime Asia Heritage Survey (https://maritimeasiaheritage.cseas.kyoto-u.ac.jp/), last accessed: 21/07/2025.)

1841. It is shown in Figure 10.

What does *Thaana* actually mean? The author asked the most well-published Maldivian historian on scripts about the meaning of the word and its etymology. She had no definite answer. Thaana was once called "Gabulhi Thaana." Gabulhi refers to coconuts which are fully developed but have not yet dried up. "Gabulhi Ban'du" literally meaning "gabulhi stomach" is a slang for an ill-educated person. In Persian, Thaana means "your(s)." One person suggested that the script refers to the fact that it can be read by the ordinary person. Further research is required to unravel the mystery. An old text written



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MALDIVE ALPHABET.

Ancient form.	Modern form.	Name.	Value.	Ancient form.	Modern form.	Name.	Value.
	ا	havieni...	h		ﻣ	mavieni..	m
	ر	rhavieni..	rh		ﻓ	favieni ...	f
	ﻧ	navieni...	n		ﺩ	davieni...	d
	ﺭ	ravieni ...	r		ﺗ	tavieni ...	t
	ﺑ	bavieni..	b		ﻟ	lámu.....	l
	ﻟ	*l*avieni ...	*l*		ﺱ	gavieni...	g
	ﻛ	kavieni...	k		ﻧ	*n*avieni...	*n*
	ﺍ	avieni	a		ﺳ	savieni ...	s
	ﻭ	wavieni ..	w		ﺫ	*d*avieni...	*d*

In addition to the former, some few letters have been adopted from other alphabets, classed as follows:—

PERSIAN.

ch, in church.

p, in prop.

t, reverting the tongue on the palate, like the Sanskrit cerebral *t*.

ARABIC.

z, as in zone.

y, as in year.

j, as in joy.

gh, a guttural *g*.

a sound between the dentals *t* and *d*.

The vowel-marks are as follows, and require particular attention, as they usually govern the pronunciation of the words; they are called fili, by the natives:—

a (ʼ) á (ʼʼ) e (ʻ) é (ʻʻ) i (ˌ) í (ˌˌ) o (ˮ) ó (ᵒ) u (ʻ) ú (ʻ)

Figure 10. Thaana alphabet in use in 1841, according to Wilson (1841). Thaana alphabet is in the column named "Modern form". This is the earliest complete set of Thaana alphabet the author found. There are 18 letters in the first block and 8 in the second block. The vowels are indicated by diacritics written above the constant letters. Note that the name of the letters ends with "vieni" except for lámu. Viyani is now known as viyani and is derived from Sanskrit (व्यञ्जन) which means consonant.

