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# A Linguistic Analysis of Selected Ancient Inscriptions

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## ABSTRACT

This study examines selected ancient writing systems and inscriptions particularly pictographic and logographic representations, Aramaic, Kharosthi, and Brahmi from linguistic and historical perspectives. It uses a library-based qualitative descriptive-analytical approach and draws on published books, scholarly articles, historical accounts, and descriptions of inscriptions cited in the study. The analysis compares documented writing direction, graphic organization, linguistic or phonological information where available, and scholarly explanations of historical relationships among scripts. The International Phonetic Alphabet (IPA) is treated solely as a modern system for representing speech sounds, not as a method for deciphering ancient inscriptions. The reviewed sources indicate that Aramaic had a substantial administrative role and that Kharosthi is widely understood to have developed under Aramaic influence, while the origin of Brahmi remains debated. The sources also position parts of present-day Afghanistan within a wider zone of contact among writing traditions. Because the study relies on selected published sources and does not independently examine inscriptional artefacts, its conclusions are provisional where readings, dates, or attributions remain disputed. Further progress depends on transparent source comparison and specialist epigraphic research.

**KEYWORDS:** *Ancient Scripts, Aramaic Script, Kharosthi Script, Brahmi Script, International Phonetic Alphabet (IPA).*

## Introduction

Language and writing are among the most significant achievements of human civilization, serving as important means of preserving thought, culture, and historical memory. The emergence and development of writing systems reflect changes in the intellectual, social, and administrative organization of human societies. Because of its geographical position, Afghanistan has long been a contact zone for different civilizations and writing traditions. Aramaic, Kharosthi, Greek, and Brahmi traditions are among the scripts associated with the wider historical region. This study therefore examines selected ancient scripts and inscriptions from a combined linguistic, historical, and comparative perspective. Particular attention is given to their graphic and phonological characteristics, historical relationships, and the evidence available for their interpretation. The study does not attempt to decipher inscriptions for which the available evidence is insufficient; instead, it evaluates documented claims and observable characteristics reported in the sources.

## Literature Review

The study of ancient writing systems has occupied an important place in linguistics, archaeology, and epigraphy because scripts preserve valuable evidence about the linguistic, cultural, and political history of civilizations. Friedrich (1968) argues that writing systems evolved gradually from pictographic and logographic forms into

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more systematic phonetic scripts, reflecting the intellectual development of human societies. This historical perspective provides the foundation for understanding the evolution of later alphabetic writing traditions.

Within the context of Afghanistan, Habibi (1388) remains the principal scholar documenting the country's ancient inscriptions, particularly those discovered in Laghman, Kandahar, and Darunta. His work provides detailed historical descriptions and archaeological information concerning these inscriptions. However, his research primarily emphasizes historical documentation rather than linguistic analysis, leaving many phonological and structural features of these scripts insufficiently explored.

The Aramaic script has received considerable scholarly attention due to its widespread administrative and cultural influence throughout the ancient Near East. Harmatta (1994) maintain that Imperial Aramaic became the official administrative script of the Achaemenid Empire and significantly influenced the development of several regional writing systems. Similarly, Tagi (1403) and Sharifi (1401) argue that Aramaic served as the earliest major script used in ancient Afghanistan and provided the basis for the emergence of Kharosthi.

Research concerning the Kharosthi script generally supports its close relationship with Aramaic while recognizing its adaptation to local linguistic conditions. Bawari (2024) documents numerous Kharosthi inscriptions discovered across eastern Afghanistan and highlights their historical significance. Likewise, Solloway (2017) demonstrates that Kharosthi developed distinctive phonological and orthographic features while maintaining structural similarities with Aramaic.

The origin of the Brahmi script continues to generate scholarly debate. Violatti (2016) suggest that Brahmi was influenced by North Semitic writing traditions, whereas other scholars argue that it also incorporated indigenous logographic traditions of the Indian subcontinent. Despite differing opinions regarding its origin, researchers generally agree that Brahmi became the foundation of most modern South and Southeast Asian writing systems.

Although previous studies have examined the historical development and archaeological significance of Aramaic, Kharosthi, and Brahmi, comparatively fewer studies in the sources reviewed here bring these traditions together under a single linguistic and comparative framework. The present study addresses this gap by examining selected ancient scripts and inscriptions through historical, linguistic, and comparative evidence, using the International Phonetic Alphabet (IPA) only as a modern phonetic reference where the underlying language or pronunciation can be reasonably discussed. This approach also recognizes that script, language, and phonetic transcription are distinct analytical categories.

## Research Methodology

This study uses a library-based qualitative descriptive-analytical design. Its materials comprise books, scholarly articles, historical documents, and published descriptions of inscriptions cited in the manuscript. The unit of analysis is a selected script, inscription, or published account of an inscription relevant to the study's focus on pictographic/logographic writing, Aramaic, Kharosthi, Brahmi, and the historical region that includes present-day Afghanistan. Sources were selected purposively for their relevance to the research questions; this is not an exhaustive or statistically representative corpus. The analysis proceeded in five stages: (1) identifying each script or inscription and the source reporting it; (2) recording observable or documented graphic features, including writing direction and sign organization; (3) considering linguistic and phonological evidence only where a reading and the language are sufficiently established; (4) comparing proposed historical relationships across the cited sources; and (5) classifying conclusions as documented observations, interpretations reported by scholars, or hypotheses that remain uncertain. Where possible, claims were checked against more than one source; where the manuscript provides only a single or indirect source, the claim should be read as provisional. The IPA is used only to represent speech sounds when adequate linguistic evidence exists and is not used to decipher

undeciphered scripts. Since the study is based on published literature and does not include new fieldwork, artefact inspection, or independent readings of inscriptions, its conclusions are limited by the coverage, quality, and possible disagreements of the sources consulted.

