

Examining the Forms and Variations of the Lampung Script in Ancient Manuscripts

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Abstract: - The study of the Lampung script's forms and variations in ancient manuscripts is a branch of linguistics concerned with the script's evolution. We made observations on the Lampung script on two ancient manuscripts, the NLP97N69 and the Hahiwang. Both manuscripts are housed separately. The NLP97N69 manuscript was found in Indonesia, whereas the Hahiwang in Germany. A philological and paleographic approach was adopted to investigate the Lampung script's forms and variations in the ancient manuscripts. Both manuscripts were examined in conjunction with a presentation of the scriptwriter's Lampung script. After raising the Lampung script, it was compared to the current script and Van der Tuuk's script table. Discrepancies were found out between the characters in the two manuscripts, the contemporary script, and Van der Tuuk's table. Furthermore, the *gha* script was found out to be unique to the NLP97N69 manuscript. It was created in an attempt to meet the needs of Lampung language users who desired a unique script that incorporated the *gha* sound. This study demonstrates that the Lampung script has evolved and changed over time in response to its users' needs. Additionally, the article discusses the implications and future directions for research.

Key-Words: manuscripts, scripts, philology, paleography, Lampung

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1 Introduction

Lampung is one of the few regions in Indonesia's archipelago that still speaks and uses its indigenous language and script [1]–[3]. However, Lampung society's tradition of writing in Lampung script is currently restricted to 'decoration' purposes. As a result, policies for the Lampung language are required in order to address issues associated with its use and to avert its extinction [4]–[6]. Lampung Governor Regulation No. 39 of 2014 establishing Lampung Language and Script as Mandatory Local Content at the Elementary and Secondary School Levels is one of the government's efforts to preserve the Lampung language and script [2], [7]–[9]. The Lampung script that is currently known and taught to the Lampung people is the current Lampung script, despite the fact that the Lampung people possess the ancient Lampung script found in ancient Lampung manuscripts. As a result, many Lampung people are unable to read or even recognise the Lampung script found in ancient manuscripts referred to as the old Lampung script.

The Lampung people's lack of knowledge about the ancient Lampung script, which is one of their cultural products, ultimately results in some losses. Kohler, a Dutch captain who rose to the position of Military and Civilian Commander in the Lampung District, once wrote a sentence that Frieda Amran quoted in his article: "Not much is known about the Lampung people" [10]. According to him, Lampung's history was lost in the centuries-old darkness. There are no writings or stories remaining to resurrect the ancestors. The events preceding the arrival and reign of the Banten sultans are little known. The context of the preceding sentence very accurately describes the current state of affairs, namely when we (authors) were having difficulty locating references pertaining to Lampung's history (culture). Whereas Amran [10] asserts that the primary requirement for writing history in any perspective is written sources. Thus, historians, anthropologists, and other social scientists who study sociocultural issues through a historical lens require written evidence [11], [12].

Hakiki et al. [13] stated in their study that the Lampung region's position was also critical, as it had been "conquered" by various powers in the past, including Banten, Palembang, and finally the Dutch Colonial. However, research on Lampung culture, particularly on ancient manuscripts, religion, and Lampung culture, is still uncommon. As expressed by Eysinga, a Dutch colonial official, when he saw Lampung from the coast of Banten [10], these studies rise and fall. This is consistent with Pudjiastuti's [14]

assertion that little research has been conducted on Lampung. Since the nineteenth century, beginning with Van der Tuuk and K. F. Holle's research [15]. Van der Tuuk is best known for his book *Les Manuscrit Lampongs*, which delves into the Lampung language and script of the time period through the examination of manuscripts.

Ka ga nga is the name given to the script or style of writing used by the Central Malay, Rejang, Lampung, and Kerinci peoples. The Rencong script or Ulu writing is another name for the *ka ga nga* script [16]. Lampung people refer to the script as Had Lampung, *Surat Lampung*, or *Kelebai Surat Lampung*. Although the *ka ga nga* script is mentioned as the script used by the Central Malay, Rejang, Lampung, and Kerinci people, the scripts used by these communities differ in form [17].

The ancient Lampung script, which is found in a variety of ancient Lampung scripts, takes on a variety of forms. These variations represent 19 to 20 distinct sounds through the use of letters. Additionally, the Lampung script taught to students today (20 characters) is a simplification of the numerous ancient Lampung script variants [9]. However, prior to the establishment of the twenty Lampung scripts that exist today, only 19 were used.

The twentieth script, dubbed the *gha* script, was standardised in 1985 at a meeting of Lampung traditional leaders. Since 1979, there has been discussion about adding a twentieth script. However, on February 23, 1985, the Lampung Regional Customary Leaders Meeting Number 001/PAL/1985, chaired by Baheran Bakr [18], enshrined the standardisation of the *gha* script as the twentieth script in the Decree of the Lampung Regional Customary Leaders Meeting Number 001/PAL/1985.

This implies that the ancient Lampung script, a cultural treasure, is a medium for recording the supporting community's ideas, thoughts, and indigenous wisdom. Similarly, Lampung once relied heavily on ancient scripts as a primary mode of communication, as evidenced by ancient texts [14]. As a result, this study should be able to decipher the differences in the Lampung script's forms and variations prior to its transformation.

