

The Indus Script

A NEW LOOK AT AN OLD RIDDLE

The symbols, creatures, and strange figures depicted on the seals found at sites in the Indus Valley have long intrigued the experts. **Andrew Robinson** takes a fresh look at the world's greatest decipherment challenge.

ABOVE The Indus Valley, Pakistan.

In the early 1920s, an Indian archaeologist searching the valley of the Indus River for non-existent victory pillars put up by Alexander the Great on his retreat from India in 326 BC, stumbled across the true significance of the ruin mound at Mohenjo-daro ('mound of the dead'), now in the Sindh province of Pakistan. His discovery, and a similar discovery 560km away at Harappa, would double the recorded age of Indian civilisation from 250 BC – the inscriptions of the Emperor Asoka – back to about 2600 BC.

Archaeologists have identified about 1,000 settlements belonging to the Indus Valley civilisation in Pakistan and north-west India, covering 780,000 square kilometres (approximately a quarter the size of Europe), with a population of one million people. This was the most extensive urban culture of its time, larger than either the ancient Mesopotamian or Egyptian empires. Most settlements were villages, but five were major cities. Between about 2600 and 1900 BC, the mature period of the Indus civilisation, Harappa and Mohenjo-daro were comparable with cities like Ur in Mesopotamia and Memphis in Egypt.

The cities do not boast grand pyramids, palaces, temples, statues and graves, or hoards of gold. But their society, fed by the Indus, appears to have been remarkably prosperous, storing food in granaries filled by two growing seasons. The civilisation traded with the Persian Gulf and Mesopotamia, where Indus jewellery, weights, seals, and other objects have been excavated. The well-planned streets, bathrooms, and advanced drainage of its cities put to shame all but the town-planning of the 20th century AD. Some of its ornaments rival the treasures of the Egyptian pharaohs. Its remarkable system of standardised weights – consisting of stone cubes and truncated spheres – was unique in the ancient world. In addition,

the undeciphered Indus seal stones are 'little masterpieces of controlled realism, with a monumental strength in one sense out of all proportion to their size and in another entirely related to it', enthused Mortimer Wheeler. Once seen, they are never forgotten.

More questions

Indus Valley archaeology has come a long way. Yet it has many more unanswered fundamental questions than the archaeology of ancient Mesopotamia, Egypt, and China. What type of authority held together such an evidently organised, uniform and far-flung society, which apparently managed without palaces, royal graves and rulers, temples, icons

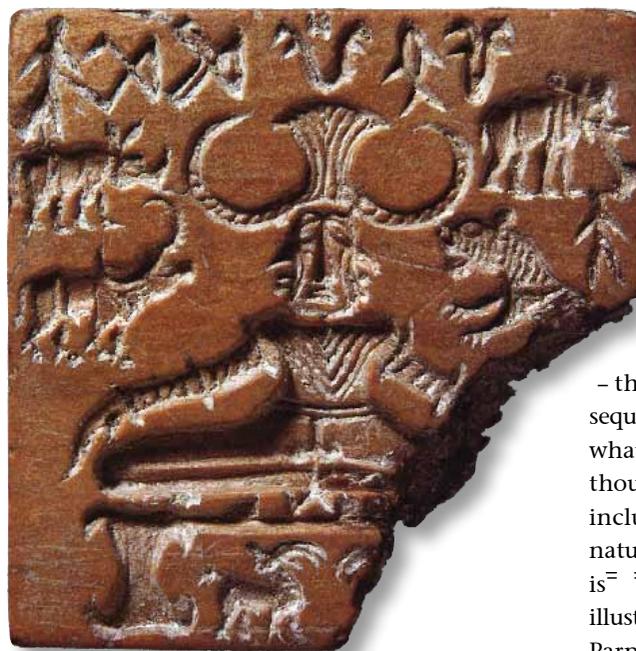
BELOW A stupa at Mohenjo-daro, built on the ruins of the Indus Valley civilisation.



and priests, fortifications, military weapons and warriors? Was its religion the origin of Hinduism? Why did the Indus civilisation disappear after 1900 BC, leaving no trace in the later historical record? The signs of its seal script bear no resemblance at all to the next writing that appeared in India: the Brahmi and Kharosthi alphabetic scripts used to write the inscriptions of Asoka.

