

A Study of the Gradual Techniques of Brahmi Script Writing

බ්‍රාහ්මී අක්ෂර ලිවීම සඳහා භාවිත ශිල්පීය ධර්මතාවල ක්‍රමික
පරිණාමය පිළිබඳ අධ්‍යයනයක්

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සාරසංකේෂය

අනුරාධපුර පූජා නගරය දියුණු සංස්කෘතික උරුමයන්ගෙන් පිරිණු පුරාවිද්‍යා බිම් කඩකි. එහි සියවස් ගණනාවක රචනා කරන ලද ශිලා ලේඛන රාශියක් හමු වේ. මෙම වර්තමාන පර්යේෂණ පත්‍රිකාවෙන් බලාපොරොත්තු වනුයේ තත් භූමිය පුරා ම පැතිරී තිබෙන ක්‍රිස්තු පූර්ව පළමුවන සියවසේ සිට ක්‍රිස්තු වර්ෂ පස්වන සියවසේ අවසානය දක්වා ඇති බ්‍රාහ්මී සෙල්ලිපිවල ක්‍රමික ව පරිණාමය වන අක්ෂර රූප රචනයේ භාවිත ශිල්පීය ධර්මතා සලකුණු කිරීම වේ. අක්ෂර රූප රචනයේ ශිල්පීය රටාවල විවිධතා පවතීම මෙහි පැනනගින පර්යේෂණ ගැටලුව වේ. එය එසේ වන්නේ කවර ආකාරයෙන් ද යන්න විසඳීම මෙහි පර්යේෂණයේ අරමුණ වේ.

මෙම පර්යේෂණයේ අරමුණ තත් කාලීන අක්ෂර රචනයට යෙදූ ශිල්පීය තාක්ෂණ විශේෂතා අවධාරණය කිරීමයි. ඒ අනුව අක්ෂර හැඩරූපවල සම විෂමතා සංසන්දනය කිරීම හා ක්‍රමික ව පරිණාමය වන අක්ෂර රූප රචනයේ ශිල්පීය ධර්මතා සලකුණු කිරීම සිදු කෙරේ.

සෙල්ලිපි පිළිබඳ පූර්ව පර්යේෂණ ග්‍රන්ථ හා කෙෂ්ත්‍ර ගවේශන පළමුව පර්යේෂණ ක්‍රමවේදය යටතේ සිදු කරන ලැබේ. දෙවනුව පූර්ව පර්යේෂකයන් ලබාගත් ස්පර්ශ ලාංඡනවල අක්ෂර රූප වේසිං කඩදාසිවල ලකුණු කෙරේ. අවසානයේ දී ක්‍රිස්තු පූර්ව පළමුවන සියවසේ සිට ක්‍රිස්තු වර්ෂ පස්වන සියවසේ අවසානය දක්වා කාලයට අදාළ ව කාලානුරූපවත් සකසා එහි ශිල්පීය ධර්මතා සලකුණු කර

විවිධතා අධ්‍යයනය කරනු ලැබේ. එනමින් සංකේත රූප අධ්‍යයනය මෙම පර්යේෂණයේ දී සිදු නො කෙරේ.

කාලය හා අවකාශයට යටත් වූ මෙම සෙල්ලිපි අභිලේඛනඥයන් විසින් පූර්ව පර්යේෂණයට ලක්කර ඇති අතර එයින්ද දොන් මර්තීනෝ ද සිල්වා වික්‍රමසිංහ, සෙනරත් පරනවිතාන මෙන් ම අහමද් හසාන් දානි වැන්නහු ප්‍රධාන වෙති. ඔවුන් සිදුකළ පර්යේෂණවල කාලමය හා අවකාශමය පෘථුලතාව හේතුවෙන් මෙහි ඇති ශිලාලිපිවල අක්ෂර රූප රචනයේ ශිල්පීය ධර්මතා පිළිබඳ අවධානය අල්ප මාත්‍ර ව යොමු කර ඇත. අක්ෂර රූප විද්‍යාත්මක ව එකී ඌනතාව පරිපූර්ණ කරනු වස් මෙම පත්‍රිකාවෙන් බලාපෙරෙරෙන්නේ වේ.