Numerous researchers in Indonesia have conducted paleographic studies on ancient manuscripts. However, this paper discusses only a few paleographic studies that have a direct connection to this research. In her thesis, *Ulu Writing in the Serawai and Pasemah Manuscripts: Text Editing and Paleographic Studies*, Astuti [19] examined the ulu script. She analysed six Ulu and Pasemah scripts in her study to ascertain their history

and development. Rahayu wrote about the *Merbabu Manuscripts: An Overview of Scripts and Their Development* in her 2009 thesis [20]. She examined the variations in the form and pattern of Buddhist script development in four Merapi Merbabu manuscripts and their relationship to the manuscript's dating. Additionally, Jaruki [21] published an article titled *A Study of the Sultan Manuscript/Document of the Sultan of the Raja of the Sultanate of West Kalimantan: Structure, Paleography, and Language* and he analysed data to determine the structure, writing style, and language contained in the letter *Sultan Pontianak, Sultan Syarif Usman Al-Qodri with the Dutch Government*. In addition to paleographic research on ancient manuscripts, Misliani [22] conducted research on Lampung ancient manuscripts regarding the Malay language symptoms contained in the ancient manuscripts with Lampung script, but in Malay.

Paleographic studies on ancient Lampung scripts have never been conducted, according to a search of various paleographic studies on ancient manuscripts and studies on ancient Lampung scripts. As a result, this paper addresses two issues: first, how was the Lampung script shaped in the two ancient manuscripts prior to their standardisation? Second, how are the Lampung script variations represented in the NLP97N69 and Hahiwang ancient manuscripts? The purpose of this study is to demonstrate the Lampung script's forms and variations in the ancient Lampung manuscripts, which is expected to provide additional information for determining the Lampung script's development period.

2 Method

The current study adopted a philological methodology, which is a compilation of the various modes of inquiry necessary for editing texts in extinct languages [23], [24]. We followed several steps including the following: 1) inventory of manuscripts, 2) synopsis of manuscripts, 3) determining the age of manuscripts, 4) manuscript reading, 5) manuscript to manuscript comparison, 6) technique selection, and 7) editing [25]. As a result, inventorying and describing the manuscript was the first step in conducting a philological study. We began by consulting Loir and Fathurahman's *Khazanah Manuscripts* [20] to ascertain the global distribution of Lampung manuscripts.

We consulted several catalogues, including the National Library of the Republic of Indonesia's Master Catalog of Archipelago Manuscripts and Indonesian and Great Britain Manuscripts: A Catalog of Manuscripts in Indonesian Languages in British Public Collections, as well as a list of Lampung

museum collections based on the information contained in the book. A search of these catalogues, however, revealed that the Lampung script has not been succinctly described. Lampung manuscripts' catalogue entry contains only information on the existence and number of manuscript storage locations. We identified two ancient manuscripts for examination, the NLP97N69 and the Hahiwang. Additionally, we used codicology to describe the manuscripts' physical characteristics.

We then edited the manuscripts to ensure that they adhered to diplomatic standards [23]. The diplomatic edition was divided into two phases. The first stage involved creating a facsimile edition, which involved reproducing or photographing each page of the manuscript (first to thirteenth pages). The second stage involved the purification of the written script, specifically from Lampung script to Latin script.

We examined the shape of each character in the NLP97N69 and Hahiwang manuscripts, as well as the style and manner of writing employed by each character. Each character was compared to the current Lampung script. This enabled the examination of the distinctions between the characters in each text.

3 Results and Discussion

3.1 NLP97N69 Manuscript Description

The manuscript described physically is one of those stored in 97 crate storage number 69 at the National Library. The following is a description of the NLP97N69 manuscript within this sub-chapter: (1) the condition of the manuscript; (2) the material of the manuscript; (3) the age of the manuscript; (4) the size of the manuscript; (5) the number of pages; (6) the number of lines per page; (7) the type of writing and ink used; and (8) the condition of each page of the manuscript.

Overall, the manuscript is in excellent condition. The manuscript is legible. However, on the final two pages, pages 12 and 13, the manuscript's centre is slightly damaged. On that page, the manuscript paper was divided, despite the fact that it did not separate the two halves of the paper.

The NLP97N69 is one of the Bark Book manuscripts kept at Indonesia's National Library. NLP97N69 is catalogued in the Bahrend Catalog as Peti 97 Number 69. This manuscript is housed on the National Library's fifth floor in either the collection room or the old manuscript storage room.

The bark manuscript NLP97N69 is referred to as the bark book. The manuscript incorporates halim bark. This manuscript was created using bark that has been processed to resemble paper, but with a rougher

texture and a stiffer sheet than European paper. This manuscript's paper is made from bark and is a dark brown colour with a combination of black at the manuscript's edges. Additionally, as the manuscript cover ages, it becomes thicker, harder, and wavy. In the top left corner of the manuscript cover, a white manuscript storage number, 69, is inscribed. On the middle left is a white paper patch with the following information: 97, 69, 97, 97, 97, 97, 97, 97, 97, :-.

The NLP97N69 manuscript lacks a colophon that could provide information about the manuscript's age. However, the age of the NLP97N69 manuscript can be estimated based on the typeface used in the manuscript. Based on Van der Tuuk's [15] study of the Lampung script's development, the Old Lampung script used around the XIII-XVII centuries underwent changes in some of its characters up to six times. The Lampung script used in the NLP97N69 script is from the youngest century, roughly the XVII century. Additionally, as a manuscript containing a storey about Nur Muhammad from one of the Sufi literatures, it indicates that the manuscript was written around the sixteenth century, when the symbols of Islam arrived in the Lampung area. According to this, the NLP97N69 manuscript was most likely written after the XVII century.

The NLP97N69 is shaped like a book, but not the kind where the pages are held together by a drain. However, the book is formed by folding bark that has been processed like paper 12 times to create a book that measures 18.8 cm long and 12.4 cm wide and has one face. When stretched, the fold has a width of 12.4 cm X 12 or 135.8 cm, plus the width of the 13th page, which is 9.4 cm long. This results in a width of 145.2 cm with a fixed length of 18.8 cm.

The number of pages containing text or at the top of the manuscript is 13 pages, based on the results of the manuscript's folds. A blank page appears at the bottom or back of the manuscript. This manuscript is not numbered.