Analytical framework. The analysis distinguishes among language, script, writing-system type, and phonetic transcription. For each item, it considers (a) the source and nature of the evidence, (b) writing direction and graphic features where documented, (c) the language or linguistic value attributed to the inscription, (d) the basis for any historical dating or attribution, and (e) the degree of certainty reported by the cited scholarship. Descriptions of visible or documented features are kept separate from interpretations of their meaning, origin, or historical relationship. Claims based on scholarly consensus are distinguished from disputed proposals, and undeciphered or incompletely documented material is not treated as conclusive evidence. This framework clarifies what the present literature-based study can establish and what requires further specialist verification.

## Results

This study examines selected ancient writing systems and inscriptions through historical, linguistic, and comparative analysis. The findings are organized around the development of early writing, the characteristics and historical distribution of Aramaic, its relationship with Kharosthi, the historical significance of selected Afghan inscriptions, the development and influence of Brahmi, and the limited but useful role of the IPA as a modern phonetic reference. Because the corpus is selected from available documentary sources, the findings should be understood as evidence-based qualitative observations rather than as an exhaustive account of all ancient writing systems.

### Evolution of Early Writing Systems

The sources reviewed describe several broad developments from pictorial signs to systems that represent words, syllables, or speech sounds. However, writing did not evolve through one universal, linear sequence, and pictographic, logographic, syllabic, and alphabetic principles can coexist within or across writing traditions. The present study therefore treats these categories as analytical distinctions rather than as a single inevitable progression. Establishing a specific developmental pathway requires dated examples and specialist interpretation of the relevant evidence.

### Linguistic Characteristics of the Aramaic Script

The available historical evidence indicates that the Aramaic script occupied an important position in the development and transmission of writing across the ancient Near East and in regions connected with Afghanistan. Sources describe Imperial Aramaic as an administrative medium of the Achaemenid Empire, and its structural and administrative use helped facilitate communication across multilingual territories. The evidence also supports significant historical relationships between Aramaic and later regional scripts, including Kharosthi.

### Relationship between Aramaic and Kharosthi

Comparative evidence indicates important structural similarities between Aramaic and Kharosthi, including the right-to-left writing direction and related graphic features. The sources reviewed in this study commonly associate Kharosthi with an Aramaic-derived or Aramaic-influenced writing tradition, while also emphasizing its adaptation to the phonological requirements of local Indo-Aryan languages. Accordingly, the relationship is presented here as a historically supported scholarly interpretation rather than as an independently demonstrated conclusion from the present library study.

### Historical Significance of Ancient Afghan Inscriptions

The published accounts of inscriptions from Laghman, Darunta, Kandahar, and nearby regions suggest that the area formed part of a wider network of cultural and administrative contact. The inscriptions and reports discussed in the sources are consistent with the presence of more than one writing tradition in the region, although the strength of each individual attribution depends on the documentation available. Undeciphered or incompletely read items should not be used to establish a specific date, origin, or historical relationship without further evidence. Their value lies partly in identifying questions for future epigraphic and linguistic investigation.

### Development and Influence of the Brahmi Script

The study shows that although scholars continue to debate the origin of Brahmi, there is broad agreement regarding its historical importance. Brahmi gradually became the dominant writing system throughout much of South Asia and later developed into numerous modern scripts, including Devanagari, Sinhala, Tibetan, Thai, Khmer, Kannada, Telugu, and several others. This finding highlights Brahmi as one of the most influential writing systems in Asian linguistic history.

### Applicability of the International Phonetic Alphabet (IPA)

The analysis indicates that the International Phonetic Alphabet can serve as a useful modern phonetic reference when the language represented by an ancient inscription is sufficiently established. However, IPA is designed to represent speech sounds rather than to evaluate the historical origin of scripts, and it cannot by itself decipher an undeciphered inscription. Its role in this study is therefore limited to providing a consistent phonetic notation for linguistic information that can be reasonably established from the available evidence.

## Overall Findings

Overall, the findings suggest that ancient writing systems reflect processes of linguistic adaptation, cultural interaction, and historical development rather than isolated inventions. Afghanistan appears in the reviewed evidence as an important contact zone in which Aramaic, Kharosthi, Greek, and Brahmi traditions interacted at different historical periods. The analysis further suggests that combining historical documentation with linguistic and comparative analysis can provide a more cautious and informative account of ancient inscriptions and their place in the history of writing.

## Discussion

The linguistic analysis of ancient scripts requires clear distinctions between a language, a writing system, a script, and a phonetic transcription system. In this study, the International Phonetic Alphabet (IPA) is used only as a modern standardized reference for representing speech sounds when sufficient linguistic evidence is available. It is not treated as a universal standard for evaluating the historical value or origin of a script. This distinction is important because many ancient inscriptions are damaged, incompletely understood, or undeciphered.

If we examine the earliest form of writing, namely pictographic writing, we find that it consists of images similar to those still produced today, such as a painter creating a portrait through the use of colors. Although the materials may differ, the underlying principle remains the same. Pictographic writing was the earliest writing system and was used to depict or record simple aspects of human life, such as images of cattle, sheep, or the sun. In this system, the complete image of an object was drawn to represent that object. Later, only a part of the object was depicted instead of the whole image. Over time, these representations became increasingly simplified until they evolved into symbols. Subsequently, these symbols were no longer confined to their literal meanings but acquired figurative and logographic meanings. In this way, each sign came to represent a particular word or concept and was used accordingly (Tagi, 1403, pp. 407–408).

