Walking with the Unicorn

Social Organization and Material Culture in Ancient South Asia

Jonathan Mark Kenoyer
Felicititation Volume

Edited by
Dennys Frenez, Gregg M. Jamison, Randall W. Law, Massimo Vidale and Richard H. Meadow

ARCHAEOPRESS ARCHAEOLOGY

© Archaeopress and the authors, 2018.
# Contents

Jonathan Mark Kenoyer and ISMEO – Occasions in Continuum .............................................................................................................................................................................. v
Adriano V. Rossi

Jonathan Mark Kenoyer – The Tale of Sikander and the Unicorn ............................................................................................................................................................................................................. ix
Dennys Frenez, Gregg Jamison, Randall Law, Massimo Vidale and Richard H. Meadow

Jonathan Mark Kenoyer – Bibliography .............................................................................................................................................................................................................. xi

Fish Exploitation during the Harappan Period at Bagasra in Gujarat, India. An Ichthyoarchaeological Approach ..................................................................................................................................................................................... 1
Abhayyan G. S., P. P. Joglekar, P. Ajithprasad, K. Krishnan, K. K. Bhan and S. V. Rajesh

The Sincerest Form of Flattery? Terracotta Seals as Evidence of Imitation and Agency in Bronze Age Middle Asia .............................................................................................................................................. 19
Marta Ameri

Reflections on Fantastic Beasts of the Harappan World. A View from the West ................................................................. 26
Joan Aruz

Fish Symbolism and Fish Remains in Ancient South Asia ........................................................................................................................................................................ 33
William R. Belcher

Some Important Aspects of Technology and Craft Production in the Indus Civilization with Specific Reference to Gujarat ........................................................................................................................................................................ 48
Kuldeep K. Bhan

Chert Mines and Chert Miners. The Material Culture and Social Organization of the Indus Chipped Stone Workers, Artisans and Traders in the Indus Valley (Sindh, Pakistan) ........................................................................................................................................................................ 68
Paolo Biagi, Elisabetta Starnini and Ryszard Michniak

Ceramic Analysis and the Indus Civilization. A Review .............................................................................................................................................................................................................. 90
Alessandro Ceccarelli and Cameron A. Petrie

Family Matters in Harappan Gujarat .............................................................................................................................................................................................................. 104
Brad Chase

Revisiting the Ornament Styles of the Indus Figurines: Evidence from Harappa, Pakistan ........................................................................................................................................................................ 120
Sharri R. Clark

The Harappan ‘Veneer’ and the Forging of Urban Identity .............................................................................................................................................................................................................. 150
Mary A. Davis

Private Person or Public Persona? Use and Significance of Standard Indus Seals as Markers of Formal Socio-Economic Identities ............................................................................................................................................................................................ 166
Dennys Frenez

Lithic Blade Implements and their Role in the Harappan Chalcolithic Cultural Development in Gujarat ........................................................................................................................................................................ 194
Charusmita Gadekar and P. Ajithprasad

Who Were the ‘Massacre Victims’ at Mohenjo-daro? A Craniometric Investigation .............................................................................................................................................................................................................. 210
Brian E. Hemphill

Indus Copper and Bronze: Traditional Perspectives and New Interpretations .............................................................................................................................................................................................................. 251
Brett C. Hoffman

A Short Note on Strontium Isotope Analysis of Human Skeletal Remains from the Site of Sarai Khola .............................................................................................................................................................................................................. 265
Asma Ibrahim

The Organization of Indus Unicorn Seal Production. A Multi-faceted Investigation of Technology, Skill, and Style .............................................................................................................................................................................................................. 272
Gregg M. Jamison

© Archaeopress and the authors, 2018.
The Size of Indus Seals and its Significance ....................................................................................................................292
Ayumu Konasukawa and Manabu Koiso

The Art and Technology of Reserving a Slip. A Complex Side of Indus Ceramic Tradition .........................................318
K. Krishnan and Sneh Pravinkumar Patel

The Art of the Harappan Microbead – Revisited ...........................................................................................................327
Randall W. Law

The North Gujarat Archaeological Project – NoGAP. A Multi-Proxy and Multi-Scale Study of Long-Term Socio-Ecological Dynamics ........................................................................................................................................343
Marco Madella, P. Ajithprasad, Carla Lancelotti, J. J. García-Granero, F. C. Conesa, C. Gadekar and S. V. Rajesh

Toponyms, Directions and Tribal Names in the Indus Script ..............................................................................................359
Iravatham Mahadevan and M. V. Bhaskar

Ganweriwala – A New Perspective ....................................................................................................................................377
Farzand Masih

Personal Reflections on some Contributions of Jonathan Mark Kenoyer to the Archaeology of Northwestern South Asia .............................................................................................................................................384
Richard H. Meadow

Invisible Value or Tactile Value? Steatite in the Faience Complexes of the Indus Valley Tradition ........................................389
Heather M.-L. Miller and Jonathan Mark Kenoyer

What Makes a Pot Harappan? .............................................................................................................................................395
Heidi J. Miller

Dilmun-Meluhhan Relations Revisited in Light of Observations on Early Dilmun Seal Production during the City IIa-c Period (c. 2050-1800 BC) .........................................................................................................................................................406
Eric Olijdam and Hélène David-Cuny

Unicorn Bull and Victory Parade ...........................................................................................................................................433
Asko Parpola

Analytical Study of Harappan Copper Artifacts from Gujarat with Special Reference to Bagasra ........................................443
Ambika Patel and P. Ajithprasad

Looking beneath the Veneer. Thoughts about Environmental and Cultural Diversity in the Indus Civilization ..........................................................................................................................................................453
Cameron A. Petrie, Danika Parikh, Adam S. Green and Jennifer Bates

Decorated Carnelian Beads from the Indus Civilization Site of Dholavira (Great Rann of Kachchha, Gujarat) .........................475
V. N. Prabhakar

Artifact Reuse and Mixed Archaeological Contexts at Chatrikhera, Rajasthan ...................................................................486
Teresa P. Raczek, Namita S. Sugandhi, Prabodh Shirvalkar and Lalit Pandey

Pre-Prabhas Assemblage in Gujarat. An Assessment based on the Material Culture from Somnath, Datrana and Janan .........................................................................................................................................................495
Rajesh S. V., Charusmita Gadekar, P. Ajithprasad, G. S. Abhayan, K. Krishnan and Marco Madella

The Indus Script and Economics. A Role for Indus Seals and Tablets in Rationing and Administration of Labor .........................518
Rajesh P. N. Rao

Beads of Possible Indus Origin with Sumerian Royal Inscriptions ..........................................................................................526
Julian E. Reade and Jonathan Taylor