Lampung script is used to write NLP97N69 3654. Lampung script belongs to the Kaganga family because Lampung letters, when used alone, contain the sound a, and are thus referred to as Basaja in the spelling [18]. Black ink is used to write. The writing is in excellent condition, making it easy to read.

The writing begins on the first page or immediately following the cover page and continues until the thirteenth page. Each page contains a different number of lines of writing. The first page contains 14 lines, the second 13 lines, the third 13 lines, the fourth 12 lines, the fifth 13 lines, the sixth 12 lines, the seventh 12 lines, the eighth 13 lines, the ninth 13 lines, the tenth 14 lines, the eleventh 12

lines, the twelfth 12 lines, and the thirteenth page contains 9 lines.

There are also illustrations of flowers on several pages of text. This flower image is used to indicate the beginning of a new discussion or chapter. The flowers depicted in this text have a variety of petals. Following this word on page I, row 10, is a drawing of a flower with four petals on top and bottom. On page II, row 12, near the beginning of the row, there is a drawing of a six-petaled flower. On page IV, the eighth line after the word, there is an illustration of a six-petaled flower. On page V, the tenth line after the title, there is a drawing of a six-petaled flower.

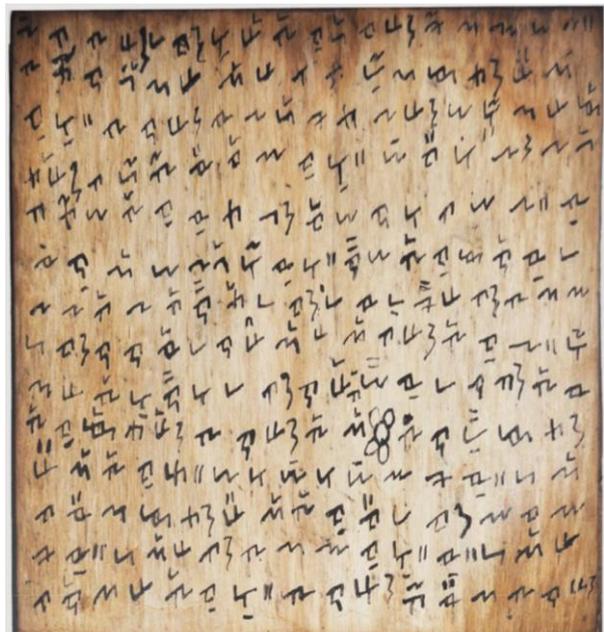


Figure 1. Facsimile Format Page I of NLP97N69 Manuscript

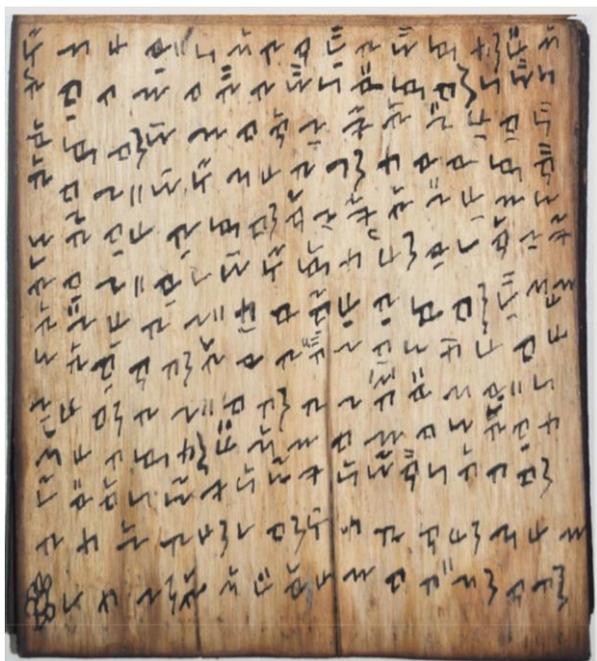


Figure 2. Facsimile Format Page II of the NLP97N69 Manuscript

The manuscript's page VI contains multiple flower images. After the word *wind* in the fourth line, there is a drawing of a flower with three petals attached to only the left. After the word *wind* in the seventh line, there is a drawing of a flower with four petals arranged from top to bottom but only covering the left side of the flower. In the eighth row, right at the start of the row, there is an image of a six-petalled flower.

On page VII, an image of a flower in the seventh row is included. The flower images on this page are slightly different from the previous pages' flower images. The four petals are arranged in a broken line with a circle in the centre on the bottom right. There are no floral illustrations on pages VIII, IX, or X.

There is an image of a six-petalled flower on page XI of the fifth row. A three-petalled flower is depicted on page XII of the eighth row. On this page, the flower petals are drawn larger than on the previous page's flower images. The petals of the flower are arranged correctly. There are no floral illustrations on Page XIII.

3.2 Description of the Hahiwang Manuscript

Hahiwang is one of the bamboo manuscripts housed in Germany's Staatsbibliothek Zu Berlin in The Hag. This ancient manuscript is catalogued as Schoem IX 1 in the Staatsbibliothek Zu Berlin's Catalog of Indonesian Manuscripts Collection.

The description of the materials used to create the script is included to illustrate the manuscript's basic components. Bamboo can be used to create the

manuscript. Bamboo *betung* was traditionally used as a medium for writing texts. It is referred to in Latin as *Dendrocalamus Asper*. This bamboo is a very strong and robust species of bamboo, growing in an upright position with clearly visible segments. Bamboo typically grows to a height of 30 metres. The bamboo that is used to write the script must first be soaked in water for an extended period of time until it darkens in colour. Following that, the soaked bamboo is dried in the sun until completely dry [14].

Hahiwang, also known as *gelumpai* script, is a bamboo-based script. The bamboo on which this manuscript is built has been treated in such a way that its surface can be scratched during the writing process. Some of the bamboo used to write scripts is whole, while others is split into multiple pieces. The Hahiwang manuscript makes extensive use of split bamboo.

