

# A TALE OF TWO HORSES

## Editor's Introduction

"Horseplay in Harappa," the Cover Story by Michael Witzel and Steve Farmer in *Frontline* (October 13, 2000), has attracted a lot of interest from readers, including scholars, in India and abroad. In the same issue, at *Frontline's* invitation, Romila Thapar, the eminent historian of ancient India, commented on the Witzel-Farmer article and offered a perspective on Hindutva and history.

The subsequent issue (October 27) carried letters from Iravatham Mahadevan, the leading Indian expert on the Indus Valley script, and Richard H. Meadow, Project-Director of the Harappa Archaeological Research Project at Harvard University and one of the world's leading experts on ancient animal bones. There has also been a large number of letters from general readers. Additionally, the Witzel-Farmer scholarly investigation and exposé has generated a lively discussion on the Internet.

To take the discussion further and deeper, *Frontline* presents in this issue scholarly communications on the subject. These comprise N.S. Rajaram's letter to the editor, backed up by two scanned colour images; and invited responses from two of the world's leading experts on the Indus Valley script, Asko Parpola and Mahadevan, and from the authors of "Horseplay in Harappa."

– Editor, *Frontline*

## *Frontline* Cover has "the head of a horse"

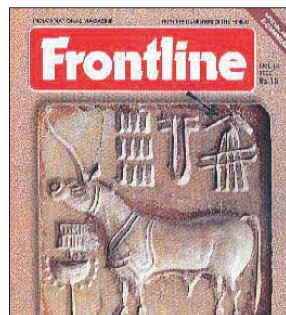
N. S. Rajaram is the co-author with N. Jha of *The Deciphered Indus Script: Methodology, readings, interpretations* (Aditya Prakashan, New Delhi, 2000). He is also the co-author, with David Frawley, of *Vedic Aryans and the Origins of Civilisation* (Voice of India, New Delhi, 1997); and the author of *From Sarasvati River To The Indus Script* (Mitra Madhyama, Bangalore, 1999) and the just released *Profiles in Deception: Ayodhya and the Dead Sea Scrolls* (Voice of India, New Delhi, 2000). Rajaram has an academic background in the mathematical sciences and industrial engineering. His claim to have deciphered, along with Jha, the Indus Valley script; the 'horse seal' (Mackay 453) he presented as part of his thesis about the Indus Valley script and Civilisation; his assertion that the language of Harappa was 'late Vedic Sanskrit'; and his ideological agenda figured in "Horseplay in Harappa," the Cover Story in *Frontline* (October 13, 2000).

Rajaram's letter to *Frontline*, dated October 23, 2000, has occasioned this scholarly communication. He can be contacted at [nsrajaram@vsnl.com](mailto:nsrajaram@vsnl.com).

### N.S. RAJARAM

Recently, *Frontline* published articles by Michael Witzel and Steve Farmer and by Romila Thapar ("Horseplay in Harappa," *Frontline*, October 13, 2000), the main thrust of which was that the Harappan Civilisation was ignorant of the horse because it is not depicted on any of the seals. On this premise they claimed that the image of the seal known as Mackay 453 given in *The Deciphered Indus Script* by N. Jha and N.S. Rajaram is a fabrication, with a unicorn bull made to look like a horse.

Both *Frontline* and the authors overlooked the fact that the seal displayed on the cover contains a figure recognisable as the head of a horse at the top right-hand corner. The scanned images [on this page] highlight this by giving both the cover photo (with the



arrow pointing) and the enlargement. I hope the authors will not suggest that this is the head of a unicorn bull! This is just one example of hasty conclusion due to preconception, unfamiliarity with the sources, and insufficient attention to detail.

At the same time Jha and I don't want to be dogmatic because these are artists' depictions and not anatomical specimens. So differences of opinion are unavoidable. We regard the question of the horse to be of minor significance: our book is about the Indus script, not the Indus horse. There are more fundamental issues like the Sarasvati River data and others that need to be addressed. The broader issue, as Professor Thapar makes clear, is the Vedic identity of the Harappan Civilisation. This, I feel, has been amply demonstrated by our book and by several others – with and without the decipherment.

# "Jha sent the photo... I have not computer enhanced it"

## Interview with N.S. Rajaram.

Following the publication of "Horseplay in Harappa," N.S. Rajaram wrote a letter to the Editor of *Frontline*. In the covering note, he offered access to "the original photograph" of the 'horse seal' on which the image published in the Jha-Rajaram book was based. *Frontline* accepted the offer and received from Rajaram a copy of the photograph, which was identical to the one Rajaram sent Iravatham Mahadevan in 1997. *Frontline* correspondent Anupama Katakam interviewed Rajaram in Bangalore on November 2 on the provenance of the image of the 'horse seal,' the 'computer enhancement,' the 'decipherment,' and other aspects of Rajaram's work and views. Excerpts from the tape-recorded interview:

► *Where did the image of the 'horse seal' come from?*

Jha had a photograph taken of the image from Mackay's book – Mohenjodaro. This attribution is in the index of his book. Jha lives in a small town. He may not have had access to high-tech equipment, which explains the low quality of the image.

► *Why does he believe it to be a horse?*

I looked at the original [photograph], which is very small. In Mackay's book. Of course, *Frontline* gave a much better picture because they have better facilities. To me it looks more like a horse. I am convinced it is a horse.