Apart from seals, the Indus script appears on pottery, copper tablets, bronze implements, and ivory and bone rods, found scattered in the buildings and streets of Harappa, Mohenjo-daro, and other urban settlements. No doubt it was written, too, on perishable materials, such as the bark and palm fronds traditionally used for writing in India. About 3,700 inscribed objects are known, 60% of them seals, but some 40% of these are duplicate inscriptions, so the useful total for the decipherer is not as large as it seems. More were found in the 1990s, but it is not an abundant corpus, especially as the inscriptions are brief: the average is fewer than four signs in a line and five in a text, the longest only 26 signs divided along the three sides of a terracotta prism. Many seals carry a boss on the back with a hole drilled in it, suitable for a string. Very likely, they were worn around the neck of a person whose signature was spelt out on the seal.

In addition to the signs, many seal stones are engraved with an often-detailed intaglio of animals. These are generally recognisable – buffaloes, elephants, rhinoceroses, tigers, and zebus, for instance,



ABOVE This seal, discovered during excavation at Mohenjo-daro in the Indus Valley and dated to 2600-1900 BC, depicts what some interpret as a 'yogi' or 'proto-Shiva', surrounded by animals.

though no horses (which are not native to the Indian subcontinent) and, curiously, no cobras, monkeys or peacocks – but some are fantastic or chimerical, including a one-horned bull, which the early excavators promptly dubbed a 'unicorn' (a creature legendarily originating in India). Unidentified anthropomorphic figures, sometimes seated in yogic postures, also feature, and may be gods and goddesses, perhaps precursors of the Hindu deities, such as Shiva.

The Indus language

By internal analysis of the script – that is, without trying to guess the language behind its signs – scholars have settled its direction of writing and reading (overwhelmingly, right to left); they have established an approximate number of signs (425 +/-25), and a sign list on which there is considerable consensus; they have agreed on some of the numerals (one to seven appear to be written with one to seven short strokes, suggesting a

base-eight system, although larger numbers seem to use a decimal system); and they have shown – by comparing repeated sequences of signs in different inscriptions – that inscriptions containing these sequences are likely to be segmentable into what may be discrete words. Beyond this, though, there are yawning disagreements, including how to interpret the iconic nature of many signs. The most frequent is $\overline{\text{=}}$ (it occurs twice at the top of the seal illustrated left). To the Finnish scholar Asko Parpola, this shows the head of a horned cow seen from the front; to the American Walter Fairervis, a pot with handles; and to the Russian Yuri Knorozov (the key player in the Mayan decipherment), a pipal tree. Each has his reasons.

As for the Indus language, the obvious candidates are the ancestors of two modern Indian language families, Indo-Aryan and Dravidian. Geographically, Indo-Aryan has the edge over Dravidian, since Sanskrit was the classical language of north India (like Latin in Europe), while today's Dravidian speakers belong almost exclusively to south India, far away from the Indus Valley region. That said, an important and fascinating caveat arises. Pockets of Dravidian languages exist in north India, and one of these languages, Brahui, spoken by around 300,000 nomadic people in Baluchistan (western Pakistan), is significantly close to the Indus Valley. These Dravidian speakers are presumably remnants of a Dravidian culture once widespread in the Indian subcontinent before it was submerged in the north by encroaching Indo-Aryans during the second millennium BC – pools left by the receding tide, so to speak – although it is conceivable that modern Brahui speakers could be descended >





ABOVE Excavators who found this seal described the animal depicted on it as a unicorn, a beast said to have originated in India.

MIDDLE This seal, from Mohenjo-daro, shows a 'composite beast', rather than a recognisable animal.

RIGHT A seal from Mohenjo-daro with an image of the elephant.

from people who migrated to their present locations from the south. There is disagreement about this, but it seems improbable that a people would migrate from the relatively clement plains of India into the rugged and hostile mountains of Baluchistan.