යතුරු පද: අනුරාධපුර පූජා භූමිය, ශිලාලේඛන, අක්ෂර පරිණාමය හා ශිල්පීය ධර්මතා

Introduction

The current study, which covers the period from the first century BCE to the fifth century CE, attempts to investigate the gradual evolutionary techniques of Brahmi scripts from Anuradhapura sacred city.

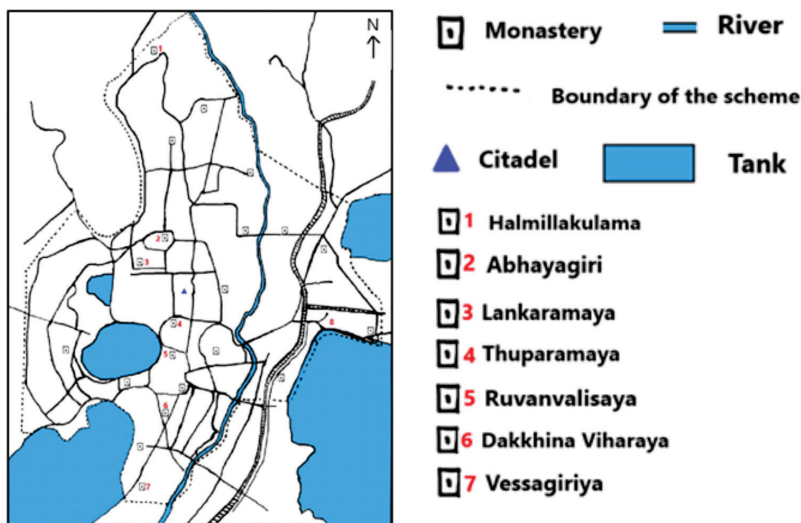
Situated in the northern lowlands of Sri Lanka, the sacred city of Anuradhapura is found in the Anuradhapura district of the North Central Province, specifically in the Nuvaragam Palata Central division. Up until the start of the eleventh century CE, it served as the capital of the *Maurya and Lambakarna* dynasties of Sinhalese kings. It developed into a significant historical trading hub for Sri Lanka that was well-known to foreign merchants traveling over the sea routes. It also served as a global hub for education, inspired by the Buddhist sects of Theravada and Mahayana.

The Brahmi scripts, which are the main focus of the Anuradhapura period, exhibit characteristics of evolution.

Therefore, understanding the writing styles employed by the Brahmi is the aim of the present study. Consequently, seventeen inscriptions were selected for this study. The selected inscriptions were discovered in Buddhist temples located in the Vessagiriya, Abhayagiriya, Lankaramaya Ruvanmalisaya, and Halmillakulama monastic areas. They were discovered on rocks, caves, and slabs.

Study Area

The department of town and country planning, which is in charge of the Anuradhapura sacred area planning scheme, covers the study area. The river Malwathu Oya flows northward in the eastern section of the sacred city of Anuradhapura. The canal Halpanu Oya flows similarly northward, connecting the monasteries of Ruvanmalisa-viharaya and Jetavanaramaya. The western portion of the site is home to the hummocky gneiss rock boulders that are spaced fairly far apart from one another from south to north.



The map showing the location of the inscriptions.

Research Problem

The current study seeks to investigate the utilization of various forms of Brahmi were within the precincts of the sacred city. It examine the chronological shifts abserved from the 1st century BCE to the 5th century CE.

Aims and Objectives

The aims and objectives of this study will be pursued through several steps. Firstly, we will undertake an investigation into the different derivatives of Brahmi scripts in Anuradhapura sacred city. following this, we will delve into the examination of the gragual evolutionary techniques and development of Brahmi scripts from their early to late forms. Lastly, we will engage in a comparative analysis to comprehend the variations, distinctions, and spead of Brahmi scripts across the studied timeframe.