The shape of the under-belly. If you look at the unicorn bull's genital area, it is very prominent [referring to *Frontline's* cover]. It is not so in the horse. The tail is also quite different. And another thing is – the tapering back is a feature of all fast-running animals.

► *What is the significance of the 'horse'?*

I feel the importance of the horse is blown out of proportion. We have a great deal of much more important evidence that we have to explain. They are making it the central issue... It was just a footnote in our book...

As far as identification is concerned, we are sure it is a horse! And we can

demonstrate that horses existed.

I believe the debate should be on a whole range of issues.

► *What is the old-style-telephone-like object in front of the animal?*

Do you find it in our book? You see what has happened is this writing [pointing to the annotation] has got scrambled in the scanning. This writing which has got scrambled resembles this telephone-like thing which they refer to as a [feeding] trough. Nothing is behind that label. This is not in the original seal.

► *Who annotated or labelled it?*

Jha must have. To keep the file number... This is the photo I received and I have checked it with the original... But I didn't have such a good print. The original seal is in Mackay's book. This [points to the image numbered M-772A, published on p. 9 of the *Frontline* issue of October 13] they say has been flipped horizontally. It is probably the same seal, but you see there is more damage here. But I am not going to look at this one. You see when Parpola took this photograph, it was about 30 years later. This has been computer-manipulated. As far as I am concerned, I will go with the oldest.

In any case, it is irrelevant as they may be the same image. See, the writing is the same... As far as the trough goes – it is a distortion of the letters.

► *On the why and how of the 'computer enhancement'*

I never said computer enhancement in my book. When they kept pressing me, I said it might have been computer-enhanced. That is what I mentioned in a particular note to these people. I had no idea. I think it was scanned by the publisher. The best way of finding out is if you look at what copy the publisher has and mine. Then you will know what went into the book. This has not been scanned by me. I xeroxed it and I either sent a smaller photograph to improve the resolution, or a contraction of it taken on a xerox machine.

If I had this quality [pointing to a clear image of the broken seal published in *Frontline*], there would be no problem. My point is if 'computer enhancement' was said, it may have been said under pres-

sure. I have never done any computer enhancement.

Clearly he [Jha] has, or somebody has, taken the photograph from a publication. And I either sent a photocopy of it... And I remember what I said to the publisher. I said, "see if something can be made out of this."

... I am not in a position to say 'Yes' or 'No' [about the computer enhancement]. But I can definitely say I have done no computer enhancement. In fact, I have not even scanned it. If the publisher has done it, I might have said it has been computer enhanced. I am not denying that, but I have... never done any computer work on it. The only time it may have been scanned is by the publisher. He could have done it.

► *Does he still think it is a horse? Does he stand by his decipherment?*

Absolutely. Sure. We have done nothing... The issue they [Farmer and Witzel] have raised is that no horses were found in Harappa. But there is ample evidence that horse bones have been found at all levels at the Harappan site. The reference to the horse is only in one part of a footnote!

Our point is that decipherment is part of the historical connection between the Vedic and the Harappan. What we see as the main significance is the historical context which links Harappan archaeology to Vedic literature...

We will hold on to our identification of the horse. But I have also made the point in my letter [to the Editor of *Frontline*] – another example. I don't know how it ended up on the cover but anyway, these are artists' depictions and not anatomical representations. So we can only argue it, we cannot prove it. It is simply a question of people's impressions.

And at least for the last 50 years, horse bones have been found at Harappan sites and some have been found much earlier. More information will be coming now.

The main point I want to make is about the Vedic-Harappan connection. Both the Vedic and Harappan civilisations – you cannot call it saffronised if you relate it to Hinduism because both of them preceded Christianity and Islam by thousands of years! And India before that time was Hindu. My point is that I can demonstrate the Vedic-Harappan connection – that the Harappan civilisation was Vedic and full of Vedic symbolism even without the decipherment...

And we see our book on the decipherment not in isolation but [alongside] a whole lot of information that has come out beginning with the discovery of the



Saraswati River. Which the Aryan invasion model does not explain.

► *Was he mistaken in his identification of the 'horse seal'?*

Just as I gave my clarification to you, I told him [Farmer] I would check with Jha and give him the clarification. I had not located the photograph because I never imagined this would be turned into such a major [controversy]... and then I found it in my file.

I went to the Mythic Society to check the original for Farmer. And I even told him we could have made an honest mistake. But

I don't think we have made any mistakes and we stand by our identification. I will not be surprised if the same picture is found in some old books.

I can tell you this: This photograph is what Jha sent me. I have not computer enhanced it. If I said that – which is possible... I might have said [it]... because I didn't have the photo at that time, which I traced later. I might have said it meaning not that I enhanced it but it might have been done for publication.

I still stand by my interpretation. ■

## Of Rajaram's 'Horses', 'decipherment', and civilisational issues

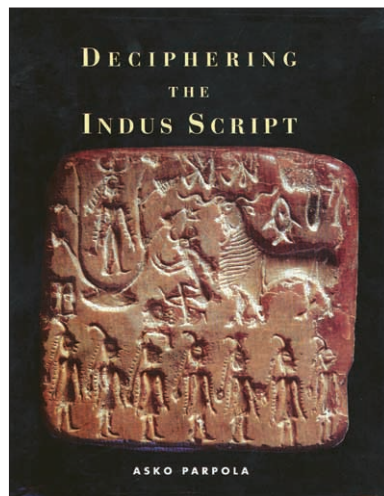
Asko Parpola is Professor of Indology at the Department of Asian and African Studies at the University of Helsinki. He is one of the world's leading authorities on the Indus Civilisation and Indus script and religion. He is the author of *Deciphering the Indus Script* (Cambridge University Press, 1994). His monumental *Corpus of Indus Seals and Inscriptions* was published in two volumes in 1987 and 1991. Parpola is a world expert on Jaiminiya Samaveda texts and rituals. His other areas of expertise include the prehistory of Indian languages and the prehistoric archaeology of South and Central Asia. Parpola contributed this comment at the invitation of *Frontline*:

