

Heritage of Indian Script and Knowledge Tradition

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Abstract: India's script tradition is extremely ancient and rich. Various scripts such as Brahmi, Kharosthi, Nagari, Modi, Grantha, etc., contributed to the development of the Indian knowledge tradition. Vedas, Upanishads, Puranas, Buddhist and Jain literature, as well as various classical texts, have been preserved through generations in these scripts. Indian scripts have not only served as a means of writing languages but have also played a vital role in preserving knowledge, culture, and traditions. Through these scripts, knowledge related to religion, philosophy, science, mathematics, Ayurveda, and literature has been widely disseminated. Indian scripts have also made significant contributions to the development of various regional languages. Today, many scripts exist across the world. While most languages are named after their respective regions, the names of scripts are often different. Just as India has linguistic diversity, it also has diversity in scripts. A script is a systematic method of writing. By assigning simple symbols to each sound produced by the human vocal system, and by inscribing them on surfaces like walls, leather, palm leaves, and birch bark, the wisdom of writing evolved, leading to the creation of many scripts. Manuscripts, inscriptions, and copper plates provide valuable information about Indian history and culture. Therefore, the richness of Indian scripts is an important symbol of the country's cultural heritage. In the modern technological era, it is extremely necessary to preserve and research these scripts. Such research helps to bring the grandeur of the Indian knowledge tradition more clearly to light.

Keywords: Script, Brahmi, Kharosthi, Palm leaf, Birch bark

I. INTRODUCTION

Objectives:

1. To study the historical evolution and characteristics of Indian scripts (e.g., Brahmi, Devanagari, etc.).
2. To elucidate the role and contribution of scripts within the Indian knowledge tradition (Vedas, Upanishads, Shastras).
3. To analyze the preservation, conservation, and significance of Indian scripts in the modern era.

Hypotheses:

1. The development of Indian scripts has served as a crucial factor in the preservation and dissemination of the knowledge tradition.
2. The existence of diverse Indian scripts has ensured the sustenance of regional and cultural diversity in knowledge.

II. THE MEANING OF 'LIP' (SCRIPT):

The human mind is inherently creative. Through the process of evolution, sounds and words developed. From this emerged the creation of language a medium to express meaning and convey the passage of time. The art of writing was born specifically during the 3rd or 4th century BCE with the specific objective of ensuring that language and thoughts would endure and remain accessible over long periods. Since writing is traditionally executed by hand using a stylus or a pointed instrument, it is referred to as 'handwriting' (hastalekhan). Writing is, by definition, encoded within a script



(lipi). Indeed, the very foundation of any language its primary lesson is its alphabet or script. To demonstrate the beauty and unique characteristics of their language, scholars and connoisseurs have artistically manifested various styles of writing. This artistic craftsmanship of handwriting constitutes what is known as 'Lipi' (Script). A script is, fundamentally, a systematic method of writing. The word 'Lipi' is derived from the root 'Lip,' which signifies the acts of smearing, coating, or anointing. Prior to the invention of paper and ink, texts were preserved by being incised or carved onto materials such as palm leaves, stone slabs, or copper plates (where 'likh' implied carving); consequently, the act of making marks through such engraving came to be known as 'writing.'

III. THE BIRTH OF SCRIPT

At a certain stage of evolution, distinct groups of sounds were created by combining the various vocalizations emanating from the human larynx. These sound groups were also endowed with meaning. Subsequently, these words began to be recorded through the medium of images. Words and sentences written in this pictorial form are known as pictographs. The use of such pictographic scripts can be observed across all ancient civilizations that flourished throughout the world. However, over time, the art of writing evolved further; a simple symbol was devised to represent each distinct sound produced by the human vocal apparatus, leading to the birth of numerous scripts. Once the skill of writing using one's fingertips was mastered, the practice evolved into using a stylus or pen held between the fingers. Today, a multitude of scripts exist across the globe. While the names of most languages are derived from the specific regions where they are spoken, the names of their corresponding scripts are often distinct.

