

## The Development of Champa Script In Vietnam

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### Abstract:

The Cham people in Vietnam boast a rich history and unique writing system. In the early days, writing was influenced by the Indian Brahmi script, and later developed along with their civilization. Initially used for religious purposes on temple structures, this script gradually diversified into distinct styles to suit the language and life in the Champa Kingdom. This script served administrative, literary, and commercial record keeping functions. However, the decline of the Champa kingdom led to a decline in the use of this script. Despite its irreplaceable historical value, this heritage is facing threats from natural and human factors. The paper traces the history of Cham language research, noting pivotal contributions by French scholars in the 19th and 20th centuries and current preservation initiatives. It highlights the preservation methods within Cham families, intellectual circles, and institutions, emphasizing the importance of traditional practices and modern efforts. The challenges of teaching Cham in contemporary schools are discussed, alongside the potential of digital technology to aid language preservation.

**Keywords:** Champa, script, development, Vietnam

### 1. Introduction:

The Champa Kingdom was a thriving civilization from the 2nd to the 15th century in Central Vietnam with interconnected kingdoms. Between these kingdoms there is a common cultural identity but there are still unique features. The Champa kingdom consisted of four main regions—Amaravati, Vijaya, Kauthara and Panduranga; it once stretched from the mountains to the coastal plains, so it had a very diverse culture. The Cham people, who can be introduced as descendants of the Sa Huynh culture, developed an advanced society famous for its maritime trade, famous architectural and artistic achievements. The My Son temples and towers, a UNESCO World Heritage Site, demonstrate their architectural prowess. While the Cham script, derived from the

Pallava script in southern India, shows the development of writing in this civilization very early. Historical records, including ancient Chinese texts (such as the Xin Tang Shu and Shui Jing Zhu) and Vietnamese historical records (like the Complete history of Dai Viet and Dai Nam Nhat Thong Chi) all record the origins and development of Champa. These sources highlight the kingdom's complex political structure, spiritual piety, and extensive commercial relationships. The Cham people's contributions to cultural heritage, especially through their unique architecture, art and literature, have left a lasting legacy for humanity.

Cham belongs to the Malayo-Polynesian branch of the Austronesian language family, linking it more closely with languages such as Malay and

Hawaiian than with surrounding Mon-Khmer languages in mainland Southeast Asia. There are two main dialects: Eastern Cham, used by the Cham community in Vietnam, and Western Cham in Cambodia. There are different sub-groups within these two regions, but among East and West Cham there are distinct varieties of script — Western Cham is slightly more angular and Arabic in influence; Eastern Cham is more rounded, more Indic, with influences from Sanskrit. While Western Cham who follow Islam may also use Arabic script for everyday writing purposes, Eastern Cham retain more traditional forms of writing that date back to the Champa civilization. Each dialect reflects regional influences and historical developments. The language has undergone changes due to external influences, such as the incorporation of Sanskrit and Arabic words.

## **2. Main content:**

### **2.1. The studies of Cham language:**

The study of Cham language began to gain interest and development in the mid-19th century. French scholars from the Far Eastern School of France pioneered research on Cham script and dialect, publishing several articles on Cham scripts and dialects, marking the first studies of the Cham people. E. Aymonier was prominent in this field, publishing numerous works on Cham language and script, such as his research on “Cham Grammar” in *Excursions et Reconnaissances XIV – 32* (1889), “Preliminary Study on Cham Inscriptions” in *Journal Asiatique XVII – 1* (1891), M. C. Paris’s reports on inscription discoveries (1898), and P. Durand’s announcement of a Cham inscription found near Kon Tra village (1899).

In the mid-20th century, research had positive results, producing meaningful translations and the preservation of Cham manuscripts also gradually received more attention. In 1901, L. Finot published a catalog of Cham architectural works. In 1906, A. Cabaton and E. Aymonier released a Cham-French dictionary, a fundamental work on Cham language and script. In 1911, they published a translation of the Cham inscription regarding Po Sah. During this period, based on Cham and

Chinese sources, G. Maspero wrote the book “The Kingdom of Champa” (1928). However, after the 1930s, the focus on researching and collecting Cham manuscripts waned, almost fading into oblivion for nearly half a century.