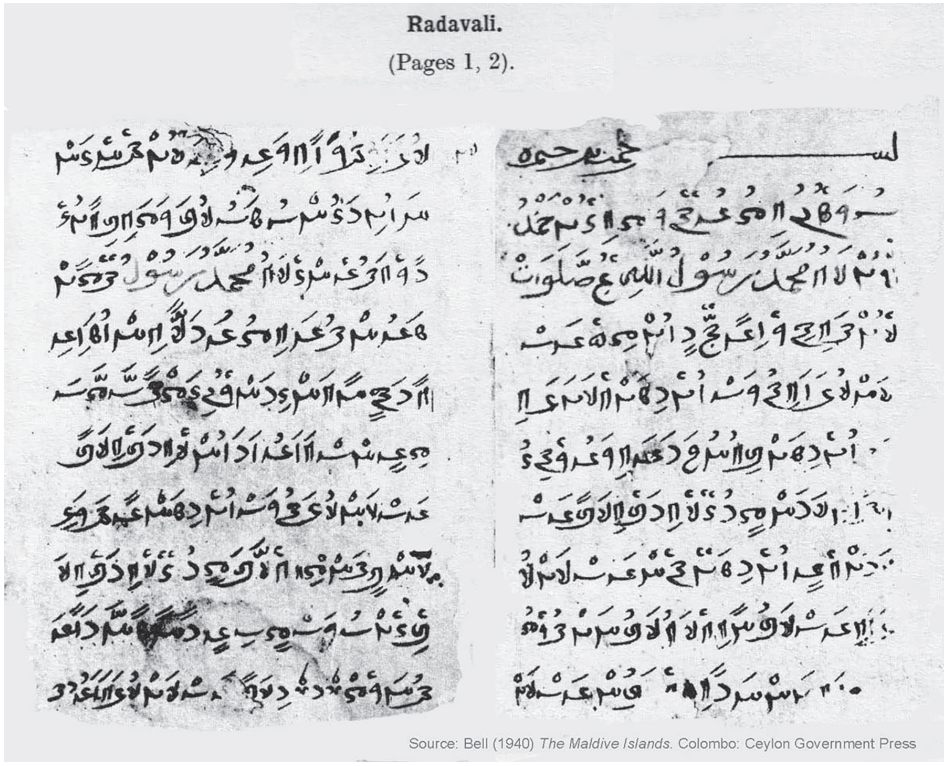

Figure 11. An old book written in Thaana. The resemblance to Persian and Arabic numerals are seen in some letters. Note the Arabic text within the Thaana text. It was common to mix the scripts of both until the dawn of word processing. (Source: Bell, 1940)

in Thaana is shown in Figure 11. It is from Bell (1940). Thaana letters are called *akuru* in Dhivehi; the diacritics are called *fili*.

Thaana is a script heavily influenced by Arabic, or more precisely, by Persian. This is because the Persian influence was greater in North India and in the South Asian region than Arabic influences. The predominance of Persian influence in the late Middle Ages in the Maldives is attested by historical facts. Ibn Batuta, the famous Magrebi traveller, married a Maldivian who could speak Persian. There were graves of Persians in Male'. For the past eight years, the author has been translating a large English dictionary into Dhivehi. From this ongoing task, he found that Persian loan words and derivatives to be unusually frequent in modern Dhivehi. The poetry of Dhivehi follows patterns very similar to those in Sadi's Gulistan and other Persian poems.

Interestingly, Thaana script is based not on the Persian letters but on Persian numerals. The first nine numerals of Persian are used for the first nine consonant (letters) sounds of Thaana. The next nine letters are the numerals used in Dhives akuru. Then there are some additional letters whose derivations will be discussed later. The vowels are generally indicated by diacritical marks written above or below the letters. Unlike Arabic where waav, yaa, and alif are used for vowels, Thaana does not generally use letter symbols for vowels. The

derivation of the first 9 letters of Thaana is shown in Figure 12.

The next nine letters of Thaana are the numerals that were used in Dhives text (Figure 13). The numerals have been scanned from Dhan'bidhoo Loamaafaanu (a copper-plate grant) whose plates were numbered. The author was unable to decipher the shape of the marking for the numeral 8 from the photographs of the copper plates. However, on the authority of many scholars (Gippert, 2024, NCDLH, 1998), one may surmise that the numeral was indeed the of the shape of Thaana /s/. Nevertheless, the Thaana /s/ bears a very close resemblance to Persian/Urdu /s/.

Wilson (1841) had noted an additional eight consonants (/ch/, /p/, /t/, /z/,

Sound Value	Modern Thaana	Old Thaana	Persian Numerals	Arabic Numerals
/h/	ހ	١	١	١
/ṣ/	ށ	٢	٢	٢
/n/	ނ	٣	٣	٣
/r/	ރ	٤	۴	٤
/b/	ބ	٥	۵	٥
/ḷ/	ޅ	٦	۶	٦
/k/	ކ	٧	۷	٧
/a/	އ	٨	۸	٨
/v/	ވ	٩	۹	٩

Figure 12. The first nine letters of Thaana are, obviously, the numerals of the Persian script. Note that in the old form, the letters are more vertical. In modern Thaaana it is more slanted (italicised). The Thaana characters have been scanned from Bell (1940) shown in Figure 11.

/y/, /j/,/q/, /tˤ/), two with alternate forms. The author had not come across any document with the last two glyphs as Wilson had written. These eight consonants were necessary to write Arabic and Persian sounds in Thaana. At present, the number of basic consonant letters (*akuru*) is 24. Fourteen additional letters had been derived from this basic 24 to enable Arabic, Persian as well as some other sounds to be written. They will be discussed in the next section. The emphasized /ṇ/ ([ɳ]) is no longer in the official script and have not been seen in printed documents since 1932.

