A majority of the Indus Valley inscriptions were written logographically (by using word signs) and not by using phonograms (speech sounds units), claims a recent research paper published in Palgrave Communications, a Nature group journal.

The paper, titled Interrogating Indus inscription to unravel their mechanism of meaning conveyance, points out that the inscriptions can be compared to the structured messages found on stamps, coupons, tokens and currency coins of modern times.

**Epigraphic analysis**

Discovered from nearly 4,000 ancient inscribed objects, including seals, tablets, ivory rods, pottery shards, etc., the Indus inscriptions are one of the most enigmatic legacies of the Indus Valley civilisation which have not been deciphered due to the absence of bilingual texts, extreme brevity of the inscriptions, and ignorance about the language(s) encoded by the Indus script.

“This article mainly focusses on understanding how Indus inscriptions conveyed meanings, rather than on deciphering what they conveyed,” Bahata Ansumali Mukhopadhyay, the author of the paper, told The Hindu.

For the study, Ms. Mukhopadhyay has used the digitised corpus of Indus inscriptions compiled by well-known epigraphist and Indus scholar Iravatham Mahadevan. She studied it using computational analyses and various interdisciplinary measures.

Analysing the brevity of the inscriptions, the rigid positional preferences maintained by the signs of the inscriptions, and the co-occurrence of restriction patterns demonstrated by certain classes of Indus signs, she infers that such patterns can never be phonological co-occurrence restrictions. Phonological co-occurrence restrictions refers to two or more sound units that cannot be pronounced together. “A very compelling, nearly unassailable proof of the logographic nature of Indus inscriptions comes from the co-occurrence restriction patterns maintained within them,” the paper states.

**Ancient tokens**

In the publication that runs into 37 pages, Ms. Mukhopadhyay classifies the signs into nine functional classes. Based on archaeological evidence, she says, “The inscribed seals and tablets were used in some administrative operation that controlled the commercial transactions prevalent in the trade-savvy settlements of the ancient Indus Valley civilisation. These inscriptions can be compared to the messages found on stamps, coupons, tokens and currency coins of modern times, where we expect formulaic texts that encode certain type of information in some pre-defined ways, rather than freely composed narrative.”

A common perception among some scholars is that the Indus script is logo-syllabic, where one symbol can be used as a word sign at one time and as a syllable sign at another. This method, where a word symbol also gets sometimes used only for its sound value, is called the rebus principle. For example, you can combine the pictures of a honey bee and a leaf to signify the word “belief” (bee+leaf). According to Ms. Mukhopadhyay, though many ancient scripts use rebus methods to generate new words, the inscriptions found on the Indus seals and tablets have not used rebus as the mechanism to convey meaning.

The researcher said that the popular hypothesis that the seals were inscribed with Proto-Dravidian or Proto-Indo-European names of the seal-owners does not hold water. It is not that no other Indus scholar has proposed the logographic theory before. Mr. Mahadevan himself tried to read these inscriptions logographically for decades, just that the logographic theory was not articulated well enough. Ms. Mukhopadhyay said her current work could serve as a basis in future for the deciphering of the script.