The Role of Archaeology in National Identity: Muslim Archaeology in Pakistan ........................................................................530
Shakirullah

The Smallest Scale of Stone. Pebbles as a Diminutive Form of Nature .......................................................................................536
Monica L. Smith

Five Thousand Years of Shell Exploitation at Bandar Jissah, Sultanate of Oman ........................................................................547
Christopher P. Thornton, Charlotte M. Cable, David Bosch and Leslie Bosch

© Archaeopress and the authors, 2018.
Indus Stone Beads in the Ghaggar Plain with a Focus on the Evidence from Farmana and Mitathal
Akinori Uesugi, Manmohan Kumar and Vivek Dangi

Locard's Exchange Principle and the Bead-Making Industries of the 3rd Millennium BC
Massimo Vidale, Giuseppe Guida, Gianfranco Priori and Anna Siviero

Inscription Carving Technology of Early Historic South Asia. Results of Experimental Archaeology and Assessment of Minor Rock Edicts in Karnataka
Heather Walder

The Volumetric System of Harappa
Bryan K. Wells

An Harappan History of US Researchers in Pakistan. In Celebration of Jonathan Mark Kenoyer
Rita P. Wright

Editors

Authors Contacts
Toponyms, Directions and Tribal Names in the Indus Script

Iravatham Mahadevan and M. V. Bhaskar

Identification of ideograms in the Indus Script depicting the physical features ‘hills’ and ‘plains’, ‘high’ and ‘low’, and the directions ‘West’ and ‘East’, is proposed in the paper. It is also shown that the ideograms, when combined as pairs in the Indus texts, correspond to specific toponyms in the Indus Realm, especially ‘high mountains’, ‘highlands’, ‘western hills’ and ‘eastern hills’. Names of tribes, also serving as place names, depicted by the ideograms are also identified. In Dravidian languages, terms for ‘high’ also denote ‘West’, and terms for ‘low’ also denote ‘East’. The Dravidian usage reveals that the architecture of the Indus cities with the ‘high’ citadel in the west and the ‘lower’ town in the east is in conformity with the Dravidian world view. The results strongly support the Dravidian authorship of the Indus Civilization. The authors acknowledge their indebtedness to the studies by R. Balakrishnan, especially to his insight that it is the Dravidian linguistic usage ‘high-west’ and ‘low-east’ that must have influenced the architecture of the Indus cities.

Keywords: Indus Script, toponyms, directions, place names, Indian history.

Table 1. Physical Features, Directions, and Tribal Names in the Indus Script.

<table>
<thead>
<tr>
<th>Signs</th>
<th>Labels</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>HILLS</td>
<td>54</td>
</tr>
<tr>
<td>B</td>
<td>PLAINS</td>
<td>207</td>
</tr>
<tr>
<td>C</td>
<td>CONE</td>
<td>76</td>
</tr>
<tr>
<td>D</td>
<td>HORN</td>
<td>26</td>
</tr>
<tr>
<td>E</td>
<td>ROOT/WEEDS</td>
<td>54</td>
</tr>
<tr>
<td>F</td>
<td>AXE</td>
<td>21</td>
</tr>
</tbody>
</table>

Introduction

Ideograms in the Indus Script depicting the physical features ‘hills’ and ‘plains’, ‘high’ and ‘low’, and the directions ‘West’ and ‘East’, are identified and interpreted in this paper (Table 1). It is also shown that the ideograms which occur as pairs in the Indus inscriptions correspond to known toponyms in the Indus Region including especially ‘high mountains’, ‘highlands’, ‘western hills’ and ‘eastern hills’. While physical features like ‘hills’ (A) and ‘plains’ (B) can be discerned directly from the pictorially transparent signs, it is the Dravidian language that provides the clues, through rebus, to identify the signs depicting the directions ‘West’ (C and D) and ‘East’ (E), and the elevations ‘high’ and ‘low’ respectively, and the tribal names (F).

High-West, Low-East in Dravidian: In Dravidian languages, terms for ‘high’ also denote ‘West’, and terms for ‘low’ also denote ‘East’. The Dravidian usage is in contrast with Indo-Aryan in which ‘north’ is the ‘upper’ direction (uttara). The comparison reveals that the architecture of the Indus cities with the ‘high’ citadel in the ‘West’ and the ‘lower’ town in the ‘East’ is in conformity with the Dravidian rather than Indo-Aryan world view. The results strongly support the Dravidian authorship of the Indus Civilization. The authors wish to acknowledge their indebtedness to the studies by R. Balakrishnan, especially to his insight that it is the Dravidian linguistic usage ‘High-West’ and ‘Low-East’ that must have influenced the architecture of the Indus cities.

Parallel interpretations: Some of the signs in Table 1 have parallel, alternative interpretations with different meanings. Thus, Sign B is also identified through rebus as denoting an ‘assembly’ or ‘guild’. Similarly, Signs E and F are identified, also through rebus, as depicting the names of a pair of closely allied ‘hill tribes’. Parallel interpretations are based on the evidence of survival of Indus signs in later times as verbal or graphic symbols of various kinds and the legends that evolved around them in Dravidian and Indo-Aryan traditions. Multiple...
parallels can also occur due to the vast area of the Indus Realm and the millennial duration of the Indus Civilization. The actual meaning of the signs will depend on the context in the inscriptions. This explanation however begs the question: how to determine the context? We admit that the question is not always easy to answer. The Indus people were familiar with the context; but we cannot always find it, partly because we miss the clues in the still undecoded signs which may indicate the context. In the present state of our knowledge of the Indus Script, this level of uncertainty seems unavoidable. But that should not deter us from pursuing parallel interpretations for which there is substantial evidence from the bilingual traditions.

Section 1 – Ideograms depicting physical features and directions in the Indus Region

Ideogram A – HILLS

The ideogram showing ‘three peaks’ is a self-evident pictorial depiction of ‘hills’ or ‘mountain ranges’. The identification is corroborated by similar-looking signs in other ancient pictographic scripts of the Bronze Age (Table 2).

The occurrence of the ‘three peaks’ motif on punch-marked silver coins and later copper coins issued by various dynasties across the country (Sharma 1990) provides further evidence for the correctness of the literal meaning of the Indus ideogram A. In later times, the top of the peaks is rounded off, and the number of peaks increased to six, known to numismatists as the ‘three-arched’ and ‘six-arched’ hills (Figure 1).

Table 2. Comparison of Indus ideogram HILLS with pictograms from other scripts (modified after Parpola 1994: fig. 4.7).