Ancient manuscripts that are bound with European paper employ a curing system. However, the Hahiwang script, which is based on a bamboo slat, creates a hole at one end of the bamboo to connect the script.

The manuscript's age can be determined in a variety of ways, one of which is through the colophon. The colophon is the section that contains various types of information. However, there is a possibility that we will occasionally need to exercise caution because the manuscripts we are dealing with are copies of other manuscripts that are unquestionably older [26]. The Hahiwang manuscript lacks a colophon that could provide information about the manuscript's age. However, the age of the Hahiwang manuscript can be estimated based on the type of characters used in the manuscript. According to Van der Tuuk's [15] study of the Lampung script's development, the Old Lampung script used between the XIII and XVII centuries changed some of its characters up to six times. The Lampung script used in the Hahiwang script is the script that was not used in that period's youngest century. However, the opening greeting, which contains the word *assalamualaikum*, indicates that the manuscript was written around the sixteenth century, when Islamic symbols arrived in the Lampung area. According to this, the Hahiwang manuscript was most likely written after the sixteenth century.

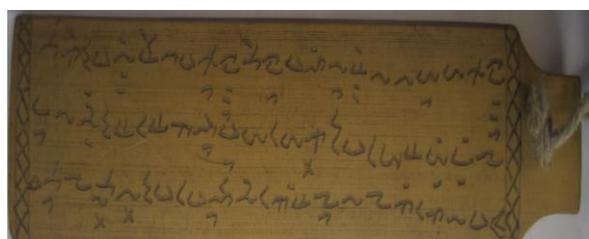


Figure 3. Facsimile Format of the Hahiwang Manuscript

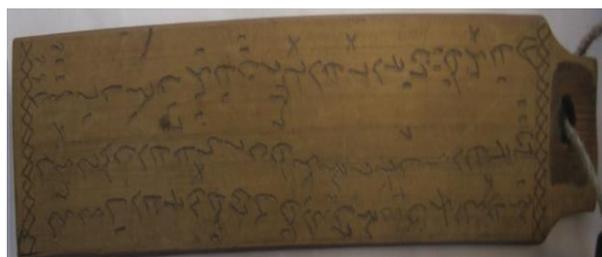


Figure 4. Facsimile Format of the Hahiwang Manuscript

The Hahiwang manuscript is composed of split bamboo, not whole bamboo, which is called *gelumpai*. The bamboo blade bearing the text Hahiwang measures 12.5 cm in length and 2 cm in width. If the bamboo contains the text of Hahiwang in chronological order, the Hahiwang manuscript will measure 12 cm x 52 cm. The manuscript is numbered from 1 to 26 at the back.

The bamboo base of the script requires the use of a special writing utensil. Typically, a taper lading is used to write the Lampung script, which is composed of hard materials such as bamboo and animal horns. A lading taper is a small knife with a pointed, sharp tip. The bamboo that serves as the script's foundation will be scratched to create the text with this pointed plate. The Lampung script is used to write the Hahiwang manuscript. Due to the fact that the Hahiwang text was written on bamboo, the script did not include ink to indicate the writing. However, scripts that employ bamboo media employ *hapul* and roasted candlenuts to emphasise the letters inscribed on the script's base [14].

On the first chip, writing begins with the text's initial opening sign, two square brackets, and the opening word greetings. Each chip contains a different number of lines of writing. The first to ten pieces contain three lines of text; the eleventh page contains three lines; the twelfth page contains three lines; the thirteenth page contains four lines; the fourteenth page contains three lines; and the fifteenth to twenty-sixth page contains three lines.

At the start of each paragraph, there is an opening sign indicating the start of the text. The text begins with two square brackets. Throughout the text, this bracketed image takes on two distinct shapes. From the first to the fifth pieces, two square brackets are written in a row to the side. From the sixth to the twenty-sixth lines, the text's first indication is in the form of a row of square brackets written upwards.

3.3 Information of the Manuscripts

The Sumatran script is known as the *ka ga nga* family script. This script is an indirect descendant of the Palawa script. *Ka ga nga* is the name given to the script or style of writing used by the Central Malay, Rejang, Lampung, and Kerinci peoples. The Rencong script or Ulu writing is another name for the *ka ga nga* script [16]. Lampung people refer to the script as Had Lampung, *Surat Lampung*, or *Kelebai Surat Lampung*. Although the *ka ga nga* script is mentioned as the script used by the Central Malay, Rejang, Lampung, and Kerinci communities, the scripts used by these communities differ in form [17]. The genealogy of the characters that developed in Sumatra is depicted in Figure 5.

Lampung script has evolved since its inception. Lampung people generally classify the Lampung script into two categories: the Old Lampung script and the Lampung script as it is today. Lampung script is a syllabic script or syllable script, which means that it consists of consonants and vowels.

According to historical evidence, the development of scripts representing regional languages in the archipelago began with the spread of Hinduism and Buddhism [27]–[30]. Additionally, it accelerated when Islam began to penetrate the archipelago. Thus, the Lampung script evolved most likely from the Palawa script and was also influenced by the Arabic script [31], [32]. Around the seventh century, the Srivijaya Kingdom in South Sumatra is believed to have been the birthplace of the Lampung script [33].

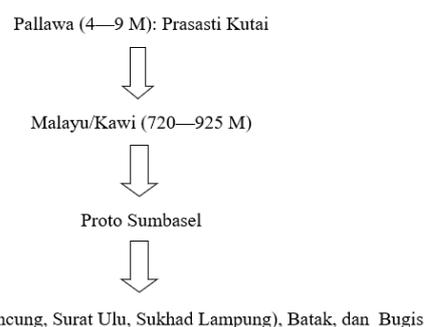


Figure 5. Genealogy based on the Development of the Characters on Sumatra Island

Lampung script's use as a tool for recording various pieces of information in the Lampung area can be divided into three eras: the past, colonialism, and the present [34]. The Lampung script is not even a representation of the Lampung language. However, historical evidence suggests that the Lampung script was used to represent the Malay or Banten language. Along with the historically diverse forms, the writing style has several variants, including Khad Lampung

Ho, Khad Lampung Jebi, Khad Lampung Tumbai, Khad Lampung Ampai, Khad Lampung Angka, and Khad Lampung Ganta.