### ASKO PARPOLA

India has a truly glorious past. It is sad that India's heritage should be exploited by some individuals – usually people with few, if any, academic credentials – who for political or personal motives are ready even to falsify evidence. In order to vindicate their ideology and promote their own ends, these persons appeal to the feelings of the 'common man' who, with full reason, is proud of his or her country's grand heritage. They suggest that this grandeur is denigrated by their opponents, particularly by foreign scholars. There is no need, however, to twist the facts in order to establish the greatness of India's past. Of all people, Indologists, including foreign Indologists, are among the first to acknowledge and admire the great achievements of Indian civilisation.

Michael Witzel and Steve Farmer have shown that N.S. Rajaram has no scruples in falsifying evidence to suit his claims. Thus far Rajaram has got away with this dishonesty because the scholarly community has not considered his work worthy of serious consideration: it has been taken more or less for granted that any sensible person can see through this trash and recognise it as such. However, the escalation of this nonsensical propaganda now demands that the issue be addressed. *Frontline* has clearly exposed the untenability of Rajaram's arguments. Having been invited to comment on Rajaram's 'Horse II,' I would like to point out just a few facts.

On the cover of *Frontline*, Seal M-18 from Mohenjo-daro has been depicted four times larger than its natural size. The Harappans were unable to see the fine details from which Rajaram presumes to distinguish the head of a horse. The psychologist Hermann Rorschach developed a projective technique to assess personality



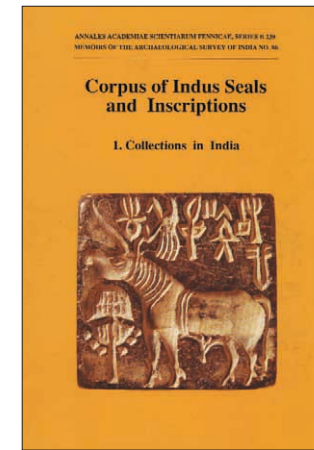
characteristics in which the individual is presented with ambiguous charts of ink blots, which he then interprets; different persons see different things in them, as they see in the varying patterns of clouds. In like manner, Rajaram is looking for horses, and therefore sees them in patterns where they do not actually exist. In this case, his interpretation of certain details as a horse may seem to have some plausibility when an enlarged photograph taken from a particular direction with particular lighting is viewed, but the illusion disappears and the pattern intended by the seal carver is clearly distinguished when we take a look at the impression made with the seal. Rajaram's 'horse' is part of a composite Indus sign, the last one of a three-sign inscription forming one line. The sign consists of two elements. The upper, roof-like element occurs in several other composite signs, while the lower element has so far been found in this seal alone.

The 'horse argument' is an important criterion in determining the linguistic affinity of the founders of the Indus Civilisation, as pointed out in my book *Deciphering the Indus Script* (Cambridge University Press, 1994), and by Witzel and Farmer in their *Frontline* article. In the Rigveda, the horse is an animal of great cultural and religious significance, being mentioned hundreds of times. Yet so far not a single representation of the horse has been found on the thousands of seals or the numerous terracotta figurines of the Indus Civilisation, although many other animals, real and imaginary, were depicted by the Harappans. Further, Richard H. Meadow, one of the world's best experts on ancient animal bones, assures us that not a single horse bone has been securely identified from the Indus Valley or elsewhere in South Asia before the end of the third millennium BCE, when the Indus Civilisation collapsed. By contrast, horse bones are found, and the horse is depicted, just a few centuries later in the Indus Valley, in Gujarat

and in Maharashtra, suggesting that by that time speakers of Aryan (or Indo-Iranian) languages had already entered South Asia, bringing with them this animal that was venerated by all early Indo-European-speaking peoples.

On the basis of new archaeological evidence from Afghanistan and Pakistan, I am inclined to think that the infiltration of small numbers of Aryan speakers to the Indus Valley and beyond started as early as the last urban phase of the Indus Civilisation, from about the 21st century BCE onwards. (These Aryans were not yet those of the Rigveda, who arrived a couple of centuries later.) The early Aryan-speaking immigrants came through Central Asia from the Eurasiatic steppes, the native habitat of the horse and the region where it appears to have first been domesticated. As demonstrated by H. H. Hock in his paper "Out of India? The linguistic evidence," published in J. Bronkhorst and M. M. Deshpande (eds.), *Aryan and Non-Aryan in South Asia*, Cambridge, Mass., 1999, it is impossible to derive the Aryan or Indo-European languages from South Asia by valid linguistic methods. In other words, it is untenable scientifically to postulate a South Asian origin for these languages.