Sound Value	Modern Thaana	Old Thaana	Dhives Numerals	Modern Numerals
/m/	ހ		১	1
/f/	ފ		২	2
/d/	ދ		৩	3
/t/	ތ		৪	4
/l/	ލ		৫	5
/g/	ގ		৬	6
/ṇ/	Note A ށ←ނ		৭	7
/s/	ސ		Note B	8
/ḍ/	ޏ		৯	9

Figure 13. The second nine letters of Thaana closely resemble the numerals of Dhives script. The numerals were obtained from Dhan'bidhoo loamaafaanu. All the letters seem to have been simplified except for /f/. Note A: the /n/ phoneme has changed to /ñ/ in the past 150 years as the case is with the glyph itself. The current glyph is derived from the third letter of Thaana alphabet. Note B: the author was unable to decipher any distinct shape of the numeral 8 from the loamaafaanu used to get the shapes of Dhives numerals.

Thaana: History, development and change

NCDLH (1998), referring to the report of a historian, notes that the earliest Thaana script was found in a tombstone dated 1479. This tombstone has been lost. There is a document stating that a wooden record written in Thaana in 1599 was seen in a mosque in Kaditheemu island in Miladhunmadulu Atoll. NCDLH states that the oldest government grant written in Thaana was dated 1705. Young and Christopher (1835) opines that the Thaana script was introduced after expelling the Portuguese who had temporarily usurped power from the locals in 1558. The people who were involved in all the decisions regarding Thaana script must have been scholars well-versed in Arabic and Persian, and must have had the assent of the King and the nobles, as the decisions seem very logical. However, so far, historians have not been able to account for the order of the consonants (NCDLH, 1998).

The development of the Thaana script facilitated harmonious incorporation of Qur'anic and Arabic words and phrases into Dhivehi writing. From the very beginning of Thaana usage through to the 1980s, the use of Arabic script within Dhivehi texts was widespread, often appearing interspersed throughout

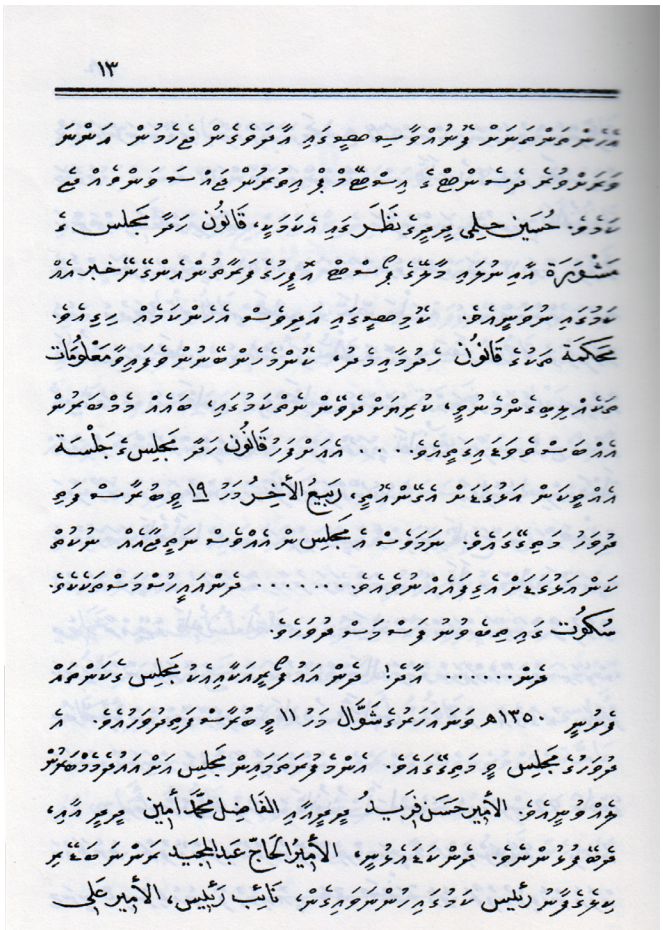

Figure 14.
A typical page from books printed in the early 20th century showing Arabic words interspersed with Thaana text. (Source: Amin, M. (1951). Dhivehi Raajjeyge Qaanoon Asaaseege Hayaaiy. Male': Government Printers

written works. This practice necessitated proficiency in writing both Thaana and Arabic scripts. Given that Arabic characters generally occupy more vertical space than Thaana characters of equivalent stroke thickness, line spacing had to be increased accordingly. This resulted in higher production costs for printed materials due to greater paper usage. Figure 14 shows a page from a book on the history of politics published in 1951. The frequency of Arabic words is indicative of their relative abundance in Dhivehi vocabulary.