Research on the Cham people and their written civilization gained renewed interest in 1969, thanks to the Center for History and Civilization of the Indochinese Peninsula, part of the History and Philology Division at the School of Practical Studies (Sorbonne University). Researchers first summarized existing studies and materials to pave the way for future research. In 1987, to utilize resources stored in French libraries, the National Museum of Malaysia and the French School of the Far East initiated a collaborative program to translate Cham manuscripts. This program resulted in several important publications by Po Dharma, G. Moussay, Abdul Karim, and Duong Tân Thi, including “Akayet Inra Patra” (Kuala Lumpur, 1997), “Akayet Dowa Mano” (Kuala Lumpur, 1998), “Akayet Nai Mai Mang Makah” (Kuala Lumpur, 2000), “Quatre lexiques malais-cam anciens” (EFEO, Paris, 1999), and “Peribahasa Cam Dictons & Proverbes Cam” (Kuala Lumpur, 2002).

Since the 1990s, the efforts of organizations such as the University of Social Sciences and Humanities - Vietnam National University, Ho Chi Minh City, have continued to preserve and research Cham cultural heritage, providing financial resources. Valuable material to learn about this ancient civilization. The program from December 1998 to December 2002 culminated in the publication of “Catalog of Cham Manuscripts in Vietnam” (2007), the first book to introduce a catalog of Cham documents collected in Vietnam. This was a landmark effort in the inventory of Cham manuscripts, providing a valuable resource for researchers.

### **2.2. Characteristics of the language:**

The Cham people are an ethnic group in Vietnam belonging to the Indonesian ethnic group. Their language is closely related to the languages of the Raglai, Churu, Jarai and Ede ethnic groups. They

all belong to the Austronesian language family, especially the Malay-Polynesian subgroup.

Previously, the Cham people were concentrated in Central Vietnam and used the same language. However, various historical events caused their community to disperse into smaller groups. As a result, the Cham community today is heterogeneous, each group has its own unique historical and cultural characteristics. This has influenced their language and led to the formation of three separate dialects: Cham Hroi dialect (Cham people in Binh Dinh and Phu Yen), Klak Cham dialect (Cham people in Ninh Thuan and Binh Dinh), Thuan), and the Cham Birau dialect (Cham people in An Giang, Tay Ninh and Ho Chi Minh City).

The Cham Hroi dialect is used by Cham people living in Binh Dinh and Phu Yen provinces. This dialect has developed unique phonetic features, influenced by the geographical remoteness and isolation of these regions and interactions with other local ethnic groups. Pronunciation, tone, and certain vocabulary have been adjusted to reflect the local linguistic environment. This dialect retains some ancient features that have been lost in other Cham dialects, helping linguists explore the historical development of the Cham language.

**Klak Cham dialect** The Klak Cham dialect is spoken by the Cham community in Ninh Thuan and Binh Thuan provinces. This dialect has significant phonetic changes compared to the Cham Hroi dialect and has a distinct intonation pattern. The region's agricultural and coastal lifestyle gave rise to specific terms related to maritime and agricultural activities, enriching the dialect with the unique vocabulary of the Cham Klak people. This dialect reflects the cultural interaction between the Cham people and their environment, as well as the ability to adapt to changing socio-economic conditions.

Cham people in An Giang, Tay Ninh and Ho Chi Minh City use Cham Birau dialect. This dialect has incorporated a significant amount of vocabulary from neighboring ethnic groups, including Vietnamese and Khmer. The urban setting and

proximity to other ethnic communities accelerated the process of language exchange and cultural transformation. The Cham Birau dialect demonstrates the adaptability of the Cham language in diverse socio-cultural contexts.

### **2.3. The evolution of the writing:**

Throughout its history of formation and development, the Cham people have undergone many changes and developments in their writing system. Initially, the Cham people used ancient Indian script (Sanskrit) to record and carry out daily transactions. Over time, they developed their own writing system based on Sanskrit, creating increasingly sophisticated scripts to record historical events, meet educational needs, and convey knowledge and culture for future generations.

Despite experiencing many historical upheavals, the Cham people still preserve and continue to cherish handwritten texts originating from Sanskrit and Arabic. These documents are considered valuable cultural heritage passed down through generations. In addition, the Cham people also preserved Han Nom scripts, including records related to the Nguyen Dynasty. Cham writing derived from Sanskrit can be divided into four main periods:

*Ancient times:* Inscriptions from the ancient period (before the 4th century) were often engraved on stone steles. The Cham people call this script akhar hayap. Among these inscriptions, one found in Vo Can village (now Vinh Trung commune, Dien Khanh district, Khanh Hoa province) is considered the most ancient. This stele is a marble block, approximately 2 meters high, with inscriptions engraved on three sides. The text on this inscription contains many ancient words. Based on the alphabet, this writing could date back to earlier than the 3rd century AD. It is the oldest Sanskrit stele discovered in Southeast Asia. Much of the text on this stele is written in a very ancient script, comparable to the famous Rudradaman stele in Girnar, India. This suggests that Indian culture had penetrated all of Indochina, including the land of the Champa kingdom. Archaeologists have

discovered hundreds of inscriptions carved in Sanskrit script in this region. Among them, the Vo Canh script is the oldest in Indochina in general and in Champa in particular. This ancient writing originated from the South Indian region. This stele provides a wealth of useful information about the culture, customs, and Hindu ritual views in Champa. The entire content of the stele is primarily in Sanskrit.