In my book, I have presented numerous facts suggesting that the Harappans mainly spoke a Dravidian language. The Harappans are estimated to have totalled at least one million people, while the primarily pastoralist Aryan-speaking immigrants



could have numbered only a small fraction of this. Eventually, however, the language of the minority prevailed over the majority. There are numerous parallels to such a development. Almost the whole continent of South America now speaks Spanish or Portuguese, while the Native American ('Indian') languages spoken there before the arrival of the European conquerors are about to vanish. This linguistic change has taken place in 500 years, and was initiated by just 300 well-armed adventurers. In 400 years, the British managed to establish their language and culture very widely in South Asia. To conflate the identity of the Vedic and Harappan cultures and to deny the external origin of Sanskrit and other Indo-Aryan languages is as absurd as to claim, as Dayananda Sarasvati did, that the railway trains and aeroplanes that were introduced in South Asia by the British in the 19th and 20th centuries had already been invented by the Vedic Aryans.

It is sad that in South Asia, as elsewhere in the world, linguistic and religious controversies are the cause of so much injustice and suffering. We should remember that from the very beginning, Aryan and non-Aryan languages and associated cultures, religions and peoples have intermingled and have become inextricably mixed. Every element of the population has contributed to the creation of Indian civilisation, and every one of them deserves credit for it. ■

## One sees what one wants to

Iravatham Mahadevan is the leading Indian expert on the Indus Valley script and one of the world's foremost scholars in the field. His computer-aided study, *The Indus Valley Script: Texts, Concordances and Tables* (Memoirs of the Archaeological Survey of India, New Delhi, 1977), is recognised internationally as a major source-book for research in the Indus script. His proof that the direction of the Indus script is from right to left has been acclaimed. Mahadevan is also the leading Indian expert on the Tamil-Brahmi script and one of the world's foremost scholars in this field. He has developed a method to read the earliest Tamil-Brahmi inscriptions and has published the *Corpus of the Tamil-Brahmi Inscriptions* (1966). His magnum opus, a definitive study of the Tamil-Brahmi script, is nearing completion. Mahadevan, a former officer of the Indian Administrative Service, has a background in journalism; he served as Editor of the Tamil daily, *Dinamani*, between 1987 and 1991. Mahadevan contributed this comment at the invitation of *Frontline*:

### IRAVATHAM MAHADEVAN

N.S. Rajaram has been good enough to send me an advance copy of his response (published in this issue) to the article "Horseplay in Harappa" by Michael Witzel and Steve Farmer (*Frontline*, October 13). My attention has also been drawn to his communication in the matter circulated on the Internet.

Rajaram has stated in his online communication that the copy he sent me in 1997 is "exactly the same one that went into the book." This is not quite true. What I got from Rajaram was a copy, labelled in someone's hand, of the photograph of Seal 453 as published by Mackay in Pl. XCV of his book and reproduced by *Frontline* (October 13, p.7) and not the computer 'enhancement' published by N. Jha and N.S. Rajaram in their book (p. 177). The photograph shows clearly the hind part of a bull on the broken seal. The computer 'enhancement' creates an optical illusion which makes the animal look somewhat like a deer, which is further developed into a 'horse' by

Rajaram's artist. In the interest of truth, I have made available to *Frontline* the original communication of 1997 received from Rajaram.

Rajaram's 'Horse II,' which he sees on the front cover illustration of *Frontline* (October 13), is another instance of an optical illusion. I have seen the original seal with the Archaeological Survey of India, New Delhi (ASI No. 63.10/363). No horse is to be seen there. Rajaram's 'horses' only prove that one sees what one wants to.

However, I agree with Rajaram that it is time we put this 'horse business' behind us and look at the decipherment itself. I have done so. The Jha-Rajaram 'decipherment' is completely invalid. It is, in fact, a non-starter for the simple reason that the direction of reading adopted by the authors is wrong, as demonstrated by Witzel and Farmer (*Frontline*, October 13, box item at p.12). The 'decipherment' makes as much sense as you would get out of this page if you try to read it from a mirror reflection. ■



# New Evidence on the ‘Pitldown Horse’ Hoax

Michael Witzel and Steve Farmer are the scholarly authors of the Cover Story, “Horseplay in Harappa,” in *Frontline* (October 13, 2000).

Michael Witzel is Wales Professor of Sanskrit at Harvard University and the author of many publications, including the recent monograph *Early Sources for South Asian Substrate Languages*, Boston: ASLIP/Mother Tongue 1999. A collection of his Vedic studies will be published in India by Orient Longman later this year. He is also editor of *The Electronic Journal of Vedic Studies*, accessible through his home page at <http://www.fas.harvard.edu/witzel/mwpage.htm>. He can be contacted at [witzel@fas.harvard.edu](mailto:witzel@fas.harvard.edu).

Steve Farmer, who received his doctorate from Stanford University, has held a number of academic posts in premodern history and the history of science. Among his recent works is his book *Syncretism in the West*, which develops a cross-cultural model of the evolution of traditional religious and philosophical systems. He is currently finishing a new book on brain and the evolution of culture. He can be contacted at [india@safarmer.com](mailto:india@safarmer.com).

MICHAEL WITZEL & STEVE FARMER

यो मां पश्यति सर्वत्र  
सर्वं च मयि पश्यति ।

*He who sees me everywhere  
and sees everything in me...*  
Gita VI, 30

Our thanks to Iravatham Mahadevan and Asko Parpola, two of the world’s leading experts on the Indus script, for their comments on N. S. Rajaram’s latest “horse” fantasy. We welcome this opportunity to discuss new evidence that has come to light since our exposé of Rajaram’s bogus “decipherment” of the Indus or Harappan script appeared in “Horseplay in Harappa,” the cover story of the October 13 issue.