Previous Works

A. H. Dani (1963), Senarath Paranavitana (1943; 1970; 1983; 2001), Saddhamangala Karunaratna (1984), Sirimal Ranawella (2001), Bandusena Gunasekara, and Edward Muller (1883) are among the researchers who have researched these inscriptions.

In addition to understanding the script, they have talked about these inscriptions to concisely. None of them, nevertheless, has gone far enough in explaining the unique characteristics of Bhrahmi script or its steady development over time through the frame of reference.

Methodology

The research methodology encompassed several key components. Firstly, a comprehensive literature survey was

conducted, focusing on early reports to ascertain the locations of inscriptions and gather foundational information from published estampages and plates. These estampages, essential for the study, were sourced from publications such as *Epigraphia Zeylanica* volumes i, iii, and iv as well as *Inscriptions of Ceylon* volumes i, ii, and v.

Subsequently, fieldwork was undertaken to document photographs and autographs of inscriptions, facilitating a deeper understanding of the fundamental aspects of writing.

Moreover, contextualizing the scripts within specific time brackets was a crucial aspect of the study. Inscriptions dating back to the 1st century BCE were analyzed, focusing on scripts that lacked thickened tops, as the precise dating of these records posed historical challenges. However, starting from the 1st century CE, inscriptions were categorized based on the reigns of the kings mentioned within them. The period of these reigns was determined by combining epigraphical details with insights from Mahavamsa chronicle. Furthermore, reigns of kings were aligned with the Christian era, using 544-543 BCE as the reference point for the year of Buddha's death. This meticulous approach facilitated a nuanced understanding of the temporal contexts surrounding the evolution of Brahmi scripts in Anuradhapura Sacred city.

Limitation

The conjunct letters are not attested by the inscriptions themselves. Furthermore, since the numeral signs are visible in just one inscription, these scriptural characteristics are not covered in this study. Additionally absent from the current work are the auspicious symbols seen in these inscriptions.

Inscriptions under Study

1. Twenty three Vessagiri Cave Inscriptions (IC. I, 1970: 6-7; EZ. I, 1912: 10-21)
2. Two Abhayagiri Inscriptions (IC. I, 1970:7-8)
3. The Halmilla-kulama Inscription (IC. I, 1970: 7-8)
4. The Lankarama Inscription (IC. I, 1970: 8)
5. The Ruwanmalisa Inscriptions (IC. I, 1970: 8)
6. The Nuvaravava Slab- Inscription (IC. Vol. II, P. I, 1983: 43)
7. The Vessagiri Rock-Inscription (IC. Vol. II, P. I, 1983: 8-51)
8. The Perimiyanikulama Rock Inscription in Abhayagiri monastery (IC. Vol. II, P. I, 1983: 63-67; EZ. I, 1912: 66-74; AIC, 1883: 27, 73)
9. The Ruwanmali Dagaba Slab- Inscription (IC. Vol. II, P. I, 1983: 86-87)
10. The Ratanapasada Slab-Inscription (IC. Vol. II, P. I, 1983: 88)
11. The Abhayagiri Thupa Slab-Inscription (IC. Vol. II, P. II 2001: 145- 147)
12. The Abhayagiri Pavement- Inscription (IC. Vol. II, P. II, 2001:150-154)
13. The Dakkhina Thupa Pavement- Inscription (IC. Vol. II, P. II, 2001; 161-17, EZ. VII: 99-106)

14. The Vessagiri Rock- Inscription (IC. Vol. II, 2001: 178-180; EZ. IV, 1943: 218-222)
15. The Abhayagiri Inscription (IC. Vol. II, P. II, 2001: 189-192; EZ. IV, 1943: 273- 285)
16. The Ruwanmalisa Pillar Inscription of Buddha-Dasa (EZ. III, 1933: 120- 126)
17. The Slab-Inscription of Khudda-Parinda (EZ. IV, 1943: 111- 114)

Discussion

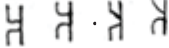
The goal of the current study is to investigate how various Brahmi forms are used in Anuradhapura. Its goal is to examine the minute palaeographic alterations that took place between the 1st century BCE and the end of the 5th century CE. As a result, four processes are used in an attempt to investigate writing techniques.