*Middle Ages (IV - XV centuries):* Inscriptions were mainly engraved on stone or stele. In addition, ancient Champa people also engraved words on bricks, reliefs, stone statues and a number of other objects and materials. The Cham people call it akhar tapaoh (fixed script). During this period, Cham language began to appear and gradually replaced Sanskrit. The content of the inscriptions is very diverse. Many inscriptions serve a religious purpose, commemorating the construction of temples, recording offerings to the gods, or praising Hindu gods and goddesses. The royal family uses inscriptions to announce important events, decrees or declarations. Additionally, some inscriptions were used as funerary markers, honoring the deceased and detailing their achievements. These inscriptions are invaluable knowledge to the Cham civilization. They provide an insight into the religious beliefs, political structure and social life of the Champa people, information that is often unavailable from sources found until now. Studying inscriptions allows us to trace the development of the Cham language itself, witness its emergence from Sanskrit and its evolution over time. The inscriptions may even hint at trade routes, diplomatic relations, and cultural influence by mentioning interactions with other kingdoms and empires. The Dong Yen Chau stele discovered near Tra Kieu, Quang Nam province, is a landmark discovery. This is the earliest known inscription in Cham script dating to around the 7th century AD. The fact that it was not written in Sanskrit but in Cham highlights the gradual transition to native languages during this period.

*Contemporary period:* From the 16th to the 18th century, instead of stone stele, Cham people mainly used leaves or paper to write their works. This

period also saw the emergence of three distinct writing styles, each with its own name: akhar rik, akhar yok and akhar atuel. *Akhar rik:* From the 4th century onwards, the Cham people developed their own writing system to acquire and use their language. Initially, these scripts coexisted with Sanskrit, but over time, Cham language gradually replaced Sanskrit. The creation of akhar rik was the pinnacle of having its own Cham writing style. This unique style bridges the gap between ancient stone inscriptions and modern writing (recorded on leaves and paper). Akhar rik is a type of religious script used by priests and monks. They used it to write spells and transcribe specific words in handwritten documents. This script has a special status, considered "sacred and revered" due to its religious significance. Nowadays, the number of people proficient in akhar rik is decreasing. Only a few monks and elders such as Gru Do (82) and Imam Ngoi (70) were capable of reading and writing it. *Akhar yok:* French scholar Aymonier described akhar yok as a "mystical" script, giving rise to the term "hidden script" by A. Cabaton. This script is characterized by consonant and vowel letters being joined in a specific order that resembles the structure of Latin script. Unlike akhar thrah, akhar yok relies solely on "ina akhar" (letters that combine consonants and vowels). The meaning of "yok" is said to refer to letters following each other without a preceding letter mark or diacritic. This results in a simpler rhyme scheme than akhar rik and akhar thrah. *Akhar atuel* has similarities to medieval writing styles, but incorporates abbreviations for certain words. Aymonier called it "hanging letter, written in initial letter symbol". The Cham word "atuel" translates as "hanging" and Cabaton cleverly named it "short for hanging". Unlike the linear structure of akhar yok, akhar atuel uses a unique approach. Final consonants are written smaller and placed below the first consonant, unlike the equivalent placement found in other scripts.

*Modern era:* from the 19th century onwards, the Cham people have primarily relied on the "akhar thrah" script for their written works. This script is widely used for administrative documents, legal

papers, royal decrees, literary works, historical records, cultural accounts, religious texts, and the preservation of customs and traditions. Today, akhar thrah stands out as the most prevalent script among all Cham communities, encompassing clergy, monks, dignitaries, elders, intellectuals, and even modern scholars, students, and farmers. Consequently, most of the extant Cham written materials preserved in Vietnamese households are in akhar thrah. Additionally, this script can be found in libraries across Vietnam, Malaysia, France, and the United States.