Sometime between 1450 and 1455 AD prior to the invention of printing technology everything existed solely in handwritten form. Although the task of manually transcribing copies was arduous, a vast body of literature was nevertheless produced across all Indian languages. Handwritten texts are, of course, impossible without a script; hence, this narrative dedicated to scripts. It is certain that Indian scripts were in circulation as early as the 5th century BC, as evidenced by the usage of the terms Lipi and Grantha in Panini's Ashtadhyayi. Lipi denotes a systematic method of writing. During its survey, the People's Linguistic Survey of India a private research organization recorded that more than 66 scripts and over 780 languages are spoken across India. Among our ancient literary treasures stands a significant text titled Lalitavistara. The tenth chapter of this text titled Lipishala Samdarshan Parivartan contains a comprehensive list of 64 scripts. The text mentions that during his student days, Mahatma Gautama Buddha mastered all these scripts under the tutelage of his teachers at a Vedic school. This list of scripts has been discovered not only in Indian Buddhist texts but also in ancient Chinese translations. While one Indian Buddhist text enumerates a list of 64 Indian scripts, Jain texts typically feature a list of eighteen scripts. This article attempts to trace the history of these ancient scripts. The most significant benefit derived from the invention of scripts is the ability to record information in written form, thereby ensuring its longevity. Consequently, the knowledge accumulated by previous generations can be effortlessly transmitted to subsequent generations. Neither in that era nor in the present day does any other medium possess this unique capability inherent to scripts.

IV. PICTOGRAPHIC SCRIPT – INDUS VALLEY CIVILIZATION

The pictographic script of the Indus Valley Civilization is considered one of the most ancient writing systems in India. This script is primarily found on seals, pottery, and metal objects. The script appears to utilize small symbols and pictorial figures. Symbols incorporated depictions of animals, plants, and anthropomorphic figures. To date, approximately 400 to 600 distinct symbols have been discovered. The script was likely written from right to left. The decipherment of the Mohenjo-daro script has not yet been achieved. Recently, Mahadevan has undertaken a classification of the Mohenjo-daro script with the aid of computers. S. R. Rao has attempted to decipher Vedic names by establishing a link between this script and Semitic scripts. His book, Decipherment of the Indus Script, was published recently. Nevertheless, the Mohenjo-daro script has not yet been satisfactorily deciphered.



Brahmi Script – 2nd Century BCE

The Brahmi script is considered to be the oldest script in India. Brahmi emerged as a fully developed script in the 3rd century BCE. It was used to write various languages, including Sanskrit and Prakrit. Brahmi is written in horizontal lines, proceeding from left to right. It is the most popular script in ancient India one that was widely used and remains legible even today. The root Brah signifies "continuous growth." From this very root, words such as Brahma, Brahmanda (the Universe), Brahmin, and Brahmi have been derived. The distinctive features of the Brahmi script include the use of both vowels and consonants, as well as the application of specific diacritical marks such as kana (vowel extensions) and matra (vowel signs) affixed to consonants. It is from this script that the Devanagari script originated. The ancient Buddhist text Lalitavistara mentions sixty-four different scripts, whereas the Jain texts Pannavana Sutra and Samavayanga Sutra list eighteen scripts; the name of the Brahmi script appears in both sets of texts. According to references found in the Jain Prajnapana Sutra, Brahmi is identified as the script of the Ardhamagadhi language. By the 7th century CE, the Brahmi script was widely prevalent throughout the region of Central Aryavarta.