**Rajaram’s newest ‘horse’:** We would first like to add further detail to Asko Parpola’s thorough deconstruction of Rajaram’s

newest “horse” discovery. As Parpola points out, the “horse” Rajaram imagines on the cover of *Frontline* is an optical illusion that only shows up when seal M-18 A is blown up (as it necessarily was to create the cover) to many times its actual size. The “eye” of Rajaram’s “horse” (seen in **Figure 1**) is created by a tiny fault (probably caused by abrasion) in the ancient seal, which prior to its discovery lay in the ground for some 4,000-odd years.

In the beautiful colour photo by Erja Lahdenperä, especially commissioned for Parpola’s *Corpus of Indus Seals and Inscriptions*, the tiny fault is highlighted by the illumination coming from the right. (By convention, photos of seals are lighted from the right, seal impressions from the left.) Similar illusions create the impression that the “head” of the “horse” is much thicker than its “neck,” that its “shoulders” are rounded, and that the “horse” has “ears” and even “feet.” (As soon as you notice the “feet” or hooves, you realise that Rajaram’s poor horse has his neck twisted around and is facing the wrong way – like the village lecher forced to ride backwards through the marketplace on an ass!) All these illusions disappear when the seal is viewed at normal scale or in different conditions, as is evident when we compare the images in **Figures 1 and 2**.

Quite a bit is actually known about this seal, which was chosen for the cover because of its particular beauty. A careful drawing of the newly discovered seal was made by G.R. Hunter less than two months after the close of the excavating season in Mohenjo-daro in late February 1927. Hunter’s drawing of the seal’s impression is found in his classic 1934 study of the Indus script. Hunter’s drawing shows what has been known to Harappan scholars for almost 75 years: that the sign is totally abstract and does not contain a hint of any animistic form.

All illusions of “horses” (or other creatures) in the sign also vanish when we examine photos not of the seal but of its impressions. This is clear from the crisp black-and-white photo of its impression (M-18 a in Parpola’s *Corpus of Indus Seals and Inscriptions*) again photographed by the talented Erja Lahdenperä. See the images (flipped horizontally to simplify comparison with the seal) in **Figure 2**.

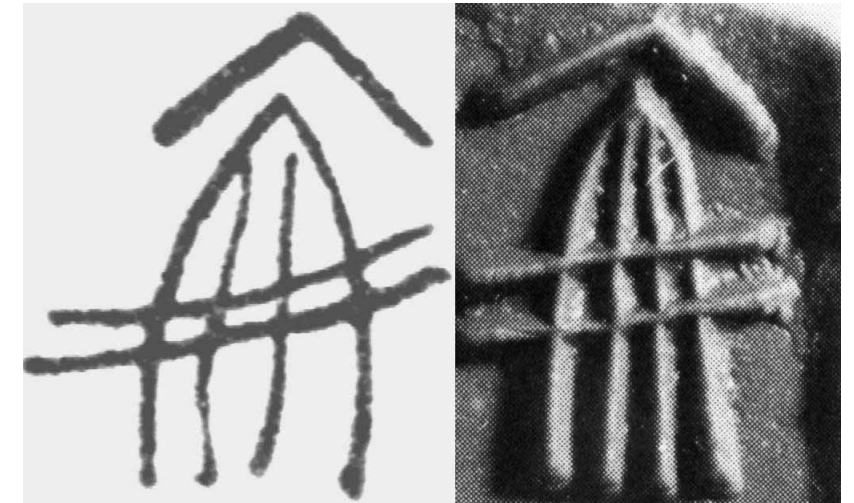
Parpola notes that this character is a compos-

ite sign, and that the sign’s rooflike element (Rajaram’s “head” and “neck”) shows up in other Harappan signs. In the lower half of this page, we show one of dozens of examples of the same or similar element, which is often seen combined with the Harappan “fish sign” – apparently to modify the sign’s base meaning. (On composite signs, see Parpola’s *Deciphering the Indus Script*, 1994, especially pp. 79-82.) Following the logic of his note to *Frontline*, Rajaram might very well imagine a “horse” in the figure on the right – all that is needed is an “eye” and Coleridge’s “willing suspension of disbelief”! See **Figures 3 and 4**.

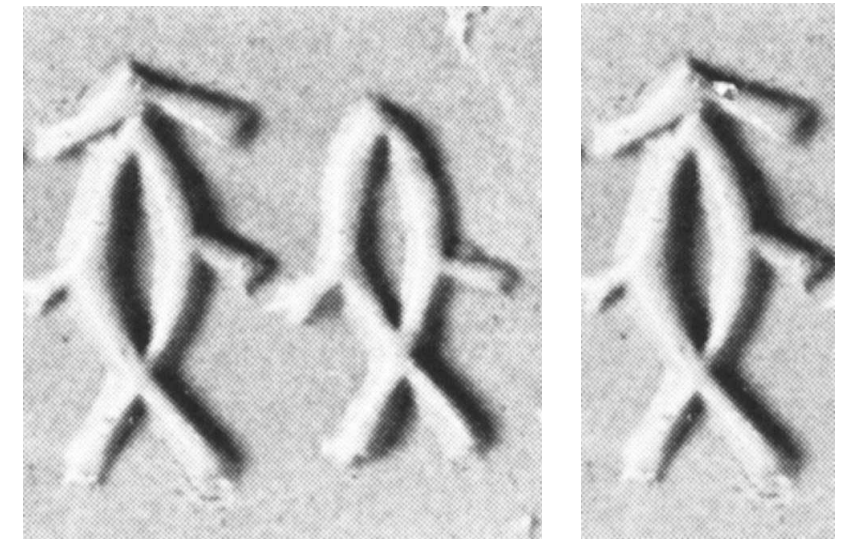
As though all this evidence were not enough, we have Mahadevan’s direct testimony presented in his communication published in this issue: “I have seen the original seal with the Archaeological Survey of India, New Delhi (ASI No. 63.10/363). No horse is to be seen there. Rajaram’s ‘horses’ only prove that one sees what one wants to.”