#### **2.4. Preserving Cham Knowledge:**

##### ***In the families of Cham monks and clergy:***

Cham families, especially families with a tradition of clergy and dignitaries, often hold a unique treasure, which is a collection of documents written in Cham script. These documents are not simply records but are also precious heirlooms passed down through generations. They represent not only knowledge but also the family's lineage, a tangible connection to their ancestors who followed the path of religious practice.

Traditionally, these documents were meticulously copied by new members of the dignitary class, ensuring their preservation. Stored with reverence, they were often wrapped in protective cloth or placed in sturdy rattan or wooden chests. Thanks to these preservation methods, sun and rain will not affect the quality of these precious documents. In some cases, documents are placed in wicker baskets (acet) hung high under the ceiling for added protection. Daily use notebooks are neatly arranged on the designated bookshelf (Kla tapuk) near the ancestral altar (danaok Po Gru), further emphasizing the significance of these texts. At the same time, it also shows people's respect and desire to preserve it.

Ceremonies of respect play an important role in protecting these archives. Annual rituals called "Pambang akhar" (reporting ancestors and seniors) and "Pahuor akhar" (cleaning letters) ensure documents are examined, cleaned and honored. However, the modern world poses challenges. Many Cham families have lost their traditional land

ownership, forcing them to prioritize daily needs over the time-consuming study of scriptures and care for ancestral documents. This change threatens the future of these irreplaceable archives. The knowledge and dedication required for their conservation are at risk of being lost.

##### ***In intellectuals and servants' groups:***

Historically, Cham writing flourished under the supervision of two separate groups in Cham society: intellectuals and servants. Cham intellectuals acted as the first guardians of religious knowledge. They meticulously copied and preserved documents containing talismans, rituals, and religious texts. This practice not only ensured the survival of writing but also ensured the continuous transmission of religious rituals through generations. Cham servants hired by the nobility played an important role in preserving historical records. They record administrative matters, legal procedures and historical records, contributing significantly to the recorded past of Cham civilization.

The preservation of Cham script faces many obstacles in today's modern world. The decline of the Cham aristocracy reduced the number of servants in general and servants skilled in Cham script in particular, potentially leading to a loss of knowledge among this group. Furthermore, the dominance of Latin and the decline of traditional educational methods pose challenges for the younger generation, who are less inclined to learn the complex Cham script. Adding to these concerns is the physical condition of these ancient documents. Many Cham manuscripts are centuries old and require special preservation to prevent further damage from environmental factors.

##### ***In Museums, Libraries, Research Centers and Schools:***

For centuries, the Cham people have meticulously recorded their history, religious practices and cultural life in their own writing. However, over time, historians began to lose interest in the subject. The year 1969 marked a turning point when the Center for History and Civilization of the Indochina Peninsula conducted an inventory of Cham writings. Notably, French libraries hold a

significant collection of Cham script documents, with 347 volumes preserved in their archives. Following this initial effort, the Cham Cultural Research Center was established in Phan Rang, Ninh Thuan province in 1969. Founded by French scholar G. Moussay, the Center has actively collected handwritten documents in Cham script with the help of Cham intellectuals. However, a large part of this collection was transferred back to France after 1975. Unfortunately, the remaining documents received little attention and were largely lost.

Despite these obstacles, efforts to preserve Cham literary heritage continue. The Cham Cultural Research Center has recorded their remaining documents including 3,000 photocopied pages, microfilm rolls, thousands of pages of audio recordings and original documents of the Raglai people. More recently, the University of Social Sciences and Humanities under Ho Chi Minh City National University, with sponsorship from the Toyota Foundation, has conducted research and collected more than 500 volumes containing about 10,000 handwritten pages. in Cham script.

These efforts highlight the dedication of organizations and scholars working to preserve Cham literary heritage. However, a recent survey by the State Archives and the Japan Expert Group has revealed an alarming situation. Many Cham families that have traditionally kept ancestral documents are now facing the loss or destruction of these irreplaceable documents due to lack of awareness and appropriate preservation methods. The situation of Cham texts is equally worrying. These valuable historical markers are often overlooked due to the difficulty of deciphering them. The museums, which are supposed to curate these objects, often have limited expertise in reading Cham inscriptions. As a result, many inscriptions end up in archives or, worse, are misused or exposed to external factors such as weather.

### **3.5. The current status of teaching Cham writing:**

#### ***The Preservation and Teaching of Cham Language and Culture***

Prior to 1975, the transmission of the Cham script was predominantly entrusted to monks, priests, and elders within the Cham community. Consequently, traditional teaching methods were employed.