This form of writing has been referred to by various names, including pictographic, logographic, lexical, and ideographic writing, because the signs were often used in figurative as well as literal senses. From the perspective of the modern phonetic alphabet, logographic writing cannot be regarded as fully adequate because it is not based on sounds; rather, each symbol represents a word, phrase, or concept. Many of the ancient writing systems discussed in previous sections have not been extensively discovered in Afghanistan, including pictographic, ideographic, logographic, and syllabic scripts. Even when examples have been found, many remain undeciphered and insufficiently studied. Regarding the ancient scripts of Afghanistan, Abdul Hai Habibi, in the introduction to his work History of Ancient Scripts and Writings of Afghanistan, writes:

"In the mountain range of the Alishang Valley in Laghman, extending eastward toward the northern valleys of the Kunar River, an inscription was discovered on a rock near a cave in 1911 CE (1329 SH). At that time, Amir Habibullah Khan personally visited the site, and the first photograph of the inscription was published in the newspaper *Siraj al-Akhbar Afghaniah*" (Habibi, 1388, pp. 5–7).

To date, no comprehensive scientific study of this inscription has been conducted. The inscription consists of connected straight and curved lines carved into a mountain rock. Its script is remarkably clear and distinct, yet it bears no resemblance to any other known script from the historical periods of Afghanistan. When compared with the inscriptions and pictographic symbols of Mohenjo-daro and the Indus Valley, which are approximately five to six thousand years old, it lacks the proportionality, harmony, and geometric organization characteristic of those scripts. Consequently, it may belong to a much earlier phase of human civilization, predating the period of Mohenjo-daro.

It is also noteworthy that approximately sixteen kilometers west of Samangan, in the northern foothills of the Hindu Kush, there exist prehistoric remains in the caves of Hazar Sum at an elevation of about 3,300 feet. On the walls of these stone caves, various figures and drawings can be observed, some of which have been compared by archaeologists to prehistoric inscriptions found in Spain, Italy, Switzerland, and Ireland. Among the Hazar Sum remains are human figures, handprints, animal representations, and various curved and broken lines. The engraved lines discovered in Laghman may therefore be regarded as a more developed and refined form of the markings found at Hazar Sum (Habibi, 1388, pp. 5–7).

As history testifies, the Semitic peoples preceded the Aryans in the development of writing. Although the Aryans had, since very ancient times, been aware of linguistic distinctions and possessed a rich oral literary tradition, they did not have a writing system of their own. Consequently, their profound intellectual and literary heritage was transmitted orally from generation to generation until they came into contact with Semitic peoples who were familiar with writing. Therefore, ancient and highly valuable works such as the Vedic hymns, the Avestan chants, and the epics of Homer that have reached us were recorded in scripts which scholars generally regard as inventions of the Semitic peoples. Nevertheless, the Aryans made such substantial contributions to the refinement and advancement of writing that history places their achievements alongside those of the Semites in the development of the alphabet (Tagi, 1403, p. 402).

According to some Orientalists, the Aramaic script had spread eastward before the Achaemenid period. Some scholars attribute the presence of Aramaic writing in Gandhara to Semitic tribes that had settled in the region, whereas others argue that its diffusion was primarily the result of the expansion of the Achaemenid Empire. It may be inferred that the Aramaic script remained in use in Afghanistan until the emergence of the Kharosthi and Greek scripts (Hasam, 1393, p. 69).

With the establishment of the Achaemenid Empire, which extended from Transoxiana to Mesopotamia and encompassed a vast territory, the need for a common administrative language facilitated the widespread adoption of the Aramaic script (Marhoon, 1396, p. 408).

After evolving from the Phoenician script, the Aramaic script spread extensively throughout various parts of the world. Moreover, the earliest script used in Afghanistan was also Aramaic, which entered the region through different routes from India and Iran. Over time, it developed into Kharosthi, one of the most ancient and indigenous writing systems of Afghanistan (Tagi, 1403, p. 427).

The Aramaic script is written from right to left and was widely used across regions stretching from the Amu Darya to Arghandab, Khyber, Hadda, Bagram, Balkh, Bamiyan, Wardak, and Ghor. Numerous written records of this script have survived. It was particularly prevalent during the reign of Ashoka and continued to be employed during the periods of the Greco-Bactrian kings, the Kushans, and the Hephthalites. Examples of its use are also preserved on ancient coins (Babi, 2023, p. 156).

As noted earlier, the Aramaic script reached Afghanistan and the surrounding regions from the areas where it originally emerged. Its creators were the Aramaeans, a group of peoples who migrated from northern Arabia to the Middle East and settled in Mesopotamia. During the first millennium BCE, they established several political entities, although these states eventually disappeared and were absorbed by larger powers. However, owing to their prominence and success as merchants, the Aramaeans exerted considerable influence throughout the region. They established communities in Babylon and Nineveh, and as a result, their language remained dominant for an extended period. Most importantly, the Aramaic script and alphabet developed from the Phoenician alphabet (Sharifi, 1401, p. 52).

Research conducted thus far on ancient writing systems indicates that the Kharosthi script originated and flourished in the eastern regions of present-day Afghanistan. In this regard, the renowned British archaeologist Wilson, in his work *Ancient Ariana*, states that Kharosthi was fundamentally an Aryan script that was widely used in the regions between the Amu Darya and the Indus River. According to the distinguished linguist Carl Bühler, the name *Kharosthi* was derived from the name of its founder, Kharostha. Bühler further argues that several sounds represented in the Kharosthi script were borrowed from the Brahmi script. Kharosthi contained both voiced and voiceless consonants, features that were also present in Brahmi, suggesting that Kharosthi may have developed under Brahmi influence. What remains evident, however, is the strong presence of Kharosthi in the eastern regions of modern Afghanistan and its probable origin in that area. Numerous scholarly investigations have demonstrated that Kharosthi constituted a distinct and independent writing system.

Among the most notable Kharosthi inscriptions are the Swat inscription, identified by Masson in 1838; the inscriptions written on tree bark discovered in Bamiyan and identified in 1930; the Bajaur inscription, discovered in 1889; and the Kharosthi inscription unearthed by Masson in the village of Bimaran near Jalalabad in 1843. In addition to these, hundreds of other inscriptions have been found both within Afghanistan and beyond the borders of present-day Afghanistan (Bawari, 2024, pp. 1–2).