**New light on the seal’s ‘computer enhancement’:** In “Horseplay in Harappa,” we noted that Rajaram let it slip out in an online exchange that his original “horse seal” (based on a seven-decade-old photo of a broken seal impression, Mackay 453) was a “computer enhancement” produced to “facilitate our reading.” Neither this fact, nor the precise location of the original in Mackay’s writings, nor the fact that Mackay 453 was broken is told to the reader of Rajaram’s book. After this slip, Rajaram has adamantly refused to discuss his “computer enhancement” publicly, although he has boasted to us that he has many years’ academic experience in computer imaging. (*But see now our postscript to this communication, reporting a recent Rajaram interview.*)

New evidence on this issue has come to light since our article was published, through the good offices of Iravatham Mahadevan. In scholarly communications printed in this and an earlier issue of *Frontline* (October 27, 2000), Mahadevan relates that in September 1997, Rajaram sent him a copy of the “horse seal” that was different in important ways from the “computer enhancement.” Rajaram, in turn, has repudiated Mahadevan’s account, claiming in a note published in a nationalistic email list that “the copy I sent him in 1997 was exactly the same one that went into the book.” In the same note, Rajaram hints that Mahadevan’s first letter to *Frontline* might be a forgery, qualifying his repudiation with the words “assuming that he [i.e., Mahadevan] did write that letter.”

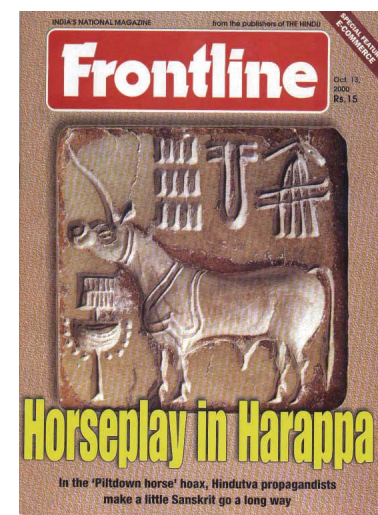


**Figure 2.** On the left, G.R. Hunter’s original sketch (from *The Script of Harappa and Mohenjo-daro and Its Connection with Other Scripts*, 1934, Plate XIX) of the sign where Rajaram finds his newest Harappan “horse.” We have flipped the image horizontally to simplify comparison with the colour photo in **Figure 1**. On the right, a photo of the sign from a seal impression (Parpola M-18 a, again flipped horizontally). In this case, the “eye” of the “horse,” created by the tiny fault, lies hidden deep in the shadow of the impression. All other optical illusions vanish as well. Note in both images the separation of the “head” and “neck” from “body” – showing that at best Rajaram’s is a poor decapitated “horse.”



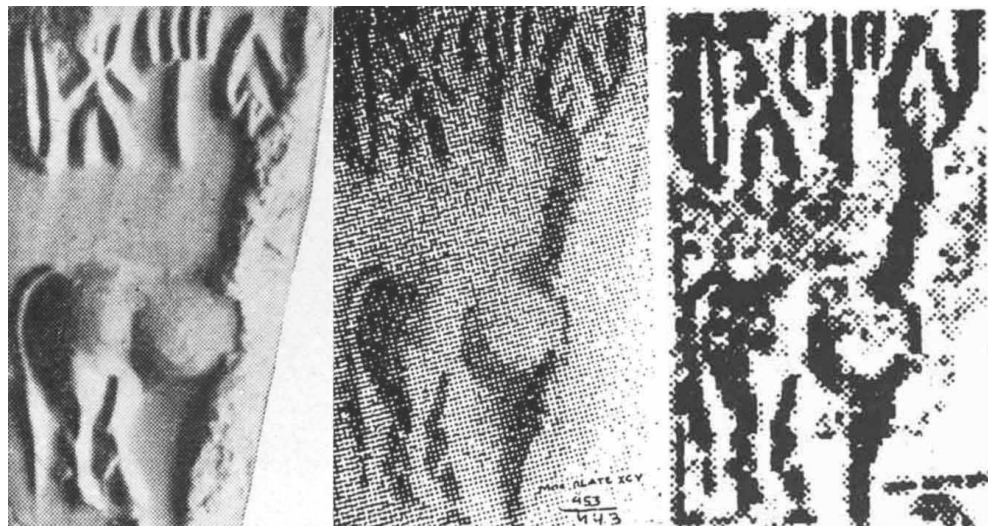
**Figure 3.** The so-called Harappan fish sign – shown in the first example with and in the second without the rooflike modifying sign. Details here are from Parpola H-129 a bis. The roof element above the “fish” character is similar to the top element in the sign where Rajaram sees his newest “horse.”

**Figure 4.** The roofed fish sign with a simulated “eye” added. Through our whimsical “computer enhancement,” we transform our fish into a dancing Harappan “horse”!