Based on the foregoing, information about the Lampung script is necessary to support the script's study in the following section. Additionally, this subchapter will include a description of the old Lampung script and the current Lampung script, which will serve as a foundation for identifying the various forms of the old Lampung script.

3.3.1 Old Lampung Script

Since its inception, the Lampung script has grown in popularity. As a result, the Lampung people

classify the Lampung script into two categories: the old Lampung script and the current Lampung script. According to Van der Tuuk's [15] study of the Lampung script's development in Les Manuscripts Lampongs, the Lampung script has numerous writing variants. These differences were identified in ten Lampung scripts. The following is a synopsis of Van der Tuuk's [15] study of script variations in ten ancient Lampung scripts. This synopsis is presented in Table 1.

Table 1. Variations of the Van der Tuuk's Lampung Script

No	Scripts	Scripts											
		A						B	C	D	E	F	
		I	II	III	IV	V	VI						
1	ka	က	က	က	က	က	က	က	က	က	က	က	က
2	ga	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ	ဂ
3	nga	န	န	န	န	န	န	န	န	န	န	န	န
4	pa	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ
5	ba	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ	ဘ
6	ma	မ	မ	မ	မ	မ	မ	မ	မ	မ	မ	မ	မ
7	ta	တ	တ	တ	တ	တ	တ	တ	တ	တ	တ	တ	တ
8	da	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ	ဒ
9	na	န	န	န	န	န	န	န	န	န	န	န	န
10	ca	စ	စ	စ	စ	စ	စ	စ	စ	စ	စ	စ	စ
11	ja	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ	ဇ
12	nya	န	န	န	-	-	-	-	-	န	န	န	န
13	ya	ယ	ယ	ယ	ယ	ယ	ယ	ယ	ယ	ယ	ယ	ယ	ယ
14	a	အ	အ	အ	အ	အ	အ	အ	အ	အ	အ	အ	အ
15	la	လ	လ	လ	လ	လ	လ	လ	လ	လ	လ	လ	လ
16	ra	ရ	ရ	ရ	ရ	ရ	ရ	ရ	ရ	ရ	ရ	ရ	ရ
17	sa	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ	ဆ
18	wa	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ	ဝ
19	ha	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ	ဟ
20	gra	-	-	-	-	-	-	-	-	-	-	-	-

The script is classified into three types: alphabetical, syllabic, and morphemic. One consonant and one vowel are represented by the one-letter alphabet. The Latin script, for example, is used in English and Indonesian. A single character's syllabic script or syllable is represented by a

consonant and a vowel. Japanese, Javanese, and Lampung scripts are all examples. Morpheme script is a morpheme-based script in which each morpheme represents a collection of sounds, a tone, and a meaning. Kridalaksana in Enchantment of Language

Table 2. Sound Signs based on Van der Tuuk's Study

No	Scripts	Scripts										
		A						B	C	D	E	F
		I	II	III	IV	V	VI					
1	i											
2	u											
3	e											
4	ng											
5	r											
6	h											
7	n											
8	ay											
9	aw											
10	o											
11	kill/die											

[35] provides an illustration of morphemic characters found in Mandarin. Lampung script is included in the *ka ga nga* family as a syllabic script.

Lampung's syllabic script consists of one consonant and one vowel, resulting in the presence of the sound /a/ in a stand-alone Lampung script. Lampung script is also known as *Basaja* [18]. Lampung language does not rely solely on the sound or vowel a to fulfil its communication function. Lampung has additional vowel sounds. The following is a list of additional audible signs based on Van der Tuuk's research.

3.3.2 Today's Lampung script

Lampung's current script is a simplified version of the ancient Lampung script, which is quite varied. In 1971, a Decree of the Head of Representative of the Ministry of Education and Culture initiated the process of standardising the Lampung script, which was adapted to the Lampung script reading and writing textbook compiled by M. Noeh. The Decree was issued in response to the research team's proposal to schedule the beginning of Lampung script reading and writing lessons for students.

One reason for wanting to standardise the Lampung script is to eliminate the numerous variations of the Lampung script found in various areas throughout Lampung Province. The government wishes to ensure that each region retains its own variation of the Lampung script. The government, however, wishes to standardise a form of Lampung script that can be used throughout the country. Additionally, the government wishes to incorporate the findings of a research team's study of the Lampung script by increasing the number of

Lampung scripts from 19 to 20. The *gha* script is the twentieth script added.

On February 23, 1985, the two proposals that had been put forward since 1971 were finally approved, based on the results of traditional leaders' deliberations. Following this, the government issued two regulations aimed at further preserving the Lampung script as an integral part of Lampung culture: Lampung Provincial Regulation Number 2 of 2008 on the Preservation of Lampung Culture and Lampung Governor Regulation Number 39 of 2014 on Lampung Language and Script Subjects as Mandatory Local Content at the Elementary and Secondary Education Unit Levels [7].

Additionally, some experts have conducted research on the history and development of the Lampung script. The following table compares old and new Lampung scripts, based on a summary conducted by Pudjiastuti [14], [36].

3.4 Forms and Variations of the Lampung Script in the NLP97N69 and the Hahiwang Manuscripts

The appearance of characters in each manuscript varies according to the author's writing style. The previous presentation demonstrated variations in the appearance of the Lampung script in ten ancient Lampung scripts described by Van Der Tuuk [15]. Thus, the following describes the Lampung script's appearance and characters in two ancient Lampung scripts, namely the NLP97N69 and the Hahiwang manuscripts. The introduction of the old Lampung script in both manuscripts was determined by

referring to Van der Tuuk's Les Manuscripts Lampongs [15].