Following the invasion of Ariana by Alexander of Macedon, Greek influence gradually became established throughout the region, and the Greek alphabet came into widespread use. Eventually, even indigenous languages of Ariana were written using the Greek script. Consequently, alongside Greek-language coins and inscriptions, there are inscriptions written in Kushan or Tokharian languages but recorded in the Greek script. To accommodate the phonological characteristics of these languages, additional letters were incorporated into the Greek alphabet to represent sounds not originally found in Greek (Rafi, 1394, p. 44).

The writing systems mentioned in the preceding discussion will now be examined separately under individual headings.

*Aramaic Script*

The Aramaeans were the inhabitants of the northern Semitic territory of Aram, a kingdom that extended from the western borders of Babylonia to the highlands of Western Asia. Its central region reached north of Aleppo, where numerous ancient inscriptions have been discovered. This people are referred to as *Ahlamu* in Assyrian inscriptions dating to approximately 1320 BCE and as *Aramaeans* in later records. Some scholars suggest that the term *Ād* mentioned in the Holy Qur'an may also refer to these Aramaean peoples. In terms of religion, language, and ethnicity, they are regarded as a branch of the Northern Semitic peoples. Some researchers even consider them close relatives of the Israelites, arguing that they were a Semitic nomadic people of Syria who lived south of Palestine near the desert regions. These pastoral nomads wandered from one desert to another with their tents and were closely related to the Israelites, although some writers mistakenly identified them as Chaldeans.

From the fourteenth century BCE onward, the Aramaeans expanded into neighboring civilized lands, frequently engaging in raids and military incursions. Crossing the banks of the Tigris River, they entered Mesopotamia, where they encountered the Chaldeans in Babylonia. The Suteans, who were ethnically related to them and had already occupied much of the region, attempted to resist their advance. Nevertheless, the Aramaeans eventually gained prominence and left behind a substantial cultural and historical legacy. During the reign of the Assyrian king Shalmaneser I (c. 1280 BCE), conflicts occurred between the Assyrians and the Aramaeans. Some accounts suggest that their incursions contributed significantly to the decline of the ancient Assyrian state.

A section of the Book of Ezra, composed around the third century BCE, was written in Aramaic. Likewise, the *Targum* (translation and interpretation of the Torah), which began to develop during the second century BCE, was composed in Aramaic. The *Talmud* ("learning") was also written in this language. One portion was compiled in Palestine around the fourth century CE and reflects the Western Aramaic dialect. Another portion was compiled in Babylonia between approximately 367 and 427 CE, with additions continuing until the fifth century. This latter compilation is known as the Babylonian Talmud and is written in Eastern Aramaic (Tagi, 1389, pp. 428–432).

The circumstances surrounding the spread of writing in the Middle East differed significantly from those in Europe. In the Middle East, religion rather than politics proved to be the principal driving force. The Jews were among the earliest "people of the book." This designation is associated with the final period of exile, during which, according to many scholars, the text of the Hebrew Bible acquired its definitive form. Hebrew was written—and continues to be written—in the Aramaic square script, while the original Hebrew script has survived only among the Samaritans.

The divine word inherited a sacred status, to such an extent that even the smallest fragment of a holy text was treated with reverence and preserved rather than discarded. This attitude contributed to the preservation of documents known today as the Dead Sea Scrolls and, centuries later, inspired the establishment of the Genizah tradition. A *Genizah* is a repository for discarded written materials, particularly sacred texts. The most famous example is the Cairo Genizah, where thousands of documentary fragments in various languages, relating both to everyday life and religious matters, were preserved and later discovered.

The ancient Aramaic alphabet was used to write the Aramaic languages spoken throughout the Fertile Crescent before the Common Era. As Aramaic became the administrative language of successive empires, many other peoples adopted both the language and its script. This process laid the groundwork for the later spread of Arabic centuries afterward. The Assyrians and Babylonians permanently replaced Akkadian and cuneiform writing with Aramaic language and script. The Jews adopted Aramaic as their primary spoken language and

employed its script, which they called the "square script." Hebrew came to be written in this script, replacing the earlier Paleo-Hebrew alphabet. The modern Hebrew alphabet ultimately developed from Aramaic.

The Aramaic alphabet consists primarily of symbols representing consonantal sounds, although some letters were also used to indicate long vowels. Linguist Peter T. Daniels classifies writing systems such as Aramaic as *abjads*, because they primarily represent consonants while generally omitting vowels. When vowels are indicated, they are usually represented through consonantal letters functioning as *matres lectionis* or through additional distinguishing marks attached to the letters.



Figure 1: Greek–Aramaic Bilingual Rock Inscription of Emperor Ashoka (3rd Century BCE), Kandahar

The earliest Aramaic inscriptions were written using the Phoenician alphabet. Over time, this writing system gradually evolved into the Aramaic alphabet, a process that was largely completed by the eighth century BCE. The alphabet was employed to write the Aramaic languages spoken by ancient Aramaean tribes throughout the Fertile Crescent before the Common Era.

Around 500 BCE, following the conquest of Mesopotamia under the leadership of Darius I, Old Aramaic was adopted by the Persians as "a medium of written communication among the various regions, peoples, and languages of the vast Persian Empire." It may be assumed that the use of a common official language—referred to by modern scholars as Official Aramaic, Imperial Aramaic, or Achaemenid Aramaic—played a crucial role in the remarkable success of the Achaemenid Empire in maintaining administrative unity across its extensive territories for a prolonged period.

Imperial Aramaic was highly standardized. Its orthography was based largely on historical roots rather than on the pronunciation of individual dialects and was influenced by Old Persian. The graphic forms of Aramaic during this period can generally be divided into two principal styles: the lapidary style, typically inscribed on durable surfaces such as stone monuments, and the cursive style. The lapidary form retained a strong visual resemblance to Phoenician and earlier Aramaic scripts. Both styles were used during the Achaemenid Persian period; however, the cursive form gradually gained prominence over the lapidary style and had largely replaced it by the third century BCE.