**Figure 1.** On the left, the cover of the October 13 edition of *Frontline*, illustrated with Harappan seal M-18 A. On the right, a blowup of part of the cover, where Rajaram finds another “horse.” The “eye” of the “horse” is caused by a tiny flaw in the ancient seal, highlighted by the lighting coming from the right. The lighting also causes other Rorschach-like illusions that vanish when the seal or its impressions are viewed in other conditions (see **Figure 2**).





**Figure 5. From bull to Hindutva horse in three steps. On the left, the original of the “horse seal” impression (Mackay 453). Comparison with dozens of seals shows that the image is that of a unicorn bull; evidence of this was shown in our original article. In the middle, the photocopy of Mackay 453 sent by Rajaram to the great Indian scholar Iravatham Mahadevan in September 1997. The photocopying was careless, but the image was sharp enough for Mahadevan to recognise at a glance that the seal was broken. Note the annotations at the lower right that in part identify the seal location. On the right, the “computer enhancement” of Mackay 453 printed in Rajaram’s book. In the “enhancement,” it is no longer possible to tell that the seal is broken, and the crack in the seal is turned into the “front legs,” “neck,” and “head” of Rajaram’s deer-like “horse.” The annotations have been covered over, creating what Indologists have mistaken for a common Harappan icon – a “feeding trough” often seen at the feet of animals in Indus inscriptions. *Frontline* graphics specialists tell us that many pixels were removed from the image during the “computer enhancement” – but not data enhancing the illusion, like the large dot often mistaken for the “eye” of the deer-like creature.**

article) sent to Mahadevan are significantly different from what later went into Rajaram’s book.

Comparison of different versions of the “horse seal” by *Frontline* graphics specialists (summarised in **Figure 5**) throws interesting new light on the “computer enhancement” found in Rajaram’s book. Koenraad Elst, a Belgian writer and frequent defender of the Hindutva “revisionists,” has recently argued that Rajaram’s problems with Harappan horses have all been innocent errors.<sup>1</sup> Comparison of what Rajaram sent to Mahadevan with what is found in his book suggests a different interpretation. We limit ourselves to two points involving the “horse” image:

1. The photocopy of Mackay 453 sent by Rajaram to Mahadevan was hardly a crisp image, but it was good enough for Mahadevan to see that the original seal was broken. Not even a Harappan expert could tell that the seal was broken from what is printed in Rajaram’s book. The so-called “computer enhancement” badly degrades the image – hiding the fact that the seal is broken and turning its break (as Mahadevan suggests) into the “neck” and “front legs” of Rajaram’s deer-like “horse.”
2. The copy of the “horse seal” that Rajaram sent to

Mahadevan includes annotations on its lower righthand side, in part identifying the plate where Mackay 453 is found.<sup>2</sup> That information is crucial, since thousands of images are found in Mackay’s works – many of them quite tiny and difficult to distinguish. No data at all identifying the plate (or even the publication) in which Mackay 453 is located are contained in Rajaram’s book. In the reproduction found in that book, the annotations are clumsily covered up – creating the illusion of what Indologists have taken to be a common icon (a “feeding trough” looking a bit like an old-time telephone) often found at the feet of animals in Indus inscriptions. (For examples of these objects, see our article in *Frontline*, October 13.)

Other images in the Rajaram-Mahadevan correspondence, which it would be superfluous to discuss here, also show that what Rajaram sent to Mahadevan was not what appeared in his book. The story of the “computer enhancement” of Mackay 453 is summarised in **Figure 5**.

**Hindutva motives behind Rajaram’s work:** As we showed in “Horseplay in Harappa,” Rajaram’s “Piltown horse” and bogus

<sup>1</sup> Elst was an early enthusiast of Rajaram’s “decipherment” and “horse seal,” only repudiating the latter after our original exposé online this summer. In his *Update on the Aryan Invasion Debate* (1999: 182), Elst speaks of “the apparent absence of horse motifs on the Harappan seals (except one)” – referring readers to a reproduction supposedly found “in N.S. Rajaram: *From Harappa to Ayodhya*, inside the front page.” The reference is to a booklet published by Rajaram in November 1997, based on a talk given in September – just a few days before his correspondence with Mahadevan. When we take Elst’s advice and look at the inside cover of the booklet (Sahitya Sindhu Prakashana, Bangalore, November 1997), we find the “Artist’s reproduction” of the horse that Rajaram sent to Mahadevan, but no picture of the seal on which it was supposedly based! After being told by Mahadevan that he had a bull, not a horse, Rajaram apparently decided to play it safe for the time being and not publish the picture of his original “evidence.”

<sup>2</sup> Below the plate number and reference to Mackay 453, the annotations also contain the number 443, explaining Rajaram’s occasional references in 1997 to the “horse seal” as Mackay 443 instead of Mackay 453. Mackay 443 (on the same plate) portrays a small seal of a bison with a “feeding trough” at its feet.

“decipherment” of the Indus script were closely tied to Hindutva propaganda. The aim of both was to fill in “missing links” between Harappan and Vedic cultures – as part of the broader goal of reducing India’s rich multicultural past to Hindu monotonies. Since our first online exposé this summer, Rajaram has consistently portrayed the criticism directed against him by Western and Indian scholars as a minor quibble over a single seal. The goal, as he portrays it, has been to divert attention from his supposed breaking of the Harappan code, which he claims has solved “the most significant technical problem in historical research of our time.” Thus, in his communication published in this issue, he claims that the “main thrust” of our article and Romila Thapar’s commentary on our piece was simply “that the Harappan Civilisation was ignorant of the horse because it is not depicted on any of the seals.” Rajaram argues that he and his co-author “regard the question of the horse to be of minor significance: our book is about the Indus script, not the Indus horse.”