Just as the decipherment of the Brahmi and Kharoshthi scripts was made possible through bilingual coins, abundant inscriptions in the Brahmi script dating to the reign of the Mauryan Emperor Ashoka are found in India some 2,000 years after the decline of the Mohenjo-daro civilization. Emperor Ashoka had all his royal edicts inscribed exclusively in Brahmi, carving them onto stone surfaces installed across both the peripheral borders and the central regions of his vast empire, which spanned the entire Indian subcontinent. The Drstivada a now-lost Jain scripture mentions, in the few surviving fragments available to us, that the Brahmi script comprises 46 distinct characters. Although Indian scholars likely adopted the Brahmi script from Semitic scripts, they introduced appropriate modifications to it in order to suit the specific requirements of the language. For instance: 1) The creation of distinct graphic symbols for the vowels a, ā, i, ī, and u; 2) The inherent presence of the vowel 'a' within consonants, along with the provision of separate diacritical marks for other vowels; and 3) The conceptualization of conjunct consonants (ligatures), among other features. While the Brahmi script in Ashoka's inscriptions adheres to a standardized format, it subsequently underwent variations influenced by specific regional contexts and historical periods. Aspects such as the height and thickness of the characters, as well as the specific forms of their curves and flourishes, serve as distinct markers representative of the particular era and geographical region in which they were created. In a copper-plate inscription issued by the Gurjara King Jayabhata III, the concluding phrase Svahasto mama Shri Jayabhatasya ("This is the autograph of me, Shri Jayabhata") is rendered in the Nagari script. This particular script is also frequently encountered in the stone inscriptions and copper-plate charters of the Yadava and Shilahara dynasties. The alphabet of the Brahmi script is arranged in a highly logical and phonetic sequence. Indeed, the Brahmi script serves as the definitive graphic medium for the Sanskrit language. Consequently, the scripts derived from Brahmi including those used for Sanskrit and various other Indian languages share a fundamental uniformity in terms of their constituent characters, alphabetical order, and phonetic pronunciation. Unlike many other writing systems, the scripts of all Indian languages are written from left to right. The comprehensive work of tracing the evolution of numerous scripts back to their origin in Brahmi has been meticulously undertaken by linguists and by scholars with a keen expertise in paleography. Many scripts such as Bangla, Odia, Gujarati, Malayalam, Sinhala, Telugu, Kannada, Javanese, and others have evolved from the Brahmi script.

Kharoshthi Script – 2nd Century Bce

Following closely upon the Brahmi script, the Kharoshthi script was widely prevalent in the northwestern provinces. Originating from the North Semitic script, this ancient script is no longer in use today. The Aramaic script was the first to evolve from the Semitic script. Copper plates and stone inscriptions discovered during excavations in Sistan, Kandahar, Swat, Ladakh, and Taxila are inscribed in the Kharoshthi script. Scholars have assigned various names to this script; Lassen referred to it as 'Kabuli,' Wilson as 'Arianian,' and Cunningham as the 'Gandhara script.' Since the inscriptions in the Kharoshthi script are composed in the Prakrit language, it has also been referred to as 'Bactro-Pali' or



'Ariano-Pali.' This script is written using a set of three consonants. It shares its scriptural lineage with the Hebrew and Arabic languages.

scriptions dating back to the era of Emperor Ashoka, written in the Kharoshthi script, have been discovered at Mansehra in the Hazara district and at Shahbazgarhi in the Peshawar district of Pakistan. Based on these findings, it is inferred that this script was in use in India during the Mauryan period of Emperor Ashoka. A distinctive feature of this script is its ability to easily transcribe spoken words of any language. This script is written from right to left. This writing system evolved in the Gandhara region during the 3rd and 4th centuries CE. The Kharoshthi script remained in circulation until approximately the 14th century. In 1833, while excavating a Buddhist stupa at Manikyala, General Ventura—a British officer—discovered coins belonging to an Indo-Greek king that bore inscriptions in both the Kharoshthi and Greek scripts; this discovery confirmed the existence of bilingual scripts during that era. Some scholars are of the opinion that the Kharoshthi script originated from the Aramaic alphabet. Aramaic is a Semitic alphabet consisting of twenty-two consonantal characters.

Dravidian Scripts – 2nd Century BCE

The term "Dravidian scripts" does not refer to a single script, but rather to a group of scripts developed for various languages spoken in South India. They originated from the Brahmi script and continue to be used in the daily lives of millions of people today. These scripts are primarily utilized within the South Indian region.