The Hebrew and Nabataean alphabets of the Roman period differed only slightly in style from the Imperial Aramaic alphabet. The historian and scholar Ibn Khaldun (1332–1406) argued that the ancient Nabataean script was influenced not only by the "Syriac script" (Aramaic) but also by the ancient Chaldean script.

The cursive form of the Hebrew script became widespread from the early centuries of the Common Era onward. It continued to be used alongside the non-cursive form as an established writing style. Likewise, the cursive script that developed from the Nabataean alphabet during the same period rapidly became the standard means of writing Arabic and eventually evolved into the Arabic alphabet during the early centuries of the spread of Islam.

The development of the cursive Aramaic script also led to the emergence of the Syriac, Palmyrene, and Mandaic alphabets. These writing systems subsequently laid the foundation for several historical Central Asian scripts, including the Sogdian and Mongolian alphabets. More broadly, the ancient Turkic script is generally believed to have been based on Aramaic-derived writing systems, particularly the Pahlavi and Sogdian alphabets, or possibly the Kharosthi script, as suggested by V. Thomsen.

The Brahmi script is likewise believed either to have originated from Aramaic or to have been strongly influenced by it. The Brahmic family of scripts includes Devanagari and numerous other writing systems of South and Southeast Asia (Encyclopedia, 2024).

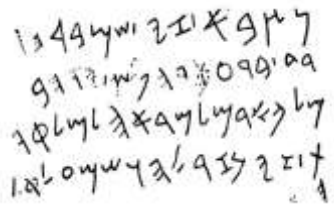


Figure 2: The Ancient Aramaic Bar-Rakkab Inscription (9th Century BCE)

During the Neo-Assyrian and Old Persian periods, the Aramaic language and script served as a medium of international communication throughout the Near East, extending from Egypt to Asia Minor and as far as India. An example of this widespread use is an inscription from the Persian period, written in both Lydian and Aramaic, which was discovered at Sardis.

In Mesopotamia, Aramaic language and script gradually superseded Akkadian and the Babylonian cuneiform writing system, despite the fact that Mesopotamia was the original homeland of Akkadian and cuneiform. The expansion of the Aramaic script not only led to its use in official and monumental inscriptions but also facilitated its application on papyrus and pottery shards (ostraca). One notable example of Aramaic writing on pottery fragments was discovered in Assyria.

A large number of Aramaic papyri have been discovered in Egypt. Particularly significant are the papyri found at Elephantine, among which are documents related to the Jewish military colony, including private legal and administrative records dating to the fifth century BCE.

The words written on Aramaic papyri and ostraca do not differ greatly from one another. In fact, their writing conventions are remarkably similar to those used in modern writing. During the second and third centuries BCE, however, Aramaic gradually lost its uniform character as a result of political fragmentation and the emergence of various regional dialects. Consequently, it developed into several distinct branches.

Among the most important of these was the Hebrew Square Script, which later became associated with related writing traditions such as the Palmyrene and Nabataean scripts. Another major branch was the Syriac script, which maintained an independent development during certain historical periods.

The Jews adopted the Aramaic Square Script during the time of Ezra, around the middle of the fifth century BCE. At that time, its adoption was regarded as an outward manifestation of the integration of the Israelites into the broader Semitic cultural sphere. The Square Script subsequently became the standard script for Hebrew religious texts and continues to serve this function today. It is known as the "Square Script" because many of its characters exhibit forms that resemble square-shaped figures.

Unfortunately, no surviving examples from the earliest stage of this script have yet been discovered. In the manuscripts recovered from the Dead Sea (the Dead Sea Scrolls), however, the script appears in a highly

developed and mature form. This suggests that the writing system had already undergone a long process of evolution before the production of those manuscripts.

Long after the emergence of the Square Script, other stylistic varieties of Hebrew writing developed. Among the most notable were the Sephardic rounded script, associated with the Jewish communities of the Iberian Peninsula, particularly eastern Spain, and the Ashkenazi angular script, which evolved among Jewish communities in Central and Eastern Europe, especially in Germany and Poland. These later forms reflect the regional and cultural diversification of Hebrew writing traditions while retaining their historical roots in the Aramaic-derived Square Script.

In the eleventh century CE, the Italian semi-cursive script known as Rashi script emerged, deriving its name from Rabbi Rashi (Rabbi Shlomo ben Yitzhak). In contemporary cursive (or "broken") writing systems, many similar transformations have taken place, primarily aimed at making writing more compact and simplified.

In the inscriptions of the desert city of Palmyra (Aramaic: *Tadmor*), a distinct branch of the Aramaic script is attested. These inscriptions are dated from the beginning of the Common Era up to 273 CE, the year in which the city was completely destroyed by the Romans.

A defining characteristic of the Palmyrene script is the elegance and aesthetic refinement of its letter forms. This stylistic feature appears to have developed from earlier epigraphic traditions discovered in archaeological excavations and was gradually adapted into this historical script tradition.

living among Arab populations, then the Nabataeans were Arabs who adopted Aramaic as their literary and official language. During the Hellenistic period (approximately 150–100 BCE), they established a state that extended from the Sinai Peninsula to the eastern regions of Jordan, with Petra as its principal city.

Nabataean inscriptions have been discovered in areas ranging from Damascus to northern Arabia, many of which are dated and provide important historical evidence of their administrative and cultural activities.

The diversity of the Nabataean script is evident in the so-called Sinai inscriptions (not to be confused with the Proto-Sinaitic script), which appear on short stelae and rock surfaces in the Wadi Mukattab of the Sinai Peninsula. These inscriptions are dated to the second and third centuries CE. The forms of the letters in these inscriptions show a close affinity with the North Arabian script, which itself developed from the Nabataean writing tradition.