The scholars like Edward Muller (1883), D. M. De. Z. Wickremasinghe (1912; 1933), Senarath Paranavitana (1943; 1970; 1983; 2001), A. H. Dani (1963) talked about palaeographical features of Bhrahmi and same has been used for the present work to fix the date of the inscriptions.

The 1st century BCE

There are 25 scripts which are visible from twenty three Vessagiri Cave Inscriptions (IC. I, 1970: 6-7, EZ. I, 1912: 10-21), two Abhayagiri inscriptions (IC. I, 1970:7-8), the Halmilla-kulama inscription (IC. I, 1970: 7-8), the Lankarama inscription (IC. I, 1970: 8), and from the Ruwanmalisa inscriptions (IC. I, 1970: 8). The letters I, Ū, JHA, ṬA and NA show their own basic characters without changing a single shape. However,

others represent the gradual evolution with conformations and differences. Consequently, the writing styles of those scripts represent the following peculiarities. There are

(A) Two left strokes of the letter A are straight, curved and curled. A: 

(B) The letter I is drawn by writing the straight vertical line with two dots on each side of its. I: 

(C) The letters GA, TA, DA and SA are mostly written by angular form, and rarely they are drawn by curved form.

G: ; TA: ; DA: ; SA: 

(D) The base of the letters like PA, MA, YA, LA, VA, SA and HA is flat or circular.

PA: ; MA: ; YA: ; LA: ; VA: ; SA: ; HA: 

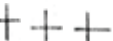
(E) The bottom arc of the letter CA is included as semi-circle, square and rectangular shapes. CA: 

(F) The letter YA has two types of varieties in shape. YA: 

(G) The letter RA has five types of varieties in shape. RA: 

(H) The medial vowels are written by a straight line. I: ; U: ; E: ; O: 

(I) The vertical line of the letter A, U and KA is longer than other lines in length. However, sometime the vertical line

of U and KA becomes as an equal line with others, but the horizontal line of the letter KA is longer than the vertical line in the Ruvanmalisa inscription. A: ; U:  KA: 

(J) The both vertical lines of the letters PA, SA, HA and LA are mostly different in length but they rarely became equal. PA: ; SA: ; HA: ; LA: 

(K) The letters CA, ḌA and DA are represented by opening the directions which go to the left or to the right. CA:  ḌA:  DA: 

From the 1st century CE until the 3rd century CE

The sripts for this period were taken from the Vessagiri Rock-Inscription (IC. Vol. II, P. I, 1983: 48-51), the Perimiyanikulama Rock Inscription in Abhayagiri monastery (IC. Vol. II, P. I, 1983: 63-67, EZ. I, 1912: 66-74, AIC, 1883: 27, 73), the Ruvanmali Dagaba Slab- Inscription (IC. Vol. II, P. I, 1983: 86-87), the Ratanapasada Slab-Inscription (IC. Vol. II, P. I, 1983: 88), the Abhayagiri Thupa Slab-Inscription (IC. Vol. II, P. II 2001: 145- 147), the Abhayagiri Pavement- Inscription (IC. Vol. II, P. II, 2001: 150-154), the Dakkhina Thupa Pavement-Inscription (IC. Vol. II, P. II, 2001: 161-17, EZ. VII: 99-106), and the Vessagiri Rock- Inscription (IC. Vol. II, 2001: 178-180, EZ. IV, 1943: 218-222).