<table>
<thead>
<tr>
<th>Script</th>
<th>Sign</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaic Sumerian</td>
<td>![image]</td>
<td>mountain hill-country foreign country</td>
</tr>
<tr>
<td>Hieroglyphic Egyptian</td>
<td>![image]</td>
<td>sandy hill-country foreign country mountain</td>
</tr>
<tr>
<td>Archaic Chinese</td>
<td>![image]</td>
<td>mountain hill mound</td>
</tr>
<tr>
<td>Hieroglyphic Hittite</td>
<td>![image]</td>
<td>citadel country</td>
</tr>
<tr>
<td>Indus</td>
<td>![image]</td>
<td>mountain hill</td>
</tr>
</tbody>
</table>

Figure 1. Hills motifs on the coins of the Early Historical Period (modified after Savita Sharma 1990: pl. 36-38).

We interpret the ideogram ‘hills’ through parallel expressions in Dravidian, their meaning depending on the context in the Indus inscriptions.

i. D.4742: Ta. malai ‘mountain, hill’
   ii. D.1864: Ta. kunru ‘hill’ > kunvar, ‘mountaineers’
   iii. D.1844: Ta. kurna, ‘kurna tribe’; Te. kora, name of a tribe of mountaineers

Table 3. Interpretation of ideogram A: HILLS.

![image] (i) mal-(a) ‘mountains’; ku(n)ra-(a) ‘hills’
(ii) kur-(a) ‘mountain/hill tribes’
(iii) kō ‘mountain’ (literal) > ‘chieftain’ (rebus)

Ideogram B – PLAINS

This is also a transparent pictorial sign depicting a ‘ploughed field’ crisscrossed by furrows. The famous ploughed field excavated at the Indus site at Kalibangan points to the physical basis of the symbolism (Figure 2).

Table 2. Comparison of Indus ideogram HILLS with pictograms from other scripts (modified after Parpola 1994: fig. 4.7).

A similar sign with near-identical form occurs in the Egyptian hieroglyphic script.

Land marked out with irrigation runnels

Fig. 2. Land mapped out by irrigation runnels

The corresponding Dravidian expression is D.3638: Ta. nāṭu ‘country, province, rural tract’. We propose, on the basis of literary and inscriptive Tamil usage, as well as archaeological evidence for the well-administered Indus polity, the following parallel meanings of the sign:

nāṭ-(a)  
(i) ‘cultivated fields, lowlands, flood plains’; ‘region’ (country, province)  
(ii) ‘assembly’ (of a region)  
(iii) ‘guild’ (of merchants or artisans)
It is relevant to notice the striking parallels attested in Tamil inscriptions (Subbarayulu 2002-2003):

ूर 'village, village assembly'

नातु 'region, regional assembly'; 'guild (of merchants or artisans)'

cf. ूर āy icainta ूर 'people of the village meeting in assembly';

नातु āy icainta नातु 'people of the region meeting in assembly';

cittira mēḻi periya नातु 'the great (mercantile) guild known as Cittira-mēḻi'.

<table>
<thead>
<tr>
<th>Table 4. Interpretation of ideogram B: PLAINS.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(i)</th>
<th>(ii)</th>
<th>(iii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>'region'</td>
<td>'assembly' (of a region)</td>
<td>'guild' (of merchants or artisans)</td>
</tr>
</tbody>
</table>

**Ideogram C – CONE > 'high' or 'West'**

The sign depicts pictorially a 'cone, heap, pile or pyramid' and is interpreted as 'high' or 'West' through rebus.

<table>
<thead>
<tr>
<th>Table 5. Interpretation of ideogram C: CONE.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(i)</th>
<th>(ii)</th>
<th>(iii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>'cone' (literal)</td>
<td>'high' &gt; superior</td>
<td>'West, western' (rebus)</td>
</tr>
</tbody>
</table>

**Ideogram D – HORN > 'west, western'**

The sign depicts pictorially the 'horn (of an animal)' or the 'tusk (of the elephant)'. We propose that the sign is an ideogram with the intended meaning 'west, western' through rebus.

<table>
<thead>
<tr>
<th>Table 6. Interpretation of ideogram D: HORN.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(i)</th>
<th>(ii)</th>
<th>(iii)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>'horn, tusk'</td>
<td>'western', 'West'</td>
<td>'western hills' (Paṭṭiṉa. 188; Malai. 527). 'western sea' (Paṟa: 2: 10).</td>
</tr>
</tbody>
</table>

© Archaeopress and the authors, 2018.
Sign D, unlike Sign C, does not have the alternative meaning ‘high’. Signs C and D are independent with different pictorial origins and must therefore have distinct meanings. In Old Tamil, koṭ-(a) is restricted to the meaning ‘west, western’ unlike mēl which has the alternative meanings ‘high or west’. We propose that the same distinction obtained in Indus-Dravidian between mēl ‘high or west’ and koṭ-(a) ‘west, western’.

Table 6. Interpretation of ideogram D: HORN.

<table>
<thead>
<tr>
<th>Sign</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>koṭ-(a) ‘horn/tusk’ (literal) &gt; ‘west/western’ (rebus)</td>
</tr>
</tbody>
</table>

**Ideogram E – ROOT > ‘low’ or ‘East’; WEEDS > Name of a ‘hill tribe’**

This is a pictorial sign of a plant with a bulbous ‘root’ underground and the shoots above. Hunter identified the sign as depicting a ‘marsh plant’. He drew attention to ‘our own conventional way of indicating a marsh in map-drawing’ (Hunter 1934: pp. 80-81 and Table XVII).

A near-identical sign with similar meaning occurs in the Egyptian Hieroglyphic Script: ‘clump of papyrus with buds bent down’ det. for papyrus and watery regions (Gardiner 1978: M. 15)

Accordingly, we propose that the ideogram E can be interpreted literally as a ‘marsh plant’, and ideographically as ‘marsh, wetlands, or low-lying areas’. Sign E can be interpreted in two distinct ways, one from the lower part (root), and the other from the upper part (weeds), depending on the context. The literal meaning ‘root’ and the intended meanings:

**Literal**

- D.1578 Ta. kilanku ‘bulbous root’
- D.1619 Ta. kil ‘place or space below’; kilakkku ‘East’

**Intended**

- D.1376 Ta. kalamar ‘husbandmen’; kalam ‘threshing floor’
- Te. kalamu ‘threshing floor’

Note that the chieftain’s name is derived from pul ‘grass’.

Ta. Lex. kal ‘marsh, bog (cēṟṟu nilam)’;

cf. kāl āḻ kaḷar… kaḷiṟu (Kuṟaḷ 500)

Bułatw in the Indus.