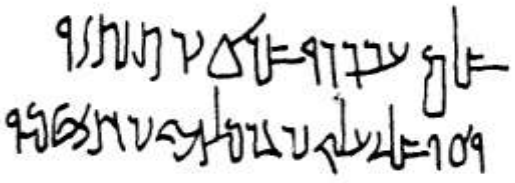


Figure 3: Sinai Inscription

In brief, the Syriac script, which is closely related to the Palmyrene script, preserves significant Nestorian writings associated with Eastern Aramaeans dating to the medieval period. However, it did not develop directly from the Palmyrene script.

In many early inscriptions from the first and second centuries CE, the letters are written separately in a distinctive style. Later, however, they began to connect within words, forming continuous letter sequences similar to modern European writing systems. This characteristic is also preserved in the Syriac script.

With the emergence of Nestorian literature in the fifth century CE, the Syriac communities initially used the Estrangelo script, the earliest form of their writing system, in the cultural center of Edessa. The term *Estrangelo* is derived from the Greek *Strongyle*, meaning "rounded" or "circular" script.

In 489 CE, the Nestorian Church was reorganized to preserve and develop the Syriac language and script. The supporters of Eastern Syriac, namely the Nestorians under the Persian Empire, used the standard form of Syriac prevalent in the city of Nisibis. In certain contexts, they also employed Eastern Syriac (Nestorian) script and pronunciation with minor variations.

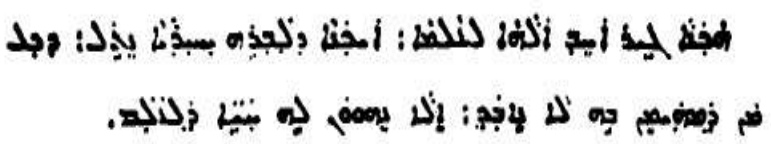


Figure 4: Selected Passages Written in Nestorian Script

While the Syriac language was developing in connection with the spoken dialect of Edessa and the literary tradition of Western Syriac, particularly the Jacobite reading and writing tradition, certain textual forms were also preserved. The Jacobite script is generally referred to as *Serto*, meaning "linear script," which later evolved into the more standardized Syriac letter forms (Diringer, 1953, pp. 285, 289).

In the historical period of Afghanistan, no written evidence has yet been discovered that predates the Aramaic language and script. Although Aramaic inscriptions are contemporaneous with Greek writing and date to the mid-third century BCE, their deep historical roots in the broader cultural and artistic traditions of Asia suggest that the Aramaic script was in use in this region prior to both Greek and Kharosthi scripts. Moreover, Kharosthi itself is believed to have developed from Aramaic and is written from right to left. The Aramaic language and script remained in use in this region, and three important inscriptions have survived.

The first is a Greek–Aramaic bilingual inscription, discovered near the gate of the old city of Kandahar on a roadside rock in 1958 CE. It was unearthed beneath layers of soil and measures approximately 55 cm in length and 45–50 cm in width. The upper portion contains a Greek text of 13.5 lines, while the lower portion consists of an Aramaic text of 7.5 lines. The Aramaic script shows similarities to papyrus or leather-based writing traditions. Another Greek inscription from the same ancient city of Kandahar was discovered in 1963 CE and is now preserved in the Kabul Museum.

The second important inscription, of which only a few lines remain, was found on a rock along the route between the valleys of Laghman and Nangarhar, east of Kabul, on the road to Darunta. The inscription, which appears triangular in shape, is housed in the Kabul Museum. Its script is Aramaic, while its language is Prakrit. It contains ethical directives prohibiting the killing of animals and is likely one of the moral edicts of Emperor Ashoka.

In the mountainous foothills north of Jalalabad, where the modern Darunta Dam is located, the Chinese pilgrim Xuanzang (Song Yun) is reported to have mentioned in 521 CE an inscription which local people at the time regarded as a "Buddha inscription," describing its characters as bright and legible.

According to the *Si-Yu-Ki* (Record of the Western Regions) (1/73, Calcutta edition, 1963 CE), since this inscription was reported in the vicinity of Darunta and corresponds geographically to the area described by Xuanzang, it is highly probable that it refers to the same inscription. The "foreign characters" mentioned in his account may in fact be Aramaic script, which appeared unfamiliar to Chinese observers.

In November 1999, Belgian scholar Daniel Berges discovered a third Aramaic inscription in the village of Shalankay, approximately three kilometers from Mehterlam in Laghman province, and documented it photographically. The inscription, consisting of six lines, was engraved on a rock surface in a mountainous area located northwest of Jalalabad, near the northern bank of the Kabul River and close to the shrine of Mehterlam (or Mehterlamak). The local population holds strong religious beliefs regarding this shrine, which is approximately ten meters long, and some even consider it the burial place of ancient prophets.

The Chinese pilgrim Xuanzang, who visited the region on 15 August 130 CE via Kapisa and remained there for three days, recorded that the area contained around ten sacred sites (sangharamas and monasteries), most of which were associated with Buddhism, while others represented different religious traditions. The ancient name of the valley is recorded in Chinese as *Lanpo* and in Sanskrit as *Lampaka*. In the same region, two additional inscriptions in Devanagari script have also been found, one of which includes the word *"Lamk…"*, possibly related to the ancient toponym of the area.

The main portion of the six-line Aramaic inscription requires detailed reading and scholarly analysis by Aramaic specialists. It is highly probable that it represents one of the ethical edicts of Emperor Ashoka, since the first word of the first line appears similar to "Ashoka," as seen in the Kandahar Aramaic inscription. Furthermore, the content of the Darunta inscription appears to reflect Buddhist moral teachings, particularly the protection of animals and the prohibition of killing.