Following 1975, with the support of the Vietnamese government, Cham language instruction was introduced at the primary school level.

Currently, the largest concentrations of Cham people reside in the provinces of Ninh Thuan (38%) and Binh Thuan (22%). According to the 2024 Population and Housing Census, the total Cham population in Vietnam stands at 178,948, representing 0.19% of the country's population. This includes 87,838 males and 91,110 females. As a result, the Cham community has diligently preserved a rich cultural heritage, encompassing traditional rituals, festivals, dances, music, architecture, religious scriptures, customary laws, and various forms of folk literature. These cultural elements remain integral to the community's daily life and are meticulously documented in ancient Cham texts preserved within Cham households.

To meet the demands of Cham language instruction in primary schools, the Cham Language Compilation Board was established in 1978 in Thuan Hai Province (now divided into Ninh Thuan and Binh Thuan provinces). Headquartered in Ninh Thuan, the board has developed comprehensive Cham language textbooks for grades 1 to 5. These textbooks serve as the official curriculum for Cham language instruction in primary schools. Currently, the province boasts 72 teachers certified in Cham language instruction, with 48 actively teaching Cham language and script as elective courses in primary schools.

#### ***Challenges and Efforts in Preserving Cham Language and Culture:***

The implementation of Cham language instruction has provided younger generations of Cham people with favorable opportunities to access their ancestral script. Despite these achievements, teaching Cham in educational institutions faces numerous challenges.

Currently, Cham language instruction is not offered at the secondary and upper secondary school levels due to the lack of textbooks and qualified teachers, even though the Ministry of Education and Training introduced the Cham

Language Curriculum for General Education in 2020. The delay in issuing and implementing teaching equipment aligned with the new curriculum has hindered Cham language instruction in general education institutions. Moreover, after completing five years of Cham language study at the primary level, Cham students are unable to read the Cham script left behind by their ancestors. This implies a lack of prospects for preserving and promoting their own ethnic cultural heritage. Consequently, the Cham script faces diminished prospects for future value realization, potentially creating a generation of young Cham people disconnected from their ancestral heritage. This stands as a direct obstacle to the preservation of not only the Cham script but also Cham cultural heritage in its entirety.

To contribute to the preservation, promotion, and safeguarding of the values and cultural identity of ethnic minorities, the People's Committee of Binh Thuan Province has issued a Plan to implement the Program "Improving the Quality of Teaching Ethnic Minority Languages in General Education Programs from 2021 to 2030" within the province. By 2025, Binh Thuan aims to ensure the provision of adequate textbooks, teaching materials, teaching equipment, and physical facilities, as well as a sufficient number of teachers for teaching ethnic minority languages at the primary school level. The province strives to ensure that 80% of teachers meet the required training standards and that 100% of management cadres and ethnic minority language teachers enhance their capacity and receive specialized training in ethnic minority language instruction.

In addition, the Center for Support of Ethnic Minority Students and the Cham Ethnic Minority Association of Ho Chi Minh City have opened a Cham language class for students interested in and passionate about Cham culture. The class was initially planned to accommodate approximately 30 students, but the number of registered students reached 84. The majority of participants are Cham students, along with History and Anthropology

students. This demonstrates a genuine need for Cham language instruction, both traditional and modern, among students in general and Cham students in particular.

### *Technology's Role in Language Preservation:*

The remarkable development of digital information technology gives people countless tools to store and disseminate information. Its application in language preservation has become an important lifeline for endangered languages. In 2012, Google launched a landmark initiative - the Endangered Languages Project (<https://endangeredlingu.com/>). By harnessing the expertise of linguists and leveraging its comprehensive database, Google aims to preserve and maintain languages in humanity's vast cultural repertoire. This project serves as a powerful model for similar language preservation efforts around the world, including languages such as Cham and those spoken by ethnic minorities in Vietnam.

While traditional media such as television and radio have long played a role in promoting ethnic minority languages, Vietnam has adopted a more multifaceted approach recently. These initiatives come from individuals and scholars in the Cham community. First is the creation of an electronic dictionary, which simplifies vocabulary collection and translation for those who want to learn Cham language. Next came the development of fonts for popular operating systems such as Windows and Macintosh, making writing in these languages more accessible. Software applications that transcribe Latin letters into specific scripts, such as Cham Thrah, also assist in bridging the gap for learners. In addition, it is impossible not to mention the efforts of individuals who want to preserve and pass on knowledge to future generations through the creation of online lectures, online teaching videos, and language analysis articles. Some prominent platforms include YouTube, Kauthara, ChamStudies and Omniglot. Sites like these serve as knowledge repositories, promoting dialogue and collaborative learning.