For the later history of the Kaḷḷar and the allied Dravidian tribes in South India, the best account is found in Thurston and Rangachari (1909). The work is a goldmine of ethnographic data. We have space here to mention only a single detail: jalli-k-kaṭṭu ‘bull-baiting’, which has remained the most popular sport of the Kaḷḷar and Maṟavar down the ages. The eye-witness account of the event at the end of the 19th century finds an exact parallel in ēṟu taḻuvutal (Thurston and Rangachari 1892: 1909). The work is a goldmine of ethnographic data. The bull-baiting activity was described in Caṅkam literature some two thousand years earlier (Kali. 101-107). The most convincing visual evidence for bull-baiting in the Indus two thousand years earlier is found in a remarkably realistic seal from Mohenjo-daro (CISI: M-312) (Figure 3). This is unquestionably the most compelling evidence that the Tamil Maṟavar (Kaḷḷar and Maḻavar) have their roots in the Indus Civilization.

Bull-baiting in the Indus.

For the later history of the Kaḷḷar and the allied Dravidian tribes in South India, the best account is found in Thurston and Rangachari (1909). The work is a goldmine of ethnographic data. We have space here to mention only a single detail: jalli-k-kaṭṭu ‘bull-baiting’, which has remained the most popular sport of the Kaḷḷar and Maṟavar down the ages. The eye-witness account of the event at the end of the 19th century finds an exact parallel in ēṟu taḻuvutal, lit., ‘embracing the bull’, described in Caṅkam literature some two thousand years earlier (Kali. 101-107). The most convincing visual evidence for bull-baiting in the Indus two thousand years earlier is found in a remarkably realistic seal from Mohenjo-daro (CISI: M-312) (Figure 3). This is unquestionably the most compelling evidence that the Tamil Maṟavar (Kaḷḷar and Maḻavar) have their roots in the Indus Civilization.

Note: This is an ethnographic account. We express no opinion on the ethic of the continuance of bull-baiting in the present day.

The literal meaning ‘marsh plant’ and the intended meanings:

**Literal**

- D.2347 Ta. campu ‘elephant grass’;
- campaṇ-kōrai ‘elephant grass’
- Ka. jambu ‘a kind of reed or sedge’
- Te. jambu ‘bulrush, sedge’

cf. also D.2235 Ta. kōrai ‘sedges and bulrushes’
Intended \textit{campu} ‘marshland, wetlands’
(ideographic)

The usage can be illustrated with the legend of \textit{jambu-liṅgam} (< Ta. \textit{campu-}) or \textit{appu-liṅgam} (< Skt. \textit{ap-} ‘water’) in the temple of Jambukesvaram (< Ta. \textit{campu-}) at Tiruvanaikkoyil in Tamilnadu. The lingam is installed in a watery region at a low level with the \textit{garbhagriha} always flooded in ankle-deep water. The proposed interpretations are summarized in Table 7.

**Table 7. Interpretation of Indus-Ideogram E: ROOT/WEEDS (see also Tables 18 and 19).**

<table>
<thead>
<tr>
<th>Indus Sign</th>
<th>Literal Interpretation</th>
<th>Intended Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>E: ROOT (lower part)</td>
<td>\textit{i. kīḻ-} ‘bulbous root’ (\text{(cf. kīḻaṅku)}) \textit{kīḻ-} ‘low’ (\text{(cf. kīḻ, kīḻatu)}) \textit{kīḻ-} ‘east, eastern’ (\text{(cf. kīḻakkū, kīḻ, kīḻai)})</td>
<td></td>
</tr>
<tr>
<td>E: WEEDS (upper part)</td>
<td>\textit{ii. kaḷ-} ‘weeds’ (\text{(cf. kaḷai)}) \textit{a) kaḷ-} ‘to weed, weeding &gt; ‘one who weeds’ \textit{b) kaḷ-} ‘N. of a tribe’ (\text{(cf. kaḷār, kaḷavar)}) \textit{a) kaḷa-} ‘marsh, bog’ (\text{(cf. kaḷār)}) \textit{kaḷa-} ‘threshing floor’ (\text{(cf. kaḷam)}) \textit{kaḷa-} (m)-\textit{ar} ‘husbandmen, warriors’ (\text{(cf. kaḷamar)})</td>
<td></td>
</tr>
<tr>
<td>\textit{iii. camp-} (a) ‘plants of the marsh’ (\text{(cf. Ta. campu, campaṅkōrai; Ka. and Te. jambu)}) \textit{camp-} (a) ‘marsh, wetlands’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The literal and intended meanings of the ideogram F:

**Literal**

D.4749 Ta. *maḻu* 'axe, battle axe'; Ma. *maḻu* 'hatchet'.
Koḍ. *matti* 'axe with blade fastened through wooden handle'.

**Rebus**

D.4747 Ta. *maḻa-* 'youth', *maḻavaṉ* 'young man, warrior'. cf. Ta. *maḻavar* 'N. of a hill tribe'.

maḻavar *perumakaṉ māval õri* 'Õri, the great liberal, lord of the Maḻavar' (*Naṟṟ. 52: 9*).

maḻa-pulam 'country inhabited by the Maḻavar' (*Aka. 61: comm.*).

maḻa-pulam vaṇakkiya māval pulli 'Pulli, the great liberal, who subdued Maḻa-pulam' (*Aka. 61: 12*).

maḻa-nāṭu 'country of the Maḻavar' (*Tol. Col. 273, comm. Ilampūraṇar*).

In Tamil tradition, the Kaḷḷar and the Maḻavar were two closely allied warrior tribes known for their valour. Hence they are referred to more frequently together as the Maṟavar 'warriors'.

cf. D.4763 Ta. *maram* 'valour'; *maravaṉ* 'inhabitant of hilly tract, person of the Maṟava caste, warrior, military chief.'

Ma. *maravar* 'the Tamil tribe of warriors'.

Tu. *marava* 'the caste of the Maravas'.

Sign F 'axe' is also interpreted ideographically as a 'battle axe' with the meaning *maṟ(a)* 'N. of a tribe' (cf. *maṟavar*).

The Kaḷḷar and the Maḻavar also call themselves akam-uttaiṉ īr latino, 'palace attendants' based on the tradition that they served in earlier times in the palaces of the Tamil kings. Kaḷḷar and Akamuttaṉ īr are presently regarded as subdivisions of the Maṟavar (*Thurston and Rangachari 1909: Maṟavaṉ*). Kaḷḷar, Maṟavar and Akamuttaṉ īr are also included in the common name Mukkulattōr 'people of the three tribes'. The name Mukkulattōr and the parallel name Mukkuṉuar 'people of the three peaks', a tribe in Kerala, appear to be connected with the symbolism of the 'three-peaked hill' (*Indus Sign A: HILLS*). The Indus origin of the Dravidian tribes, (Kaḷḷar, Maḻavar, and Maṟavar), is corroborated by their survival with sanskritised names in Northern and Central India (Section 4). Interpretations of Sign F 'axe' are summarized in Table 8.