It was soon realized that a method of writing Arabic letters would be necessary in order to avoid using the Arabic script. A system of "pointing" or nuqta (as used in Arabic and Hebrew) was devised using the existing Thaana letters; and approved for use on 16th March 1957 (NCDLH, 1998). The system is shown in Figure 15. In 1977 (23rd May), the then President, Nasir, abolished Thaana script altogether for government use, replacing it with Latin script. This unpopular move was soon annulled by his successor, President Maumoon in 1978. While latinizing the script, Nasir did add two new phonemes to Thaana with Latin equivalents. The new letters are shown in Figure 15.

Printing in Thaana. Arabic and Persian printing with movable type did not

Arabic	Thaana	Arabic	Thaana	Arabic	Thaana
ق	ﻗ	غ	ﻏ	ه	ﻫ
-	ﻉ	-	ﻋ	ح	ﺣ
س	ﺳ	و	ﻭ	خ	ﺧ
ش	ﺷ	م	ﻣ	-	ﻛ
ص	ﺻ	ف	ﻓ	ن	ﻧ
ض	ﺿ	د	ﺩ	-	ﻧ prenasalization
-	ﺀ	ذ	ﺫ	ر	ﺭ
ز	ﺯ	ت	ﺗ	-	ﻟ
-	ﺛ	ث	ﺛ	ب	ﺑ
ي	ﻳ	ط	ﻃ	-	ﻣ
-	ﺑ	ظ	ﻇ	ك	ﻛ
ج	ﺟ	ل (لا)	ﻟ	ا (ء)	ﺍ
-	ﻛ	-	ﻣ	ع	ﻋ

Figure 15. A table of Arabic and pointed *(thikijehi)* Thaana letters. Any Arabic word can be written in Thaana although there are minor differences in phonemes. For example, alifu and hamza of Arabic are not the same phonemes, though they sound similar. The Thaana /l/ is a different phoneme than Arabic *laamu*. There are other examples. Only trained linguists can hear the minor differences.

become popular until much later than in Europe. The Persians knew about printing and had printing devices from their interactions with the Chinese before Gutenberg. In fact, by 1294 they were aware of it and had elementary presses but printing with movable type was not adopted (Floor, 2012). One of the main reasons is that both the Arabs and the Persians consider calligraphy as an art form and movable type was stiff and displeasing to the eye. Additionally, both Arabic and Persian letters are of varying height and need to be connected to each other with many strokes overlapping one another giving the text a pleasing fluid look. These features make movable type impractical for printing Arabic/Persian. On the other hand, Latin alphabet consists of letters of almost uniform height with no overlapping (Parhami, 2018). Another reason was that

the scribes who copy books by hand would be undone if movable type were ever to become popular.

As Thaana text incorporates many words written in Arabic (as seen in Figure 14), movable type was never used for printing in the Maldives. Another reason is the small population (less than 100,000 by 1900) whose demand for the expensive movable type printing with upstream businesses such as foundries for metal types was not economically feasible. The state of affairs changed by the early 20th century due to two reasons: (a) the invention of limestone lithography at the beginning of the 18th century, and (b) the spread of education. Lithography enabled hand-written text to be printed and lithographic presses proliferated in Persia and northern India. The first book was printed in the Maldives by Ibrahim Bahaaudhdheen (Meedhoo, Addoo Atoll, 1864–1932) in the first two decades of the 20th century. Earlier, Thaana books had been printed by lithographic presses overseas. Lithographic printing gave way to stencil printing (cyclostyling), and eventually to offset lithographic printing. Until the 1990s, most of the books printed in the Maldives were handwritten and printed by offset lithography. In the succeeding years, digital typesetting became the norm.