Table 3. Old and New Lampung Scripts

No	Scripts	Script	
		Old	New
		I	II
1	ka		
2	ga		
3	nga		
4	pa		
5	ba		
6	ma		
7	ta		
8	da		
9	na		
10	ca		
11	ja		
12	nya		
13	ya		
14	a		
15	la		
16	ra		
17	sa		
18	wa		
19	ha		
20	gra		

In this section, we describe the shape of the characters contained in the NLP97N69 and Hahiwang texts sequentially (alphabetically). Each character is analysed for its function and usage in the text before it becomes a word or sentence. Additionally, each character will be compared to the current form of the Lampung script in order to demonstrate the differences and peculiarities between the old Lampung script and the NLP97N69 and Hahiwang scripts.

There are twenty Lampung script forms in the NLP97N69 manuscript: *ka, ga, nga, pa, ba, ma, ta, da, na, ta, ja, nya, ya, a, la, ra, sa, wa, ha, and gha*, but only nineteen in the Hahiwang manuscript. The following table compares the Lampung script used in the NLP97N69 to the Hahiwang. The script's forms and variants are compared to the contemporary Lampung script in order to demonstrate the distinction between the ancient Lampung script and the contemporary Lampung script.

Table 4. Forms and Variations of the Lampung Script

No.	Today's characters and their sounds	Script on NLP97N69 Manuscript	Characters in the Hahiwang Manuscript
1.	k (Ka)		
2.	g (Ga)		
3.	G (Nga)		
4.	p (Pa)		
5.	b (Ba)		
6.	m (Ma)		
7.	t (Ta)		
8.	d (Da)		
9.	n (Na)		
10.	c (Ca)		
11.	j (Ja)		
12.	N (Nya)		
13.	y (Ya)		
14.	a (A)		
15.	l (La)		
16.	r (Ra)		
17.	s (Sa)		
18.	w (Wa)		
19.	h (Ha)		
20.	H (Gha)		-

Ka. The lampung script sequence begins with the *ka* script. In the current Lampung script, the *ka* script takes the form: *k*. The vertical line in the middle of the horizontal line without crossing it is the *ka* script's distinguishing feature. The writing begins with the formation of a diagonal line ascending from left to right and then vertically downward. The diagonal line upward is lengthened relative to the vertical line downward. The second pull establishes a vertical line in the diagonal line's centre. The *ka* script found in the NLP97N69 and Hahiwang texts is identical to the current *ka* script and to the ten *ka* characters found in the Van der Tuuk script variation table [15]. However, in the Hahiwang text, the diagonal line in the *ka* script is horizontal.

Ga. The *ga* script is the second character in the sequence of the Lampung script. In the current

Lampung script, the *ga* script takes the following form: *g*. The *ga* script is similar to the *ka* script in shape, but lacks the vertical line in the centre of the horizontal line. The letter *ga* is written by first drawing a diagonal line upward from left to right and then vertically downward. The diagonal line upward is lengthened relative to the vertical line downward. The *ga* characters found in the NLP97N69 text are identical to those found in the current *ga* script and to the ten *ga* characters found in the Van der Tuuk script variation table [15]. The *ga* script used in the Hahiwang text is identical to the current *ga* script and to the ten *ga* characters listed in the Van der Tuuk script variation table [15]. The diagonal line in the *ga* character in the Hahiwang text, on the other hand, is horizontal.

Nga. The *nga* script is the third in the sequence of Lampung scripts. In the current Lampung script, the *nga* script takes the following form: *g*. To begin writing the *nga* script, form an upward diagonal line from left to right, then a short vertical line downward, followed by another upward diagonal line. The second pull establishes a vertical line parallel to the second diagonal line. The *nga* script in the NLP97N69 and Hahiwang texts is not identical to the current *nga* script, but it is similar in shape to the *nga* script in column A.V of the Van der Tuuk script variation table. The writing begins by forming a diagonal line up from left to right, followed by a short vertical line down and then another diagonal line up. The second pull creates a brief vertical line downward, followed by a diagonal line upward.

Pa. The *pa* script is the fourth character in the sequence of the Lampung script. In the current Lampung script, the *pa* script takes the following form: *p*. The *pa* script is shaped similarly to the *ga* script, but inverted. To begin writing the *pa* script, draw a downward diagonal line from left to right and then up diagonally. The diagonal line on the downward side is shorter than the diagonal line on the upward side. The *pa* script found in the NLP97N69 and Hahiwang texts is identical to the current *pa* script and to the ten *pa* characters found in the Van der Tuuk script variation table [15].

Ba. The *ba* script is the fifth character in the sequence of the Lampung script. In the current Lampung script, the *ba* script takes the following form: *b*. The writing begins by drawing a diagonal line from left to right and then diagonally up. The diagonal line on the downward side is shorter than the diagonal line on the upward side. The second pull, forming a short vertical line down at the intersection of the diagonal line up and down. The *ba* script in the NLP97N69 and Hahiwang texts is identical to the current *ba* script, but none of the *ba* characters in the

Van der Tuuk's [15] script variation table are identical. However, in the Hahiwang text, the diagonal line in the *ba* script is horizontal.

Ma. The *ma* script is the sixth character in the sequence of the Lampung script. In the current Lampung script, the *ma* script takes the following form: *m*. To begin writing the letter *ma*, draw a diagonal line from left to right and then up diagonally. The diagonal line on the downward side is shorter than the diagonal line on the upward side. The second pull will result in the formation of a short vertical line up in the centre of the diagonal line up. The *ma* script found in the NLP97N69 and Hahiwang texts is identical to the current *ma* script and also to the *ma* script found in columns AV, A.VI, B, C, E, and F of the table of Van der Tuuk's [15]. script variations. However, in the Hahiwang text, the diagonal line in the *ma* script is made horizontal.