Tamil Script for the Tamil language; Telugu Script for the Telugu language; Kannada Script for the Kannada language; Malayalam Script for the Malayalam language. In each script, vowels and consonants are distinct entities. Generally, each symbol represents a single letter. Regarding their morphology, these scripts feature rounded shapes; specifically, the characters in the Telugu, Kannada, and Malayalam scripts appear curvilinear. Furthermore, some of these scripts incorporate additional symbols specifically designed for writing Sanskrit words.

Gupta Script – 3rd Century CE

This was a significant writing system in ancient India. This script developed during the Gupta period. The Gupta script originated from the Brahmi script. It was primarily used for writing the Sanskrit language. In the Gupta script, the characters appear simple and rounded in form. This script is found on stone inscriptions, copper plates, and coins. It was extensively utilized for administrative and religious writings. Subsequently, numerous scripts evolved from the Gupta script such as the Nagari script. This script marked a significant advancement in Indian writing systems.

Kadamba Script – 4th to 6th Centuries CE

This was a significant script in ancient South India. It was in vogue approximately between the 4th and 6th centuries CE. The Kadamba script was extensively utilized during the era of the Kadamba Kingdom. This script originated from the Brahmi script. It was primarily employed for writing in the Sanskrit and Prakrit languages. The Kadamba script is found on stone inscriptions and copper plates. The Kannada and Telugu scripts subsequently evolved from the Kadamba script. This script made a significant contribution to the development of writing systems in South India.

Devanagari Script – 8th Century AD

The name 'Devanagari' is derived from two Sanskrit words: Deva (meaning 'divine' or 'Brahman') and Nagari (meaning 'city'). It can be interpreted as the "script of the City of Gods" a designation that later became inextricably linked with the Sanskrit language. Today, this script serves as the primary writing system for numerous Indian languages. Much like the Brahmi script, writing in Devanagari proceeds from left to right along horizontal lines. The script is composed of vowels and consonants, and it also incorporates conjunct consonants (ligatures). The oldest surviving inscriptions in the Devanagari script date back to the 10th century. Devanagari serves as the writing system for languages such as Marathi, Bhojpuri, Konkani, Sanskrit, Pali, Sindhi, Kashmiri, Nepali, Bodo, Angika, Maithili, Romani, Hindi, and others. In total, 194 languages both domestic and international are written in Devanagari. In the northern variants of the



script, the vertical strokes of the characters often curve to the right, resembling a tail; conversely, the characters in the southern variants tend to possess a more rugged or angular appearance. The Nagari script evolved from the Magadhi characters during the reign of King Adityasena of the Magadha kingdom, emerging specifically in the Maharashtra region situated along India's western coast. Pandit Gaurishankar Ojha was a distinguished paleographer (expert in ancient scripts); his book, *Prachin Lipimala* (Ancient Scripts), remains an exceptionally informative and valuable resource

Sharada Script – 8th Century CE

Although the scripts used for various Indian languages differ, their fundamental characters remain the same. Two scripts derived from Brahmi yet now fallen into oblivion are the Sharada script, found in Kashmiri manuscripts, and the Mahajani script, used by merchants in Punjab, Haryana, and Rajasthan. Takri represents the cursive form of the Sharada script, characterized by continuous writing without lifting the hand. Furthermore, the Dogri script of Jammu and the Chamiyali script of Chamba also trace their origins back to the Sharada script.

Grantha Script:

The Pallava and Grantha scripts originated from the Brahmi script. Grantha is a South Indian script closely related to the Tamil, Vatteluttu, and Malayalam scripts. This script remains prevalent in traditional Vedic schools. Inscriptions found in some Hindu temples, as well as pillar inscriptions, are observed to be written in the Grantha script. Today, the modern Grantha script is used for writing Sanskrit and Dravidian languages.