**Table 8. Interpretation of Ideogram F: AXE.**

<table>
<thead>
<tr>
<th>Sign</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>maḻ(a) 'axe' (literal) &gt; maḻ(a) 'N. of a tribe' (rebus) (cf. maḻavar); 'battle axe' (ideo.) &gt; maṟ(a) 'N. of a tribe' (cf. maṟavar)</td>
</tr>
</tbody>
</table>

**Origin of Indus-Dravidian tribes from Hilly Regions**

There is evidence in the Indus inscriptions that the original habitat of the two tribes, Kaḷ- and Maḻ-(a), was in hilly regions, and that they must have migrated to the Indus plains where they took to agriculture and also served as warriors, indicating a long period of acculturation commencing from much earlier times. The evidence comes primarily from the paired signs with high frequency linking the tribal names with 'hills' (Figure 7).

It is noteworthy that *kō* 'mountain' is the root of the names of many Dravidian hill tribes (e.g., Konda, Kodagu, Kota, Kurava, Kui, Kurumba, Kurukh, Kuvi). It is thus likely that *kō* 'mountain' (D.2178) is semantically connected with *kō* 'great man' (D.2177), the latter with the meaning 'he of the mountains'. The preferred location for the temples of the Dravidian gods, Murukaṉ and Māl, are on hills, or artificially built terraces; cf. Old Ta. *māṭa-k-kōyil*.

**Table 9. Evidence for the origin of Indus-Dravidian tribes from hilly regions.**

<table>
<thead>
<tr>
<th>Sign Pairs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A E</td>
<td>A F</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alphabetic Index</th>
<th>Frequency</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A E</td>
<td>16</td>
<td>kal- kō 'chieftain of the Kaḷ- (tribe)' (cf. kļuḷar)</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>maḻ(a) kō 'chieftain of the Maḻ-a (tribe)' (cf. maḻavar and maṟavar)</td>
</tr>
</tbody>
</table>

* Frequencies include other occurrences with meanings not related to tribal names.
Section 2 – Sign pairs depicting toponyms of the Indus Region

The prominent topographical features which appear to be related to the Indus ideograms are shown in Figure 5. Paired signs from the Set A - F (see Table 1) attested in the inscriptions appear to denote well-known topographical features of the Indus Region (Table 10).

Table 10. Sign pairs depicting Indus toponyms.

<table>
<thead>
<tr>
<th>Sign Pairs</th>
<th>Alphabetic Index</th>
<th>Frequency*</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A C</td>
<td></td>
<td>12</td>
<td>High Mountains</td>
</tr>
<tr>
<td>A D</td>
<td></td>
<td>1</td>
<td>Western Hills</td>
</tr>
<tr>
<td>A E</td>
<td></td>
<td>16</td>
<td>Eastern Hills</td>
</tr>
<tr>
<td>B C</td>
<td></td>
<td>31</td>
<td>High Country</td>
</tr>
<tr>
<td>B D</td>
<td></td>
<td>3</td>
<td>Western Country</td>
</tr>
</tbody>
</table>

* Frequencies include other occurrences with meanings not related to toponymy.

‘High mountains’ – The Himalayas

The topography of the Indus Region indicates that the sign pair CA ‘High mountains’, must refer to the Himalayas, the highest mountain range known to the Indus Civilization.

Figure 5. Map of Indus Region showing Toponyms associated with Indus Ideograms.
Table 11. Interpretation of the Sign Pair CA: The Himalayas.

A

\[ mēl \text{mal-(a)} \]

‘high mountains’

The Himalayas

‘Western hills’ – The Kirthar Range

The ‘Western hills’ are most probably to be identified with the Kirthar Range to the west of the Indus plains forming the border between the alluvial plains to the east and the Balochi highlands to the west. The Kirthar range was an important source for raw materials, especially lead, silver and limestone, utilized by the Indus artisans (Wright 2010).

Table 12. Interpretation of the Sign Pair DA: The Kirthar Range.

A

\[ kōṭ-\text{ku(ṉ)ṟ-(u)} \]

‘western hills’

The Kirthar Range

‘Eastern hills’ – The Rohri or Aravalli Hills

The ‘Eastern hills’ may be identified with the Rohri Hills to the east of the Indus plains. These hills produced the best quality chert much sought after by the artisans especially for making the standard cubical stone weights used throughout the Indus Realm (Wright 2010). Alternatively, the ‘Eastern Hills’ may also refer to the Aravalli Range at the eastern perimeter of the greater Indus Region. Khetri and other sites in the Aravalli Range supplied most of the copper extensively used in manufacturing a variety of tools, weapons and utensils by the Indus artisans (Wright 2010).

Table 13. Interpretation of the Sign Pair EA: The Rohri or Aravalli Hills.

A

\[ kīḻ ku(ṉ)ṟ-(u) \]

‘eastern hills’

The Rohri or Aravalli Hills

‘High country’ – The Balochi Region

The ‘High Country’ or highlands may be identified with the Balochi uplands to the west of the Indus alluvial plains. This region had made remarkable contribution to the economic prosperity of the Indus Civilization. The region supplied the raw material, especially, arsenic-rich copper, silver, lead and limestone for manufacture and export of finished goods (Wright 2010). Highly skilled artisans from the Balochi region migrated to the Indus urban centres (Parpola 1994).

Table 14. Interpretation of the Sign Pair CB: The Balochi Region.

A

\[ mēl \text{nāṭ-(u)} \]

‘high country’

The Balochi Region

Personal nouns derived from Indus toponymy

Identification of the Indus signs serving as Gender-Number suffixes has led to the formulation of the basic grammatical paradigm in Indus-Dravidian as summarized in Table 16 (for details of interpretation not included here, see Mahadevan 2010, 2011b).

Personal nouns are formed by the addition of Gender-Number suffixes to toponyms as illustrated by the seal texts from Mohenjo-daro (Table 17).

Table 15. Interpretation of the Sign Pair DB: The Balochi Region.

B

\[ kōṭ-(a) \text{nāṭ-(u)} \]

‘western country’

The Balochi Region

Personal nouns derived from Indus toponymy

Identification of the Indus signs serving as Gender-Number suffixes has led to the formulation of the basic grammatical paradigm in Indus-Dravidian as summarized in Table 16 (for details of interpretation not included here, see Mahadevan 2010, 2011b).

Personal nouns are formed by the addition of Gender-Number suffixes to toponyms as illustrated by the seal texts from Mohenjo-daro (Table 17).

Table 16. Grammatical paradigm of gender-number suffixes in the Indus Script.