Ta. *Ta* script is the seventh script in Lampung's sequence of scripts. In the current Lampung script, the *ta* script takes the following form: *t*. To begin writing the *ta* character, create a diagonal line ascending from left to right. The second drag creates a short vertical line in the centre of the first diagonal line, followed by a diagonal line up and down to the right. The diagonal line to the right is lengthened relative to the vertical line to the left. The *ta* script found in the NLP97N69 and Hahiwang texts is not identical to the current *ta* script, but it does have the same shape as the *ta* script found in column A.I of the Van der Tuuk's [15] script variation table. The *ta* character is written by first drawing a diagonal line upward from left to right and then vertically downward. The diagonal line upward is lengthened relative to the vertical line downward. Form a vertical line down from the centre of the first diagonal line in the second pull, which is then continued with a horizontal line to the right. The vertical line extending downward is shorter than the horizontal line extending to the right.

Da. *Da* is the eighth script in the Lampung script family. In the current Lampung script, the *da* script takes the following form: *d*. To begin writing the *da* script, draw a diagonal line upward from left to right, followed by a vertical line downward. The diagonal line upward is lengthened relative to the vertical line downward. The *da* script used in the NLP97N69 and Hahiwang texts is not identical to the current *da* script, but it is similar in shape to the *ta* script found in column A.II of the Van der Tuuk's [15] script variation table. To begin writing the *da* script, draw a diagonal line upward from left to right, followed by a vertical line downward. The diagonal line upward is lengthened relative to the vertical line downward. Form a vertical line downward from the centre of the

first diagonal line in the second pull, followed by a short horizontal line to the right and then a vertical line downward.

Na. The *na* script is the ninth in the sequence of Lampung scripts. In the current Lampung script, the *na* script takes the following form: *n*. The writing begins with the formation of a diagonal line from left to right, followed by a short vertical line down, followed by another diagonal line to the right, followed by another short vertical line down. The *na* script found in the NLP97N69 and Hahiwang texts is identical to the current *na* script and also to the *na* script found in columns A.II to d.VI, B, C, D, E, and F of the table of Van der Tuuk's [15] script variations. The *na* character is currently written as is the *na* character in the NLP97N69 text.

Ca. The *ca* script is the tenth in the sequence of Lampung scripts. In the current Lampung script, the *ca* script takes the following form: *c*. To begin writing the letter *ca*, draw a vertical line from top to bottom, followed by a diagonal line up and to the right, followed by a short vertical line down. The second pull creates a vertical line that cuts through the diagonal line's centre. The *ca* script found in the NLP97N69 and Hahiwang texts is identical to the current *ca* script and also to the *ca* script found in columns A.II, A.IV, AV, A.VI, B, C, D, E, and F of the table of Van der Tuuk's [15] script variations.

Ja. In the Lampung script sequence, the *ja* script is the eleventh script. In the current Lampung script, the *ja* script takes the following form: *j*. To begin writing the letter *ja*, form a diagonal line from left to right, then a short vertical line down, then another diagonal line to the right, followed by another short vertical line down. The second pull creates a short vertical line through the centre of the first diagonal line up. The *ja* script in the NLP97N69 and Hahiwang texts is not identical to the current *ja* script, and none of the *ja* script forms in the Van der Tuuk's [15] script variation table are identical to the *ja* script in the NLP97N69 and Hahiwang texts. However, there are several variants of the letter *ja* in the table of variations of the Van der Tuuk's [15] script column A.IV, V, VI, B, C, and F that are nearly identical to the variants found in the texts NLP97N69 and Hahiwang.

Nya. The *nya* is the twelfth script in the Lampung script family. In the current Lampung script, the *nya* script takes the following form: *n*. The initial writing is accomplished by drawing an upward diagonal line from left to right, followed by a short vertical line downward, followed by another diagonal line upward to the right, followed by another short vertical line downward, followed by another diagonal line upward to the right. The *nya* characters found in the

NLP97N69 text are identical to the current *nya* character and also to the *nya* character found in columns A.II, A.III, and F of the table of Van der Tuuk's [15] script variations. The *nya* script used in the Hahiwang text is shaped differently than the modern *nya* script. It does, however, have the same form as the *nya* characters in columns A.I, D, and E of the table of Van der Tuuk's [15] script variants. In the Hahiwang text, the *nya* character is written by first drawing a horizontal line from left to right and then vertically downward. The horizontal line is made longer than the vertical line running downward. The second pull establishes a vertical line in the diagonal line's centre. The third drag creates a vertical line in the horizontal line's left third.

Ya. *Ya* is the thirteenth script in Lampung's sequence of scripts. *Ya* in Lampung script has been renamed *y*. To begin writing the characters, draw a vertical line from top to bottom, then a diagonal line up and to the right, followed by a short vertical line down and then another diagonal line up and to the right. The *ya* script found in the NLP97N69 text is identical to the current *ya* script and also to the ten *ga* characters found in the Van der Tuuk's [15] script variation table. The *ya* script in the Hahiwang text resembles modern script.

A. The script *a* is the fourteenth in the sequence of Lampung scripts. The current Lampung script's *a* script takes the following form: *a*. To begin writing the letter *a*, form a diagonal line up from left to right, then a short vertical line down, followed by another diagonal line up. The second pull establishes a vertical line parallel to the first diagonal line. The *a* character in the NLP97N69 text is identical to the current *a* character and also to the ten letters *a* in the table of Van der Tuuk's [15] script variations. The script *a* in the Hahiwang text is distinct from the current *a* and the ten letters *a* in the table of Van der Tuuk's [15] script variations. To begin writing the *a*, draw a horizontal line from left to right, then a short vertical line down, followed by another horizontal line to the right.