Thaana typewriter. In 1987, the first popular typewriter was introduced. It is not possible to have two sets of keyboards and associated devices for typing Thaana and Arabic on a simple mechanical typewriter. Thus, beginning from 1987, official correspondence began to increasingly use dotted or pointed Thaana for writing Arabic. However, even if Arabic and Persian words were typed in pointed Thaana, the name *Allah* was never typed in Thaana. A dedicated key was on the typewriter which typed out Allah in Arabic as a ligature. The types or letters of the typewriter looked mechanical and books continued to be handwritten until computerized word processing became widespread.

Wordprocessing in Thaana. Word processing. Soon after the IBM PC was introduced in 1981, computers began to be used in the Maldives. The early operating systems for these computers did not support Thaana (or even Arabic or Persian). However, by the late 1990s, software intended for word processing Arabic and Hebrew began to be used for word processing as Thaana has similarities with Arabic (and Hebrew). Ten years later, in 1992, with the release of Windows 3.1, Thaana began to be used on computers using specialist multilingual word processing software. The real breakthrough came with the release of Windows XP in 2001 which provided native support for multiple languages within the same operating system. Prior to the release of Windows XP, a Unicode segment was allocated for Thaana. The complete Unicode block for Thaana is shown in Figure 15.

Types of Thaana. There were several varieties of writing Thaana which have now fallen into obscurity. For example, Diringer (1948), identifies two methods of writing Thaana to make it a semi-secret code: *Ha-Sha Thaana* and *Dhefah Thaana*. The first one transposes the values of two consecutive letters. For example, ށ becomes ށ and ށ becomes ށ, and vice versa. In the other, the mutation is effected between the two halves of Thaana.

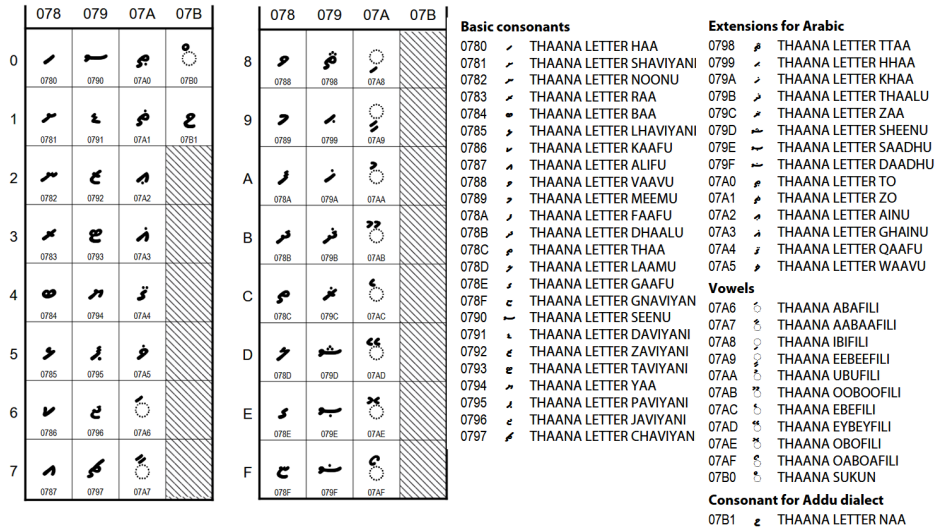

Figure 15. The Unicode block for Thaana as published by www.unicode.org. There are issues with this table. The author has been told that the issues arise from inadequate consultation with the national language regulator. The matters are examined later in the text.

In Dhivehi Basfoiy (*Dictionary*), the following words for variations of Thaana script are present: *arabithaana*, *vadaankashi thaana*, *fenfolhithaana*, *furoadhan'di thaana*, and *akurufili thaana*. In *arabithaana*, Arabic letters are used to write Dhivehi; supplemented by nuqta on Arabic letters for non-Arabic phonemes. *Vadaankashi thaana* is a type of writing style in which all the letters have the same height and angular corners. *Fenfolhi thaana* is a writing style in which the descenders are curled back from the writing direction. *Furoadhan'di thaana* is characterized by elongated descenders. This was the style popular in the 1800s. *Akurufili thaana* uses thaana letters as vowel symbols (*fili*) making thaana script alphabetic.