<table>
<thead>
<tr>
<th>SIGN</th>
<th>Pictorial identification</th>
<th>Phonetic value in Indus-Dravidian</th>
<th>Grammatical category</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAR</td>
<td>[ -(a)ṟ(u) ]</td>
<td>Masculine singular suffix</td>
<td></td>
</tr>
<tr>
<td>ARROW</td>
<td>[ -(a)mp(u) ]</td>
<td>Non-masculine (feminine/neuter) singular suffix</td>
<td></td>
</tr>
<tr>
<td>four-stroke modifier (added to signs)</td>
<td>[ -(a)r ]</td>
<td>Epicene (human masculine and/or feminine) plural suffix</td>
<td></td>
</tr>
</tbody>
</table>
Section 3 – Survival of Indus toponyms in later Indo-Aryan tradition

Indo-Aryan toponyms related to Sign A: HILLS

Tri-kūṭa – Name of a mountain

The name tri-kūṭa, literally ‘three-peaked hill’, appears to be a survival of the symbolism of Indus Sign A: HILLS.

cf. tri-kūṭa ‘having three peaks, humps, or elevations; N. of a mountain; Mount Mēru’ (MW).

tri-kūṭa ‘N. of a mountain near the Gangā river; N. of a mountain near Lankā’ (Mbh. Index).


It also appears that -kūṭa ‘peak’ is borrowed from Dr. kuṭa ‘curved, bent’ (D.2054).

cf. IA kūṭa ‘heap’ (CDIAL 3392); kūṭa ‘summit, peak’ (CDIAL 3394).

Trai-kūṭakas: The Trai-kūṭaka dynasty ruled over parts of southern Gujarat and northern Konkan in the 5th century AD. They derived their name from the Tri-kūṭa hill, probably situated in Northern Konkan (Majumdar 1952).

Tri-kūṭa: Architectural style of Jaina temples in Karnataka. The Jaina temples in medieval Karnataka were marked by special architectural styles based on regional tradition and mythological concepts. One of the more remarkable styles of Jaina temple architecture in Karnataka is known as Tri-kūṭa basadi; the temple consists of three garbhagrhas in a row, each with a rectangular base, capped by a śikhara ‘peak’ in the Dravida style, the central one with higher elevation (Suresh 2010: 79–84). We suggest that the Tri-kūṭa temple is a conscious three-dimensional architectural creation based on the mythical imagery of the three-peaked Malaya or Mēru mountain celebrated in the Jaina religious tradition.

Tri-kakuda – Name of a mountain

cf. kakuda ‘peak, bull’s hump’ (CDIAL 2581).

cf. tri-kakud ‘having three peaks; N. of the Himālaya mountain’ (MW).

The meaning of kakuda ‘bull’s hump’ recalls the coin motifs showing the top of the three peaks rounded off as humps (see Figure 1).

Malaya – Name of a mountain

cf. D.4742 Ta. malai ‘mountain, hill’ (see paragraph ‘Ideogram A – HILLS’ in Section 2). The entry notes the Dr. origin of IA malaya.

IA malaya ‘N. of the mountain range of the Western Ghats; also name of a hilly district in Sri Lanka’ (CDIAL 9902).

Malaya also occurs with suffixes meaning ‘mountain’ as in Malayādri, Malayācala, Malaya-giri, Malaya-parvata, etc. (MW). Malaya-parvata was regarded as one of the kula-parvatāḥ of Bhāratavarṣa (Mbh. Index). Malaya mountain was famous for the forests of sandalwood. The cool fragrant breeze blowing from the mountains is often alluded to in literature as malaya-māruta or malaya-samīra. Malaya-dhvaja, the legendary Pāṇṭiya king, was named after the insignia marking his banner, most probably the ‘three-peaked hill’, which also occurs on the Pāṇṭiya silver punch-marked coins (Krishnamurthy 1997). This detail links malaya with tri-kūṭa.

The myth of goddess with ‘three breasts’: According to Old Tamil tradition, Malaya-dhvaja had a daughter named

---

Table 17. Personal nouns based on Indus toponyms.

<table>
<thead>
<tr>
<th>Text</th>
<th>Interpretation</th>
<th>Reference (CISI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>🛀️ 🟠️ 🛀️</td>
<td>mēl mal-(a) -(a)ṝḥ(u) ‘he of the High Mountains’</td>
<td>M-1307</td>
</tr>
<tr>
<td>🛀️ 🟠️ 🛀️</td>
<td>kot-(a) ku(n)ṟ-(u) -(a)ṁp(u) ‘… she of the Western Hills’</td>
<td>M-809</td>
</tr>
<tr>
<td>🛀️ 🟠️ 🛀️</td>
<td>mēl nāṭ-(u) -(a)ṝḥ(u) ‘he of the High Country’</td>
<td>M-269</td>
</tr>
<tr>
<td>🛀️ 🟠️ 🛀️</td>
<td>kot-(a) nāṭ-(u) -(a)ṝḥ(u) ‘… he of the Western Country’</td>
<td>M-1726</td>
</tr>
</tbody>
</table>

© Archaeopress and the authors, 2018.
Minākṣi (Skt.), probably derived from Dr. miṣy-ācci ‘the fish goddess’, referring to the ‘fish’ insignia of the Pāṇṭiya dynasty. Minākṣi was born with three breasts, causing great anxiety to her parents. However, the court astrologer assured them that the third breast of their daughter would disappear the moment she saw her would-be husband. And it did vanish when Minākṣi met Sundara, ‘the beautiful’ (god Śiva), who came to do battle with Minākṣi, but married her, an event still being celebrated annually at Madurai. It appears that the legend of ‘three breasts’ of the goddess is ultimately derived from the symbolism of the Indus Sign A: HILLS. In Indian tradition, peaks of the hill (from where life-giving water flows) are compared to the breasts of the woman (nourishing her child with milk).

动手为的以山河

Himālaya – Name of a mountain

Himālaya has been identified with the Indus toponym mēl mal-(a) ‘High Mountains’ (see Table 11). IA malaya has also been derived from Dr. mal-ay ‘mountain’. We continue our investigation into the etymology of IA himālaya.

cf. himācala ‘the Himalaya’ (CDIAL 14104) from hima- ‘snow’ (CDIAL 14096; RV).
 himavat ‘a snowy mountain’ (RV).
 himālaya ‘abode of snow’ (Bhagavadgītā).