There are 27 scripts and then these letters between the 1st century BCE and the 1st century CE have changed a lot. The main feature here mostly shows that the straight line became curved angle. The letters E, O, JA, THA and DHA have newly joined to the alphabet, but the characters Ū, JHA and ŚA have been dropped. The letters A, I and ḌA are represented by writing the new forms which were not used in the 1st century BCE. The scripts U, E, GA, ṬA, ṆA, TA, NA, PA, BA, YA, RA, LA, SA,

and HA have changed a little, but the letters like CA, ḌA, DA, MA and VA have changed a lot. Their own identity can be seen such as;

(A) The letters A, I and ḌA are represented by writing the new forms. A: ; I: ; ḌA: 

(B) The beginning point of the vertical line is thickened. It shows as a dot or as a short horizontal bar. U: ; KA: ; CA: ; ḌA: ; TA: ; DA: ; NA: ; VA: ; HA: ; ḌA: 

(C) The letters like A, GA, PA, MA, YA and SA are thickened on equal points which move upwards or downwards if lines are parallel with each other, however; the vertical line of the letter LA is not thickened. A: ; GA: ; PA: ; MA: ; YA: ; SA: 

YA: ; SA: 

(D) The vertical line of A, KA and RA is elongated from the base and it is slightly curved to the left. A: ; KA: ; RA: 

(E) The upper end of the vertical line of the letter CA, ḌA and VA is shortened.

CA: ; ḌA: ; VA: 

(F) The lower end of the vertical of letter DA is shortened. DA: ; ; 

(G) The lower left rounded vertical line of the letter ḌA is elongated inwards.

ḌA: ; 

(H) The right vertical of the letter LA is bent inwards.
LA: 

(I) The vertical lines of the letters PA, SA and HA are equal in length. PA: ; SA: ; HA: 

(J) Angular shape of the letter GA, YA and SA became curved forms and rarely they are drawn by curved form. GA: ; YA: ; SA: 

(K) The characters ṬA and JA are written by both curved and angular forms. ṬA: ; JA: 

(L) The base of the letter MA and VA shows triangular shape. MA: ; VA: 

(M) The medial vowels are written by a cursive shape.

I: ; U: ; E: ; O: 

(N) The base of the letters CA, ḌA, ḌA, PA, MA, YA, LA, VA and HA is mostly flat.

CA: ; ḌA: ; DA: ; PA: ; MA: ; YA: ; LA: ; VA: ; HA: 

(O) The letter TA has three types of gradual evolution in shape. TA:  >  > 

(P) The letter LA has three types of gradual evolution in shape. LA:  >  > 

(Q) The letter HA has three types of gradual evolution in shape. HA:  >  > 

After the 3rd century CE

There are 27 scripts and the letters E, O, show their own basic characters and the scripts I, GA, JA, ṬA, THA, DHA, BA and ḶA form the conformation with the writing styles in early century CE. However, other letters show gradually evolution. Consequently, the writing styles of those scripts represent the following peculiarities. There are

(A) The vertical line of the letters A, KA and RA rarely bent to the left like a fish-hook shape. A:   ; KA:  ; RA: 

(B) The flat base of the letters CA, ḌA, PA, MA, LA, VA and HA sometime changes to curled base. CA:   ; ḌA:  ; PA:  ; MA:   ; LA:   ; VA :   ; HA :  

(C) The base of the letters ṆA, TA and NA represents as a fish-hook shape or as a looped-shape angle. ṆA:   ; TA:   ; NA:  

(D) The letter DA shows like double- curve placed one upon the other. DA:  

(E) The medial vowels are written by a fish- hook or a loop shaped angle. I:   ; U:   ; E:   ; O:  


(F) Lower left arm of the letter A rarely becomes longer than upper left arm. A:  

(G) The left vertical line of the letter PA is curved inwards. PA:    

(H) The left arm of the letter YA is shorted and it is curled inwards like loop-shape.