Since this newly discovered inscription is relatively clear and well preserved, with the exception of a single damaged character in the fourth line, it is expected that its reading will not present major difficulties for future research (Habibi, 1388, pp. 9–14).

*Brahmi Script*

The earliest known form of the Brahmi script has been discovered on a coin dating to the second half of the fourth century BCE.

This script is written from right to left. Another inscription attributed to Ashoka has also been recovered in pictorial form. Extensive scholarly debate has taken place regarding the origin of the Brahmi script. The most widely accepted view today is that Brahmi was based on the North Semitic alphabets, particularly the Phoenician script, rather than being derived directly from Aramaic. It is further suggested that the script may have been developed during the early period of the Achaemenid Persian rulers, approximately between 600 and 500 BCE.

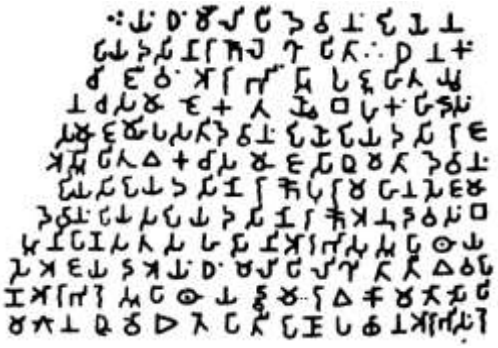


Figure 5: Comparison of Early Forms of the Brahmi Script with Northern Semitic Scripts

Brahmi script is not only regarded as one of the earliest writing systems of the Indian languages, but it eventually came to dominate over the Kharosthi script, leading to its gradual disappearance from use. All ancient Indian inscriptions are recorded in this script. Its northern and southern variants emerged close to the beginning of the Common Era.

Brahmi is considered the earliest widely used script in India after the Indus script. It is an extremely influential writing system, from which hundreds of later scripts found across India, as well as in East and Southeast Asia, ultimately derive. The fundamental units of this script do not represent only individual vowels or consonants independently; rather, they represent different types of syllables.

Although Brahmi belongs to the syllabic writing system category, the clear presence of both vowel and consonant representations places it within the category of *alphasyllabic* scripts.

A key question regarding the origin of the Brahmi script is whether it developed from an earlier writing system or emerged as an independent invention. In the late nineteenth century, Georg Bühler proposed that Brahmi was derived from a Semitic script and was adapted by Brahman scholars in accordance with the phonological structure of Sanskrit and Prakrit.

The Semitic script became prominent in India during the sixth century BCE, following the expansion of the Achaemenid Persian Empire into the Indus Valley, encompassing parts of present-day Afghanistan, Pakistan, and northwestern India. Aramaic served as the administrative language of the ancient Persian state, and official documents were written using a North Semitic script.

Around the same period, another writing system known as Kharosthi also emerged in the region and became dominant in the Indus Valley, whereas Brahmi was used in the rest of India and other parts of South Asia. Although it is widely accepted that Kharosthi derives from a Semitic origin, the relationship between Brahmi and Semitic scripts remains uncertain.

Professor K. Rajan argues from a different perspective, suggesting that prior to the emergence of Brahmi there existed a system of symbols and proto-signs found in rock art traditions across various regions of Tamil Nadu in southern India. Hundreds of such engraved and painted symbols have been discovered on pottery and stone surfaces. Some of these symbols appear to correspond to marks later found in early Brahmi inscriptions.

Similarly, Dilip Chakrabarti, based on evidence from Vallam in southern India, supports a developmental link between these pictographic symbols and Brahmi. The evidence from Vallam suggests a chronological progression: an early phase dominated by pictographic symbols, a middle phase in which pictographs and Brahmi script coexist, and a final phase characterized exclusively by Brahmi writing. Excavations at Mangudi have produced comparable evidence supporting this developmental sequence.

Another question concerning the origin of the Brahmi script is related to its antiquity. Until a few decades ago, the earliest securely dated examples of Brahmi were attributed to the third century BCE, during the rule of the Maurya Empire in India. These examples are found in royal inscriptions issued by the Indian emperor Ashoka (268–232 BCE), which were distributed across northern and central India and are collectively known as the Ashokan edicts or Ashokan inscriptions.

Despite the absence of earlier material evidence, some scholars argue that Brahmi may have originated before the third century BCE. This view is partly based on references in the Brahmana texts, a collection associated with Vedic literature that was compiled during the sixth century BCE alongside the Vedas.

The Brahmanas are the only part of the Vedic corpus written largely in prose, in contrast to the earlier Vedic texts, which consist primarily of hymns designed for oral transmission. The emergence of such complex prose literature without support from writing technology is considered difficult to explain.

Further evidence is suggested by the work of Panini, the renowned ancient Indian grammarian who composed an influential analytical grammar of Sanskrit in the fifth or fourth century BCE. The sophistication of his linguistic analysis appears difficult to imagine in a purely pre-literate oral environment.

Additional references to writing in India are also found in accounts by authors who accompanied Alexander the Great and visited India approximately one century before the time of Ashoka.

Most of the Brahmi inscriptions discovered in northern and central India represent the Prakrit language. The Ashokan inscriptions already show minor regional variations within the Brahmi script. In southern India, particularly in Tamil Nadu, Brahmi inscriptions represent the Tamil language. Tamil belongs to the Dravidian language family and has no genetic linguistic relationship with Indo-Aryan languages such as Sanskrit or Prakrit.

Some examples of the Tamil language have been found on inscribed pottery at Uraiyur in southern India, dating to the first century BCE or the first century CE. Evidence for early Tamil usage is also attested at Arikamedu (southern India), where inscriptions written in an early form of Tamil appear in Brahmi script and date to the early centuries of the Common Era.

At this stage, different Brahmi characters were already in use, particularly those adapted to the phonological system of the Tamil language. However, Tamil inscriptions are not attested in the earliest Brahmi materials discovered at Anuradhapura in Sri Lanka, which are securely dated and written in Prakrit.