Figure 1: Cham keyboard

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ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	
tab	Q	W	E	R	T	Y	U	I	O	P	{	}	
	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ
c.lock	A	S	D	F	G	H	J	K	L	:	“		return
	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	
shift	Z	X	C	V	B	N	M	<	>	?			shift
	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	ᵑ	
control	command						command						

Source: Kauthara

**3. Conclusion:**

The Cham ethnic population in Vietnam is 178,948 people, accounting for 0.19% of the country's population in 2024 (Danso, 2024). The percentage of Cham people from 15 years old who can read and write ethnic script is 18.7%. High school attendance rate is 52.9% and university level or higher is only 4.2% (GSO, 2020). The Cham writing system is a testament to rich cultural interference, reflecting the profound influence of Indian civilization and the lands of Southeast Asia. Initially, Champa used scripts derived from Indian Brahmi scripts, primarily for religious purposes, as evidenced by inscriptions found on temple walls and artifacts. Over time, as Champa's culture evolved and interacted with neighboring civilizations, its script underwent modifications and adaptations to suit the region's linguistic needs. The Champa script eventually diversified into several distinct writing systems, reflecting the linguistic diversity within the Champa kingdom. These scripts were used not only for religious texts but also for administrative purposes, trade records, and literary works. However, with the decline of

the Champa civilization and the assimilation of its territories into neighboring polities, the use of the Champa script gradually waned, eventually being replaced by other writing systems prevalent in the region. These ancient documents are invaluable sources, not only for understanding the history and beliefs of the Cham people but also for shedding light on broader cultural interactions. Unfortunately, many natural and human factors are threatening this irreplaceable heritage.

To ensure that Cham heritage continues to exist and thrive, a rich and long-term approach is needed. Firstly, the establishment of a dedicated research institute or university center specializing in Cham language and culture is very important. The center will lead efforts to record, preserve and translate Cham texts, cultivating a new generation of scholars equipped to protect this heritage. Second, raising awareness in the Cham community is equally important. Educational programs and community engagement initiatives can instill a sense of ownership and responsibility in preserving this important aspect of their identity. Finally, international collaboration with linguists and



cultural institutions can provide invaluable expertise and resources. By taking these steps, we can prevent the loss of a unique cultural treasure. Preserving Cham script is not just about protecting the past; it is about allowing future generations to connect with their roots and enriching the tapestry of human knowledge.

#### 4. Methodology:

**Historical Analysis:** The paper provides a detailed historical overview of the Cham Kingdom, including its cultural and linguistic heritage. This involves analyzing ancient records, historical texts, and inscriptions to trace the development and evolution of the Cham language and writing system.

**Literature Review:** An extensive review of previous research and studies on the Cham language and script is conducted. This includes works by French scholars in the 19th and early 20th centuries, as well as more recent studies by Vietnamese and international researchers. Key publications, dictionaries, and translations are referenced to provide a comprehensive background.

**Descriptive Linguistics:** The paper describes the phonetic, phonological, and orthographic characteristics of the Cham language. It highlights the differences between various dialects (Eastern Cham, Western Cham, Cham Hroi, Klak Cham, Cham Birau) and their respective scripts, detailing the influences of Sanskrit and Arabic.

**Epigraphic Analysis:** The study examines inscriptions and other written materials from different historical periods (Ancient, Middle Ages, Contemporary, Modern). This involves analyzing stone steles, leaves, paper manuscripts, and other artifacts to understand the usage and evolution of Cham script over time.

**Sociolinguistic Survey:** The paper discusses the current status of Cham language teaching and preservation efforts within the community. This includes examining the role of Cham families, intellectuals, museums, libraries, research centers,

and educational institutions in maintaining and transmitting the language.

**Preservation Strategies:** Various methods of preserving Cham knowledge are outlined, including traditional practices (e.g., ceremonies of respect, family preservation), modern educational programs, and technological approaches (e.g., digital dictionaries, online platforms).

**Case Studies:** Specific examples of preservation efforts, such as the Cham Language Compilation Board and the Cham Cultural Research Center, are provided to illustrate successful initiatives and challenges faced.

**Technological Application:** The paper explores the role of technology in preserving endangered languages, citing initiatives like Google's Endangered Languages Project. It discusses the creation of electronic dictionaries, software applications, and online resources that facilitate the learning and preservation of Cham script.

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