YA: ଧ ଧ ଧ ଧ

(I) The right vertical of the letter LA is bent inwards. LA:

ଲ ଲ ଲ

(J) The end point of the letter HA bends downwards. HA:

ହ ହ ହ

these latters can be seen in the Abhayagiri Inscription (IC. Vol. II, P. II, 2001: 189-192, EZ. IV, 1943: 273- 285), the Ruvanmalisa Pillar Inscription of Buddha-Dasa (EZ. III, 1933: 120- 126), and in the Slab-Inscription of Khudda-Parinda (EZ. IV, 1943: 111- 114).

Observation

The writing techniques appear to follow a left-to-right trend. Firstly, the letter's vertical line is written and then its horizontal strokes are depicted. The writing is displayed from top to bottom by the vertical straight line. After the first century BCE, its starting point becomes thicker. But as the letters GA took on a curved form, they began to be written from the bottom of the letter, which is why their thick tip is visible at the bottom. Subsequently, the horizontal bar was written from left to right by the inscriber. If two horizontal bars are present, they were shifted to the outside of the vertical line from both sides. The same writing appears for other strokes, such as curved and curled bars.

After studying the inscriptions, we can see this kind of picture which can be corroborated with the dates according to Mahavamsa.

The name of the kings	The place of the inscriptions	Mahavamsa dating (Buddhist and Christian era based on 543 BCE)	Palaeographical dating
unkown	Vessagiriya		1 st century BCE
unkown	Abhayagiri-viharaya		1 st century BCE
unkown	Ruvanmalisa-viharaya		1 st century BCE
Mahadaṭṭhi-ka-Maha-Naga	Nuvaravava	(7-19 CE)	1 st century CE
Iḷa-Naga	Vessagiriya	(33-43 CE)	1 st century CE
Vasabha	Abhayagiri-viharaya	(66-110 CE)	1 st century CE
Gajabahu-ka-Gamaṇi	Ruvanmalisa-viharaya		
Abhayagiri-viharaya			
Thuparamaya	(113-135 CE)	2nd century CE	
Mahallaka-Naga	Ruvanmalisa-viharaya	(136-142 CE)	(2 nd - 3 rd cen. CE)
Kaniṭṭha-Tissa	Abhayagiri-viharaya	(166-184 CE)	(2 nd century CE)
Siri-Naga I	Dakkhiṇa-viharaya	(189-208 CE)	(2 nd - 3 rd century CE)
Saṅgha-Tissa	Vessagiriya	(242-246 CE)	(3 rd cen. CE)

Maha-Sena	Abhayagi- ri-viharaya	(274-301 CE)	(4 th century CE)
Buddha-Da- sa	Ruvanmali- sa-viharaya	(338-366 CE)	(4 th century CE)
Khudda Parinda	Abhayagi- ri-viharaya	(438- 453 CE)	(5 th century CE)

References

- Dani, A.H. 1963. *Indian Palaeography*. Oxford: The Clarendon Press.
- Geiger, W. (ed.). 1912. *The Mahavamsa*. London: Oxford University Press.
- Karunaratne, S. (ed.). 1984. *Epigraphia Zeylanica Vol. VII*. Colombo: The Department of Archaeology
- Muller, E. (ed.). 1883. *Ancient Inscriptions in Ceylon*. London: Trubner and Co., Ludgate Hill.
- Paranavitana, S. (ed.). 1943. *Epigraphia Zeylanica Vol. IV*. London: Oxford University Press.
- Paranavitana, S. (ed.). 1970. *Inscriptions of Ceylon Vol. I*. Ceylon: The Department of Archaeology.
- Paranavitana, S. (ed.). 1983. *Inscriptions of Ceylon Vol. II Pt. I*. Sri Lanka: The Department of Archaeology.
- Paranavitana, S. (ed.). 2001. *Inscriptions of Ceylon Vol. II Pt. II*. Sri Lanka: The Department of Archaeology.
- Wickremasinghe, D.M.D.Z. (ed.). 1912. *Epigraphia Zeylanica Vol. I*. London: Oxford University Press.
- Wickremasinghe, D.M.D.Z and H.W. Codrington (ed.). 1933. *Epigraphia Zeylanica Vol. III*. London: Oxford University Press.