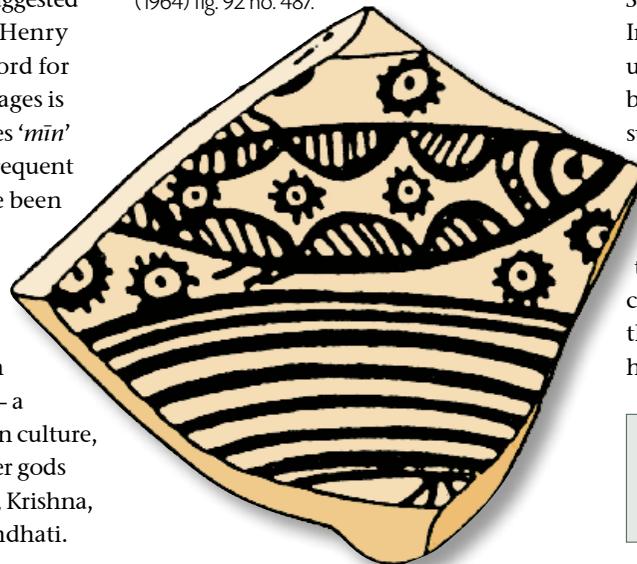
Dravidian is therefore favoured over Sanskrit by a majority, though in no sense proven. On the working assumption that this is correct, scholars look for sensible links between the meanings of words in early Dravidian languages such as Old Tamil, and the iconic and iconographic signs and images on the Indus seals and other inscribed Indus Valley objects, taking help from cultural evidence about Dravidian civilisation and its religious beliefs, and archaeological evidence about the Indus Valley civilisation.

Star fish

The simplest example – and still the most intuitively convincing – was first suggested in the 1950s by the Jesuit Father Henry Heras, who lived in India. The word for fish in almost all Dravidian languages is 'mīn'. In many Dravidian languages 'mīn' also means 'star'. Could the very frequent 'fish' sign on the Indus seals have been pronounced *mīn* but have had the dual meaning 'fish' and 'star', which, as Parpola demonstrates, is an emblem of divinity and can thus stand for 'god'? The 'fish' sign could then be a theophoric name – a very common occurrence in Indian culture, where people are often named after gods and goddesses: for instance, Rama, Krishna, Ganesh, Indira, Lakshmi, and Arundhati.

One could object to this: why is the star not represented pictorially too, like the fish? We are used to representing a star with a few short lines crossing at a point ('twinkling', so to speak), but this is just our particular convention, which happens to distinguish all other stars from our sun, which we generally represent with a small circle with 'rays' sticking out of it. It is quite conceivable that the Indus Valley writers could have chosen a different, and more subtle, approach, based on a homophony in their language between the Indus words for fish and for star that English does not possess. (An English parallel might be 'son' and 'sun'.) As Robert Caldwell, the bishop of south India who published the first grammar of the Dravidian language family in 1856, beautifully observed: 'Who that has seen the phosphorescence flashing from every movement of the fish in tropical

BELOW An Indus Valley painted pot from Amri, with fish and 'stars', after J M Casal, *Fouilles d'Amri* (1964) fig. 92 no. 487.



seas or lagoons at night, can doubt the appropriateness of denoting the fish that dart and sparkle through the waters, as well as the stars that sparkle in the midnight sky, by one and the same word – viz., a word signifying that which glows or sparkles?' On certain Indus Valley pottery, drawings of fish and stars (pictured as small circles with 'rays' sticking out) appear as a closely integrated artistic motif, which appears to support the idea of the drawings' linguistic equivalence.

Several scholars have extended this approach to other Indus inscriptions with ingenuity based on their knowledge of Dravidian languages and Indian culture. But it can at best be highly speculative, in the absence of any proof that the Indus language is Dravidian, and at worst it can fall into absurdity, as has happened with the Sanskrit hypothesis espoused by some Hindu nationalists. Parpola frankly admits (in his erudite *Deciphering the Indus Script*): 'It looks most unlikely that the Indus script will ever be deciphered fully, unless radically different source material becomes available' – such as a large haul of substantial inscriptions from some newly excavated Indus sites, or that Holy Grail of decipherment: a bilingual 'Rosetta Stone', perhaps written in both the Indus script and Mesopotamian cuneiform (given the trading links between the Indus Valley and Mesopotamia). 'That, however, must not deter us from trying.' □

SOURCE Andrew Robinson is the author of *India: a short history*, and *Lost Languages: the enigma of the world's undeciphered scripts*.

IMAGE: Jyrki Lyytikä for CSI (M-629), courtesy of Department of Archaeology and Museums, Govt of Pakistan