La. The *la* script is the fifteenth script in the sequence of the Lampung scripts. In the current Lampung script, the script *la* takes the form: *l*. To begin writing the letter *la*, form a diagonal line up from left to right, then a short vertical line down, followed by another diagonal line up. The *la* script in the NLP97N69 text is identical to the current *la* script and to the ten *la* characters in the Van der Tuuk's [15] script variation table. The *la* script found in the Hahiwang text is similar in shape to the current *la* script and also resembles the ten *la* characters found in the Van der Tuuk's [15] script variation table.

However, in the Hahiwang text, the diagonal line in the script *la* is made horizontal.

Ra. The *ra* script is the sixteenth in the sequence of Lampung scripts. In the current Lampung script, the *ra* takes the following form: *r*. The *ra* character is written by first drawing a diagonal line up from left to right and then a short vertical line down. The second pull is performed by tracing a short vertical line downward from the centre of the first pull's diagonal line and then tracing a diagonal line to the right. In the second pull, the downward vertical line is made shorter than the upward diagonal line. The *ra* script found in the NLP97N69 and Hahiwang texts is identical to the current *ra* script and to the *ra* script found in the AI, A.II, A.III, A.IV, AV, A.VI, B columns, C, and F of the table of Van der Tuuk's [15] script variations. However, in the Hahiwang text, the diagonal line in the *ra* is made horizontal.

Sa. The *sa* script is the seventeenth in the sequence of Lampung scripts. In the current Lampung script, the *sa* script takes the following form: *s*. The *sa* character is written by first drawing a diagonal line up from left to right and then a short vertical line down. The second pull is accomplished by drawing a short vertical line up from the diagonal line's centre. The *sa* script contained in the NLP97N69 text is nearly identical to the current *sa* form and also to the *sa* form contained in columns C and F of the table of Van der Tuuk's [15] script variations. To begin writing the *sa* script on the NLP97N69 text, create a diagonal line ascending from left to right, followed by a short vertical line downward. The second pull is accomplished by cutting the diagonal line with a vertical line. The *sa* script used in the Hahiwang text is distinct from the modern *sa* script. It does, however, take the same form as the letter *sa* in columns D and E of the table of Van der Tuuk's [15] script variants. The *sa* script is written in the Hahiwang text by first drawing a diagonal line up to the left, then a horizontal line to the right, and finally a diagonal line down to the left.

Wa. *Wa* is the eighteenth script in the Lampung script family. In the current Lampung script, the *wa* script takes the following form: *w*. The *wa* character is written by first drawing a diagonal line upward from left to right and then a short vertical line downward. The second pull is accomplished by drawing a diagonal line up directly above the end of the vertical line created in the first pull. The *wa* script found in the NLP97N69 and Hahiwang texts is nearly identical to the current *wa* script and to the *wa* script found in column A.III of the Van der Tuuk's [15] script variation table. The *wa* script is written in the NLP97N69 and Hahiwang texts by first drawing a diagonal line from left to right and then a short

vertical line down. The second pull is formed by cutting the vertical line in the first pull with a diagonal line up to the right. However, in the Hahiwang text, the diagonal line in the *wa* script is made horizontal.

Ha is the nineteenth script in the Lampung script family. In the current Lampung script, the script *ha* takes the form: *h*. To begin writing the letter *ha*, draw a vertical line from top to bottom, then a diagonal line up and to the right, followed by a vertical line down. The *ha* script found in the NLP97N69 and Hahiwang texts is identical to the current *ha* script and to the ten *ha* characters found in the Van der Tuuk's [15] script variation table.

Gha. The *gha* script is the twentieth script in Lampung's sequence of scripts. In the current Lampung script, the *gha* script takes the following form: *h*. The *gha* script is written by first forming a short vertical line down and then a diagonal line up to the right. The second pull is accomplished by drawing a diagonal line upward and then a short vertical line downward. The NLP97N69 text contains a *gha* script that is identical to the current *gha* script. However, the *gha* script is not present in any of the characters listed in the table of Van der Tuuk's [15] script variants. The Hahiwang text does not contain the *gha* script. As a result, the Hahiwang text contains only nineteen characters.

4 Conclusion

Lampung script has received little research. A paleographic study examining the shape of the Lampung script is a significant step in the history of the Lampung script's development. This study is critical in terms of preserving and developing local languages and scripts.

The current findings suggest that the shape of the Lampung script changed prior to the script being used today. The paleographic study conducted in this study makes use of the contemporary Lampung script and Van der Tuuk's [15] Lampung script table as a point of comparison. This research demonstrates that not all of the characters in the two manuscripts correspond to those in the contemporary script or the Van der Tuuk's table. The differences in forms and variations discovered in this study indicate that the Lampung script evolves and changes in response to the script's users' needs. Additionally, it was discovered that the scriptwriter of the Hahiwang did not use the *gha* script. This demonstrates that the *gha* script developed in response to the requirements of its users, particularly after Islam arrived and introduced a vocabulary containing the letter *gha*.

Additionally, the findings imply that the local government, with the support of all parties, should take an active role in preserving the Lampung scripts, such as by using Lampung scripts for public signage. This study, however, has limitations. While this study was able to shed light on the differences between ancient Lampung scripts and those in use today, it was conducted in isolation from historical and cultural contexts. As a result, future research should focus on perspectives to gain a more holistic understanding of the phenomenon. Additionally, conducting research with participants, such as through interviews, is a good way to ensure that conclusions are valid.

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Contribution of individual authors to the creation of a scientific article (ghostwriting policy)

Farida Ariyani and Nurlaksana Eko Rusminto contributed to the interpretation of data and source identification. Sumarti conducted the data analysis. As. Rakhmad Idris and Lisa Misliani aided in the analysis process by gaining access to the original Hahiwang and NLP97N69 manuscripts.

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