None of these variations of writing are in use today.

Periodization of Thaana styles

Over the past 450 years, Thaana script has undergone three major styles of writing. Without printed books, uniformity of style is difficult to achieve over time. Scribes and calligraphers used the prevalent style during their respective periods. Broadly, the evolution of Thaana script can be categorized into three major periods.

The upright period. This is the original style of writing Thaana. The letters closely resemble the numerals from which they were derived. Almost all the

letters were rather vertical. This style of writing was prevalent from the very early stage until about 1800.

The long tail period. In this period, the predominant style was characterized by elongated descenders (tail strokes) and overlapping letters. The style may have been influenced by *Nastaliq*—a calligraphic tradition for writing Arabic, Persian and Urdu with overlapping slanted letters. The period lasted from about 1800 to 1940. The extended descenders do not contribute to the visual recognition of individual letters, thereby making them largely ornamental and functionally superfluous; at best, they are a distraction.

The short tail period. This period began in mid-1940s and continues till the present day. The letters are sloped to about 60 degrees but the long tails have become shorter. Overlapping is less but still present. As the human perceive vertical and horizontal strokes better, the sloped letters do make for harder reading than the original style of the first period.

Figure 16 shows samples from the three periods. The style of writing with

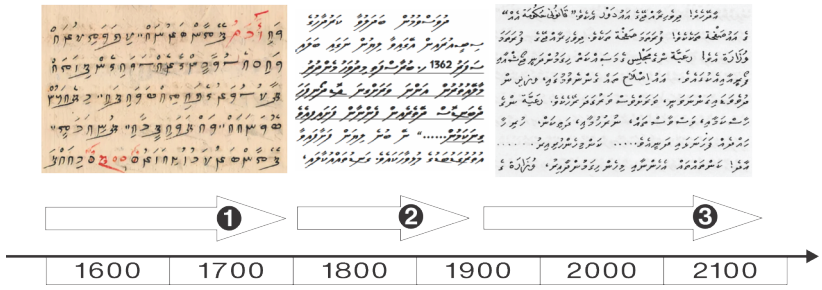

Figure 16. The evolution of Thaana over time. Three distinct styles of Thaana can be identified from historical documents. Bell (1940) notes that the second period is less legible than the first period.

long descenders was comparatively short-lived.

The merits of Thaana

Thaana is remarkably phonetic. The vowel marks (diacritics) above and below the letters have no alternate forms depending on the letter. This uniformity makes Thaana very easy to read and write. In fact, the high literacy rate of the Maldives (98%) is attributed to the ease of learning to read and write in Thaana (National Bureau of Statistics, 2022).

As Thaana follows some of the principles of reading and writing Arabic, the learning of Thaana can be transferred to learning Arabic (and Quran). Such knowledge transfer reinforces learning both languages. Arabic is not an easy language to learn because of several features. Many letters have an isolated form, an initial form, a medial form and a final form — for each sound value four symbols have to be learnt or recognized. The letters are often joined together. This is not the case with Thaana with one isolated form of the letter

no matter where the letter occurs in a word. The right to left (RTL) direction allows Thaana and Arabic text to be mixed seamlessly. The vowel structure also has uniformity. The long vowels are generally (but not always) denoted by doubling the short vowel.

An additional advantage of Thaana is that it incorporates phonemes of many languages. With 38 distinct sound values, many languages can be written and read with near-native pronunciation—a feat not possible for many scripts.

Thaana is, in a sense, scientific and logical. In fact, the editors of "The World's Writing Systems" have the following to say about the Thaana script:

> On the whole, Taana fits the phonology of the language very well, and M. W. S. De Silva has gone so far as to call it "perhaps the most scientific alphabet in South Asia; (1969: 208). As the text sample shows, the fit is very close, though there are some non-direct phonological representations as described earlier. (Daniels & Bright, 1996, p. 567)

However, there is still scope for improving the writing and reading of Thaana.

Enhancing the reading and writing of Thaana

Although rather logical and widely accepted as being easy to learn, Thaana script has some shortcomings. Some of these may be rectified by making the vowel system more logical, modifying some glyphs, and changing the way the vowels are indicated. However, Unicode block for Thaana requires amendment as well.