Himālaya appears to be a relatively late name for the mountain earlier known more often with names like himācala, or with other suffixes denoting ‘mountains’ as in the case of malaya (see the previous paragraph). Even though the expression himālaya ‘abode of snow’ is apt and meaningful, it is still unique as no other mountain range in the sub-continent has the suffix -ālaya ‘abode’. Among the several words ending in -ālaya listed in CDIAL 1366, it is significant that himālaya is not included. It seems possible that himālaya is the result of an incorrect segmentation through folk etymology: him- ‘snow’ -malaya ‘Name of a mountain’) > him-ālaya (‘abode of snow’). Though irregularly formed, himālaya would still be a meaningful description of the mountain. However, further investigations lead to the conclusion that himālaya is likely to be a loanword from Dravidian.

Alternative Dravidian etymology for himālaya: IA himālaya, interpreted as ‘abode of snow’, is probably a loanword from Dravidian with the compounding of two words, cim-(ay) ‘peak’ and mal-(ay) ‘mountain’; cim may also mean ‘to shine, twinkle’ (D. 2545).

cf. D.2544 Ta. cimai ‘summit of a mountain’; cimaiyam ‘summit of a mountain, peak, hill’
Kur. cimā ‘projecting point on a hill, mountain or peak’
 cf. Old Ta. cimayam ‘peak’ (Aka. 94: 1).

imaiyavar uraiyum cimaiyam c-ecevarai, ‘the good mountain peak where the celestials dwell’ (Perum. 429).

cimaiyam-k-kurala cāntu arunti iruḷi imaiyam-k-kāṉam nārum kāntal ‘(her) tresses, wearing the flowers blooming in the forests on the peak of the Himālaya, are fragrant’ (Aka. 399: 1–2).

On the basis of the evidence summarised above, the following Dravidian etymology is a possible alternative:

Dr. cim-(ay) mal-(ay) > imaya malaya (with the loss of initial palatal) > IA him-ālaya (with the addition of initial h T. he loss of initial palatal c > h > Ø is also possible in Dravidian.

Indo-Aryan toponym related to Sign C: CONE

Mēru – Name of a mountain

IA mēru, is derived from Dr. mēru- ‘cone’ (literal) (see Table 5). mēr-(u) is pictographically depicted by Sign C: CONE. Mēru is arguably the most celebrated mountain in the Indian religious and literary tradition, its legendary origin lost in the mists of time.

MW: mēru ‘N. of a fabulous mountain’ regarded as the Olympus of Hindu mythology; Mēru is said to form the central point of Jambu-dvīpa; all planets revolve around it; the river Ganges falls from heaven on the summit of Mēru; the regents of Four Quarters occupy the corresponding faces of Mēru; the whole of Mēru consists of gold and gems; gods (including Śiva and Pārvatī) and the Seven Rishis reside on Mēru (Mbh.).

CDIAL 10330: mēru ‘fabulous mountain in Himalaya’ (Mbh.).
 CDIAL 6533: dēva-mēru ‘mountain of gods’.

Mēru – Name of a mountain

IA mēru, is derived from Dr. mēru- ‘cone’ (literal) (see Table 5). mēr-(u) is pictographically depicted by Sign C: CONE. Mēru is arguably the most celebrated mountain in the Indian religious and literary tradition, its legendary origin lost in the mists of time.

MW: mēru ‘N. of a fabulous mountain’ regarded as the Olympus of Hindu mythology; Mēru is said to form the central point of Jambu-dvīpa; all planets revolve around it; the river Ganges falls from heaven on the summit of Mēru; the regents of Four Quarters occupy the corresponding faces of Mēru; the whole of Mēru consists of gold and gems; gods (including Śiva and Pārvatī) and the Seven Rishis reside on Mēru (Mbh.).

A Tamil epic, Mēru-mantara-purāṇam, by the Jaina ascetic Vāmaṇa Muṇīvar (14th century AD) narrates the story of personified Mēru and Mantara hills. According to a different tradition, Mantara is another name for Mēru.

Indo-Aryan Toponym related to Sign E: WEEDS/ROOT

Jambu-dvīpa – Ancient name of ‘Indian Subcontinent’

We propose that jambu-dvīpa lit., ‘country of the jamun (tree)’, but signifying ‘Indian Subcontinent’ in ancient Indo-Aryan sources, is borrowed from the still earlier Indus-Dravidian camp-(a)-nāt-(u) lit. ‘land of the weeds’, but denoting ‘wetlands’. The proposed interpretation
connects the Indus Sign E: WEEDS with the toponym Jambu-dvīpa (see also Table 7).

cf. D.2347 Ta. campu ‘elephant grass’; Ka. jambu ‘reed or sedge’ Te. jambu ‘bulrush, sedge’.

We suggest that Indus-Dravidian camp-(u) was borrowed as IA Jambu through an early Dravidian dialect with c > j (as in later Ka. and Te.).

cf. CDIAL 5131 jambū ‘the rose-apple tree’.
CDIAL 5134 Jambu-dvīpa ‘central of the seven continents surrounding Mount Mēru’ (Mbh.);
Jambu-dīpa (Pkt.) ‘India’.
PED: Jambu-dīpa ‘the country of rose-apples (India)’.

Jambu-dvīpa ‘N. of the dvīpa south of Mēru, and also the whole circular central dvīpa’ (Mbh. Index).

The earliest epigraphical references to Jambu-dīpa as the ancient name of India are found in the Edicts of Asoka at Brahmagiri and elsewhere (CII: 1: Edicts of Asoka). These attestations are significant as they prove that Jambu-dvīpa (India) was perceived as a single country even though divided into numerous political domains, conventionally 56 in number. Jambu-dvīpa is one of the two ancient names of the Indian subcontinent, the other being Bāhara-tva (or Bāhara-khanda). It is significant that both the ancient names of India, Bāhara and Jambu-dvīpa, are ultimately derived from the Indus (for Bāhara, see Mahadevan 2009).

Myth connecting the jambū tree with Jambu-dvīpa: according to Mbh., there is a huge, eternal rose-apple (jamun) tree named Sudarśana on Mount Mēru which can grant every wish. The tree is 11000 yōjanas in height and touches the heavens. The circumference of a fruit of the tree measures 2500 cubits. The fruit bursts out when ripe and pours out the silvery juice, which becomes a river passing around Mount Mēru (Mbh. Index). MW adds that Jambu-dvīpa is so named either from the (common) jambū tree or from the enormous jambū tree on Mount Mēru, visible like a standard to the whole continent (Mbh.). The latter explanation is more likely in the present context.

Pipal leaf on three-peaked hill: we draw attention to the Indus sign depicting the pipal leaf at the summit of a three-peaked hill (Mahadevan 1977: sign no. 232). The pipal leaf is one of the prominent art motifs of the Indus Culture, featured on painted pottery and on seals and other inscribed objects. The pipal leaf occurs also in the Indus Script with high frequency (Signs 326 and 327 with a total frequency of 77) (Figure 6).