In South Asia, it was a long-standing tradition to use perishable materials for writing, particularly palm leaves and birch bark. These materials were preferred due to their portability and relatively low cost. There is, however, no direct material evidence confirming their use prior to the time of Ashoka. The absence of such evidence is likely due to the perishable nature of these materials and the resulting loss over time, rather than the absence of the practice itself.

Indirect evidence for the use of such writing materials has been found at Sringaverapura in northern India, where remains dated between the tenth and seventh centuries BCE have been discovered. D. Chakrabarti also refers to various objects that may have served as styluses for writing on palm leaves and bark, although they could alternatively have been arrowheads.

The earliest reliable evidence of Brahmi script appears on clay seals, indicating ownership and official use. The earliest inscriptions of Brahmi are associated with seals and the Ashokan edicts, used for administrative communication and dating to the mid-third century BCE. Several centuries later, Brahmi was also employed in religious contexts, including architecture and the transmission of sacred texts.

If it is accepted that the Brahmi script was in use prior to the earliest surviving examples, it may be assumed that it was initially employed for commercial purposes and other forms of record-keeping. This assumption is based on the historical fact that writing systems across the world tend to emerge when urbanization, increasing social complexity, taxation, and population growth create the need for efficient systems of information management and redistribution.

Such processes were already well developed in northern India by the seventh century BCE. It is highly unlikely that the emergence of cities and kingdoms in northern India could have been sustained or expanded without some form of writing system.

If Panini's work was composed using the Brahmi script, it would suggest that this script was already refined by grammarians in northern India between the fifth and fourth centuries BCE.

Across Asia, many of the writing systems currently in use derive from Brahmi, including Gurmukhi, Kannada (Kanarese), Sinhala, Telugu, Thai, Tibetan, Javanese, and several others (Violatti, 2016, pp. 1–7).

Languages and scripts are not identical concepts. Languages are spoken and may include dialectal variations. Many languages today have written forms, and the system used for writing them is called a script. A single language may be written in multiple scripts, and a single script may be used for multiple languages.

Tracing the origin of a language is often difficult because language does not require a physical medium for existence. Scripts, by contrast, leave physical evidence that can be verified, although written materials represent only a small portion of a language's full historical existence.

In all historical contexts, understanding a society requires attention to its spoken languages and the cultural systems that support them. In ancient India, Sanskrit was an important language, although its precise origins remain unclear. It existed for thousands of years in both Vedic and later classical forms. In modern traditional discourse, Sanskrit is sometimes considered the "mother" of all languages or the original language of ancient India, although this view is overly simplistic.

Evidence for early regional forms of Brahmi resembles that of ancient Brahmi itself. Over centuries, Brahmi developed into numerous sub-branches, each with its own regional variations, largely corresponding to geographic regions and local languages or dialects. Prakrit texts written in Brahmi represent some of the earliest readable inscriptions found in India.

In contrast, Sanskrit inscriptions appear much later. Sanskrit was primarily a spoken language, and its foundational texts (the Vedas) were likely transmitted orally for centuries before being written down. Interestingly, some of the earliest Sanskrit inscriptions were recorded in Brahmi or Brahmi-derived scripts, such as the inscription of Rudradaman, dated to the first century CE and found in Junagadh.

Brahmi is fundamentally associated with Prakrit languages, reflecting an important aspect of ancient Indian society: those who wrote in Prakrit were closer to everyday social life and its dynamics. Classical sacred texts in Sanskrit were traditionally transmitted orally and required long periods of memorization, making them accessible primarily to specialized scholars.

In contrast, texts written in vernacular languages and scripts spread more quickly and widely, allowing broader sections of society to access philosophical and religious ideas that influenced their daily lives.

In this context, the contributions of Mahavira, the Buddha, the Jains, and Buddhists become clearer. The spread of Jain and Buddhist lifestyles across the subcontinent is reflected today in traditions such as non-violence and systematic vegetarianism in India.

It is also important to note that some languages are deeply rooted not in Sanskrit but in local vernaculars. Moreover, many languages derived from Sanskrit are heavily influenced by Prakrit and contain numerous post-Sanskrit elements, shaped by non-Vedic traditions such as Jainism up to the late medieval period (Ghosh, pp. 2–8).

## Scope and Limitations

The scope of this study is limited to selected ancient scripts and inscriptions documented in the cited literature. It is therefore not an exhaustive survey of all writing systems used in Afghanistan or South and Central Asia. A further limitation is that several inscriptions discussed in the literature are damaged, incomplete, disputed, or undeciphered. In such cases, the study reports the available scholarly interpretations and avoids presenting hypotheses as definitive readings. The library-based design also limits the study to published and accessible documentary evidence. Future research should combine epigraphic fieldwork, high-resolution imaging, specialist palaeography, and comparative linguistic analysis where appropriate.

## Conclusion

The findings of this study indicate that ancient scripts played an important role in the intellectual, cultural, administrative, and historical development of human societies. Pictographic and logographic systems represent early stages in the development of writing, while Aramaic became an influential administrative and writing tradition in a wide geographical area. The reviewed evidence indicates an important historical relationship

between Aramaic and Kharosthi, although the precise pathways of influence remain a subject of scholarly discussion. Brahmi likewise became one of the most influential writing systems in South Asia and gave rise to numerous later script traditions.

The study also demonstrates that the IPA can provide a useful phonetic reference when the linguistic evidence permits phonetic reconstruction or representation; however, it cannot independently resolve undeciphered or disputed inscriptions. Overall, the study shows the value of integrating historical, linguistic, and comparative evidence while maintaining clear distinctions between established evidence and scholarly hypotheses. Further specialist research is required for inscriptions whose language, reading, dating, or historical attribution remains uncertain.

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