1. Unicode block. As shown in Figure 15, the phoneme /ʒ/ is now grouped as an Arabic letter. This is *incorrect*. The /ʒ/ phoneme is not in Arabic phonology. According to the original documents on the symbol, it is to be used in writing words such as "division" in Thaana. The Unicode code point 079C should not be within the Thaana extensions for Arabic; it should be placed after the Arabic extensions, and before the diacritics begin. Another concern is with the placement of *naa* (code point 07B1). It would be best to place this letter between 078E and 078F as can be gathered from Wilson (1841). Incorrect positioning of Thaana symbols could lead to complications in character sorting and text processing.

Additionally, it is advisable to reserve about five code points before the diacritical code points begin for future use. Furthermore, some punctuation marks used in Dhivehi are missing. Thaana typewriters include a Dhivehi symbol for representing "at the rate of." There is also a need to incorporate the symbol for the local currency, Rufiyaa, in the code block. As can be seen in Figure 17, Dhivehi has a special symbol for comma and period. Comma is denoted by nuqta-like "full stop" and the period is indicated by two of them close together. There are other variations. These changes to original Thaana Unicode block will better reflect the script's full functional range.

2. Rationalizing the vowels and reducing line spacing. Thaana uses diacritical marks to represent vowels. The diacritic for short vowel /a/ is (ˊ). To represent

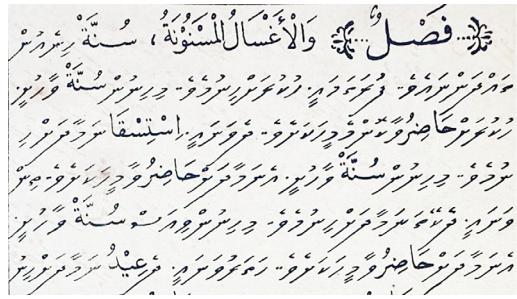

Figure 17. In old documents, the period (fullstop) of Thaana is two dots close togehter. A single dot denoates a comma. This sample is from *Bodu Tharutheebu* published in 1934 by the Government.

the long vowel the diacritic is doubled (aa = ◌ً) . It is the same for the vowel i; doubling the diacritic would represent the vowel longer (e.g. i = ◌ٍ ; ī = ◌ٍ). The case is true for some other vowels: u - ū, e – ē. However, this doubling to represent the long vowel /ō/ would be cumbersome as the short form is rather large in size. Therefore, for ō a distinct is used which breaks the otherwise consistent pattern (Figure 18 (a)). From a logical standpoint, a uniform system of indicating long vowels would make more sense.

In view of the above, the author proposes a modification to the current vowel system by introducing a distinct glyph to denote that a vowel is long. The International Phonetic Alphabet employs ː to indicate the longer form of short vowels. Under the proposed modification, the long form of short vowels will be signified by a single nuqta (diacritical point). The representation of vowels would follow the scheme shown in Figure 18 (c).

The proposed method has three distinct advantages over the present system. First, it is more logical than the current system making the script easier to learn. Second, in the present style, the diacritic for the vowel /o/ is wider than narrower consonants (haa, for instance). Consequently, if this vowel and consonant combination occurs consecutively within a word—hoho, for instance—the diacritics tend to overlap making the text less legible as illustrated in Figure 19 (a). One solution would be to increase the width of haa; however, this approach disrupts the uniform letter spacing creating visible

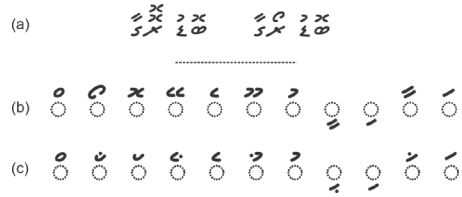

Figure 18. (a) the logical diacritic for long vowel /ō/ would be to double the diacritic for short one. However, instead a completely different symbol is used it. (b) Thaana diacritics as they are written now. (c) The proposed system preserves readability while making the vowel system more logical. There are other benefits discussed in the text.

"valleys" in the text.