In fact, our article showed in detail that Rajaram’s “decipherment” of the Indus script is even more absurd – if that can be imagined – than his fabricated “horse” evidence. Moreover, the two are closely linked: if the seal does *not* depict a horse, then the method Rajaram used to read the inscription on the seal, which he says refers to a horse, is obviously bogus. This is why Rajaram insists that the seal depicts a horse long after erstwhile supporters like Elst have backed away. To change his reading of the “horse seal” inscription at this late date would be to admit publicly what we demonstrated in our article: that the “decipherment” method has so many loopholes built into it that you can get any reading out of any text. As we showed in our article, this gives Rajaram the room to confirm his absurd Hindutva “revisions” of history.

All this reflects the real “main thrust” of our article – Hindutva horseplay in Harappa. There have been many failed but honest attempts to decipher the Indus script, most of which have been quickly forgotten. What makes Rajaram’s effort worth close analysis is not its scholarly merit – because it has none – but the element of duplicity in his work and the ugly politics underlying it. This was the real subject of our article, which focused on the enormous abyss between Hindutva “revisions” of history and any sane view of the past.

The absurdities of these “revisions” may be obvious to professional historians, but due to their political ramifications they cannot be ignored. The barrage of insults and threats that we have received since our article went to press suggests that our analysis has hit a sensitive nerve in Hindutva circles. We view this as a welcome suggestion that the mythologising tendencies of reactionary writers can be defeated with hard evidence – but only so long as scholars take their social responsibilities seriously and are willing to combat those tendencies head on. It has been written that “history is the propaganda of the victorious.” For historical scholars who ignore those responsibilities, the sense of that saying may become obvious all too soon.

## Postscript

Just a few hours before our deadline for this communication, we were forwarded the transcript of an interview with N.S. Rajaram conducted by *Frontline* correspondent Anupama Katakam in Bangalore. This is the first time, so far as we know, that Rajaram has discussed the “computer enhancement” since he used that phrase in a note sent to the two of us and his followers on July 30, 2000. At the end of that note, he abruptly shut off discussion and declared that he would not discuss the

“horse seal” issue with us further.

In his recent interview, Rajaram makes a number of startling statements, a few of which we list here:

**1. The ‘feeding trough’:** When asked in the interview about the “feeding trough,” Rajaram pointed to his annotated copy of Mackay 453 (apparently the original of the copy he sent to Mahadevan in 1997) and appeared to blame his publisher. According to his interpretation – and we quote Rajaram verbatim – the annotations “got scrambled in the scanning. This writing which has got scrambled resembles this telephone-like thing which they refer to as a trough.” Graphic experts we have consulted in the past few hours tell us that “scrambling” like this from scanning is absolutely impossible. Elsewhere in his interview, Rajaram not only denies that he has scanned the picture, but seems uncertain whether or not his publisher has either – which makes his confident “scrambled in the scanning” story even less credible. The story is especially peculiar in the light of the many years of academic experience that Rajaram claims to have in computer imaging.

**2. The ‘computer enhancement’:** Rajaram’s long online letter from July 30 about the “horse seal,” which is now on file at *Frontline*, states that Rajaram and Jha “provide a computer enhancement and an artist’s reproduction to facilitate our reading.” At the end of his interview, however, while showing the *Frontline* correspondent his copy of Mackay 453, Rajaram says: “This photograph is what Jha sent me. I have not computer enhanced it. If I said that – which is possible...I might have said [it]...because I didn’t have the photo at the time, which I traced later. I might have said it meaning not that I enhanced it but it might have been done for publication.” (The ellipses in these quotations are in the original transcript: we have not removed any of Rajaram’s words.) What he claims here is directly contradicted by what he says in his July 30 letter, where he states that he had examined the text at the Mythic Society in Bangalore. We also know that he had a copy since at least 1997, when he sent it to Mahadevan. At another point in his interview, Rajaram says that “I am not in a position to say ‘Yes’ or ‘No’ [about the computer enhancement].” At still another, he tells the interviewer: “And I either sent a photocopy of it... And I remember what I said to the publisher. I said, ‘see if something can be made of this.’”

No matter which, if any, of Rajaram’s inconsistent stories is correct, we find it remarkable that after all these months of controversy – highlighted by frontpage stories in the Indian press – Rajaram claims to know nothing about how the photo in his book was doctored.

**3. Defence of the ‘horse seal’:** The most remarkable statements in Rajaram’s interview concern his continued defence of his original “horse seal.” He repeats his original arguments in the interview, ignoring the exhaustive analyses of the evidence that have appeared online and in print. At one point Rajaram proclaims: “As far as identification is concerned we are sure it is a horse!” To claim otherwise, as we pointed out earlier, would necessitate admitting that his “decipherment” was fraudulent as well.

In any case, at this point Rajaram may be the last person on the earth to believe in his “horse seal” or bogus “decipherment,” which was hailed as revolutionary by Hindutvavadis just one year ago. Last summer, we offered \$1,000 to any Harappan researcher willing to defend Rajaram’s claims. Not one has taken us up on our offer. So far as the scholarly world goes, nothing is left of Rajaram’s Hindutva “revisions” of history than an *as’va-s’ava* – in plain English, a dead horse. ■

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