Modi Script – 13th Century

Modi is a cursive script derived from Devanagari. To facilitate rapid writing, the characters are written in a 'broken' form either by simplifying their structure or by adding slight curves to them. Furthermore, because it is written without lifting the hand, the writing process is significantly faster. This script employs abbreviations for numerous words, allowing for the concise summarization of content within a minimal number of lines. The strokes of the characters are predominantly circular in nature. Recently, several 9th-century inscriptions discovered in Karnataka have been found to be written in the Modi script. The Modi script remained in active use in Maharashtra for a period of at least 900 years. Thanks to its distinctive feature of being written without lifting the hand, the Modi script effectively saved time during the writing process. The Modi script remained the prevalent medium for writing the Marathi language until the year 1950. However, as it proved to be impractical for printing purposes, the Devanagari script was subsequently adopted exclusively for the Marathi language.

Gurmukhi Script - 16th Century

The Gurmukhi script is primarily used for writing the Punjabi language. The word "Gurmukhi" translates to "that which comes from the Guru's mouth." This script evolved from the Sharada script, which belongs to the Brahmi family. It was devised by the second Sikh Guru, Guru Angad Dev (1539–1552). Following the passing of Guru Nanak, the Guru Granth Sahib was written in Gurmukhi. The Gurmukhi script is extensively used in the sacred scriptures of the Sikh religion.

IV. MODERN SCRIPT

Researchers at IIT Madras have developed a single unified script the 'Bharati Script' for all Indian languages. This script has been created by incorporating select characters from the Devanagari, Tamil, and Roman scripts. Nevertheless, there is no dispute that the inherent diversity of Indian scripts will remain intact.



The Nature of the Indian Knowledge Tradition

The Indian knowledge tradition is extremely ancient, rich, and characterized by immense diversity. The primary sources of ancient Indian knowledge include the Vedas, Upanishads, Ramayana, Mahabharata, Ayurveda, Arthashastra, Jyotishastra (Astronomy/Astrology), and Buddhist and Jain literature. Initially, the knowledge contained within these traditions was preserved in an oral form (as seen in the Vedas). Following the emergence of scripts during the 2nd or 3rd century BCE, the preservation of the Indian knowledge tradition began to take place through manuscripts. The invention of the script must be regarded as one of the greatest contributions to humanity.

The Relationship Between Indian Scripts and Knowledge Traditions

Indian scripts and knowledge traditions are mutually complementary.

Preservation of Knowledge: Scripts enabled the preservation of oral knowledge in written form.

Dissemination of Knowledge: Knowledge spread throughout society through the medium of texts, stone inscriptions, and copper plates.

Cultural Heritage: Scripts facilitated the transmission of traditions to future generations.

Scientific and Literary Development: The advancement of mathematics, astronomy, and philosophy was made possible through scripts. For instance, the written form of the Vedas and the messages contained in Ashoka's rock edicts serve as excellent examples of the interplay between scripts and knowledge traditions.

Challenges of the Modern Era

The Growing Influence of English: Impact on Local Languages and Scripts

Limitations of Digital Media: Limited Usage of Certain Scripts

Declining Interest Among the Youth: Diminished Interest in Traditional Knowledge

Preservation of Ancient Texts: Many Manuscripts on the Verge of Extinction

V. CONCLUSION

India's rich heritage of scripts and its tradition of knowledge serve as the very pillars of the nation's cultural identity. It is through the medium of scripts that this legacy of knowledge has been preserved and successfully transmitted to future generations. In today's modern era, the conservation of this tradition is of paramount importance. By leveraging the power of technology and fostering greater awareness, we can safeguard this invaluable heritage for the generations to come. Since ancient times, India has been a land abundant in knowledge, culture, and traditions. It has been the birthplace of diverse languages and scripts, which have served as the conduits for the preservation and dissemination of knowledge. The splendor of Indian scripts and its tradition of knowledge are inextricably intertwined. An invaluable wealth of knowledge encompassing texts such as the Vedas, Upanishads, Puranas, and various scientific treatises has survived to this day, enduring through the medium of these scripts.

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