The third advantage of the proposed system is its potential to reduce line spacing (called leading in typography), improving legibility. A well-known issue with Arabic and Persian scripts is the considerable vertical space that has to be left for the diacritics and the long ascenders and descenders, which

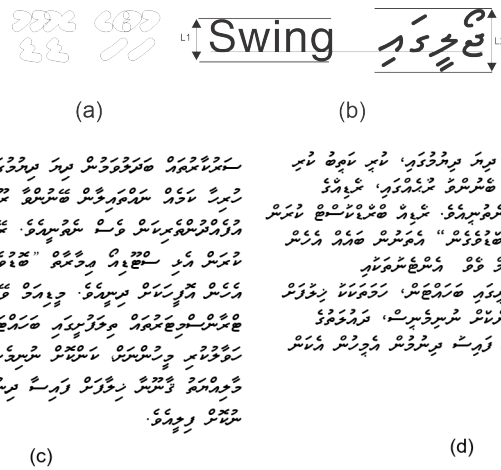

Figure 19. (a) When the width of the diacritics exceeds the width of the consonant letter, they tend to overlap. (b) Thaana requires more vertical space than Latin for diacritical marks as with Arabic. Compare L1 with L2. Reducing the vertical width would allow for larger more distinguishable consonants. (d) A sample text written using the proposed vowel system (right). On the left is normal text (c).

increases the total height necessary for writing text. It is the main reason that Latin letters are more legible at small sizes than Arabic. Thaana has the same issue as shown in Figure 19 (b). Any improvement that reduces the vertical space taken by the diacritics would enable the line spacing to be decreased. Consequently, it would permit larger and more distinguishable consonant forms, further improving readability. A paragraph written in the proposed format is shown in Figure 19 (c).

(3) Further refinement of writing style. To minimize the vertical space occupied by a syllable (a combination of a consonant and a diacritic)—and thereby reduce overall line spacing—the vowel markers for/i/ and /ī/ may be repositioned. These are the only two diacritics that are written below the consonants. By relocating them above the consonants, the need to allocate diacritical space beneath the consonants is eliminated. A more compact and space-efficient script layout is then possible. This change would require two new vowel markers to be invented as the present two are the same as the vowel markers for /a/ and /ā/; only their placement was different.

A further refinement is to reduce nunation (and, sometimes, gemination) symbol (ް) to a diacritic, given its high frequency in Thaana writing. A similar

modification could be applied to alifu+sukun (ށ). In the early stages of writing Thaana, alifu+sukun was not used as can be verified from Figure 11 (Line 3, right page). Tashdeed (shadda) was used to indicate gemination. There are some other refinements possible. However, any great change would render the script unreadable without prior training. Therefore, revisions to the script must be introduced incrementally.

Thus far, no mention has been made of improvements to individual Thaana letters. Certain characters—such as ސ, ދ, ތ, ވ, ށ, and ހ—could benefit from simplification to enhance legibility and ease of writing. Additionally, it is proposed that ޛ be replaced with ޒ modified by a diacritical dot above. This substitution would improve the logic of character recognition, as the phonetic value of ޛ (/ʒ/) is much closer to ޒ than to ސ.

Conclusion

The well-known axiom that alphabet follows trade and religion is supported by the displacement of Eveylaa and Dhives scripts by the newly developed Thaana script following the conversion of the population from Buddhism to Islam. Before the arrival of Islam on Maldives' shores, the inhabitants who had a long history of residing in the islands, were Buddhists and the script used was the predominant script of Buddhism in Sri Lanka and the Maldives which gradually gave way to a vernacular script.

With the adoption of Islam, this script was gradually replaced by Thaana. Thaana is derived from Arabic and Persian scripts, more specifically, from their numerals. The supplemental letters needed to represent sound values of Arabic and Persian phonemes were inspired by Arabic. The right-to-left direction and the diacritic-based vowel system have structural similarities with Arabic. The style of writing was influenced by Arabic and Persian.

Thaana is a highly phonetic script characterized by a consistent vowel system. This regularity makes it particularly easy to read and write contributing to the Maldives' high literacy rate. Thaana's 38 distinct phonemes enable sounds from many languages to be written with near-native accuracy. Its logical formulation led scholars to describe it as "perhaps the most scientific alphabet of South Asia" (De Silva, 1969, cited in Daniels & Bright, 1996. p. 567). In spite of its merits, there remains scope for improvement of both the diacritics and the base letter forms.

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