The pipal leaf represents the tree (Ficus Religiosa) held sacred in India from times immemorial. Every village in the Tamil country has a pipal tree with a raised platform around its base on which stone sculptures of ‘entwined serpents’ (fertility symbols), are planted. It is likely that worship of the pipal tree for granting fertility of the land and of the woman is a religious practice going back to the Indus-Dravidian society. The RV does not mention the pipal tree as such, but does refer to its wood for making vessels to hold the Sōma juice (RV 1.135.8, note by Griffith). This detail connects the Indus filter cult, a fertility rite, with the Sōma of the RV (Mahadevan 1985, 2017). When the Indus Script was no longer in use, Sign 232 was understood literally as a symbol ‘pīpal on the summit of a three-peaked hill’. This interpretation leads us straight to the myth noticed above of the huge, eternal, wish-fulfilling jambū tree on the summit of Mēru. The myth was invented to link the jambū and Jambu-dvīpa when the true origin from the Indus-Dravidian campu/jamuna ‘weeds’ > ‘wetlands’ was forgotten in later times.

IA Jambu-dvīpa > Dr. campu nāṭu: the Tamil tribes included in Mukkulattōr claim Sembu-nāṭu (campu-nāṭu) as their ancestral homeland (Mackenzie and Wilson 1828: Marava-jāti-vāranam; Thurston and Rangachari 1909: Maravan, in the Madras Census Report 1891). They are considered to be among the earliest Dravidian tribes and least ‘sanskritised’. We suggest that the ancestral home, Sembu-nāṭu, claimed by the Tamil tribes is based on dim memories of the distant past when their ancestors inhabited campu-nāṭu ‘the lowlands’ of the Indus Region.

IA Jambu-dvīpa > Ta. nāval-am-tīvu. In Old Tamil poems, IA jambu-dvīpa is re-borrowed as a loanword campu-tīvu, literally translated as nāval-am-tīvu ‘country of the Jamun tree’.

cf. campu-tīvu (Mani. 17: 62)
cf. D.2914 Ta. nāval ‘jamoon plum’.

The re-borrowing indicates a break in the Dravidian tradition, when the original meaning of campu-nāṭu ‘wetlands’ as in Indus-Dravidian was forgotten and replaced by campu-tīvu or nāval-am-tīvu ‘country of the jamun tree’ as in the Indo-Aryan myth.
A further linguistic twist in Old Tamil: the word nāval 'jamun tree' can also be segmented as nā-val 'oratorical skills'.

cf. D.3633 Ta. nā, nākku, nāvu 'tongue'.
D.5276 Ta. val 'skillful'.

The rebus between nāval 'jamun' and nā val 'oratorical skills' was exploited by theological disputants who planted a branch of the nāval tree in the village common and challenged the local nā valar 'learned scholars' to join debate with them.

cf. nāval pulavar avai nāppāñī nāṭṭal uppēñ, 'I planted the nāval (jamun) at the centre of the place of assembly of nā val pulavar (learned scholars)' (Nilā. avai. 3).

Summary of Indus toponyms in Indo-Aryan borrowals

The interpretations suggested in Section 3 are summarized in Table 18.

Indus origin of toponyms

Before parting with this topic, we would like to point out the special significance of the fact that the names of geographical features and toponyms like Malaya, Himālaya, Mēru, Jambu-dvīpa and Bhārata-varṣa occur in close juxtaposition and high frequency in Indian religious literature. Even though the names are in Indo-Aryan, there is no evidence that the Aryan speakers brought the memory of these places from their earlier homelands beyond the Himalayas. The Dravidian South is also too far away for the location of the toponyms except for the southern reaches of Malaya 'Western Ghats'. Thus, the only possible source for the ultimate origin of these names of geographical features and toponyms is the Indus. The succeeding Indo-Aryans occupying the same region retained the place names, but translated them into their own speech.

Section 4 – Survival of Indus tribal names in the Indo-Aryan tradition

After the decline and collapse of the Indus Civilization, the majority of the population stayed back merging with the incoming Aryans and, in course of time, adopting the Aryan speech. Their names and titles in the Indus-Dravidian were borrowed into Indo-Aryan through loanwords and loan translations. The borrowals were not always faithful to the originals, giving rise to myths invented to explain them. We shall consider in this section Indo-Aryan survivals of the Indus tribal names connected with the ideograms E and F.

Indo-Aryan Names of Tribes related to Indus Ideogram E: ROOT/WEEDS

Indo-Aryan tradition has preserved the names of a pair of closely allied tribes known as the Aśmakas and the Mūlakas. We show that these names are derived respectively from ‘weeds’ and ‘root’ depicted by the Indus ideogram E.

Aśmakas – Name of a people

The name aśmaka is apparently derived from aśman ‘stone’ (CDIAL 915). We propose that the name is, in reality, a loan translation from the Indus-Dravidian tribal name kal- through a dialectal form substituting ṇ with l.

cf. Ta. kal, Te. kalupu ‘weeds’ (D.1373).

The expression kal- ‘weeds’ was confused with the homonym kal ‘stone’ (D.1298), which is the source for

<table>
<thead>
<tr>
<th>Indus Signs</th>
<th>Indus-Dravidian Interpretations</th>
<th>Indo-Aryan Borrowals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: HILLS</td>
<td>mal-(a) 'mountains, hills' (cf. Ta. malai)</td>
<td>Names of different mountains: Trikūṭa, Trikakuda, Malaya, Himālaya</td>
</tr>
<tr>
<td>C: CONE</td>
<td>mēr-(u) 'cone' (cf. Ka. mēruve, Te. mēruvu)</td>
<td>Mēru 'a fabulous mountain'</td>
</tr>
<tr>
<td>E: WEEDS</td>
<td>camp-(u) 'weeds' (various kinds of grass) &gt; 'wetlands' (cf. Ta. campu, Ka. and Te. jambu)</td>
<td>Jambu-dvīpa ‘India’ from jambū ‘jamun’ (connected through a myth)</td>
</tr>
</tbody>
</table>
The Mūlakas also established a non-monarchical state (gaṇa-saṁgha) on the Godavari (Singh 2009). The Mūlakas are attested in the epics and the purāṇas. The Mūlakas finally settled down in the Deccan in the upper Godavari valley, where they established a non-monarchical state (gaṇa-saṁgha). According to Buddhist texts, Aṃsakas was counted as one of the Sixteen Mahājānapadas of ancient India (Singh 2009). The tribe was so well-known that it finds mention in both the epics, Ramayana and the Mahabharata, and in the purāṇas.

Mūlakas – Name of a people

This Mūlaka is derived from mūla ‘root’.

The name appears to be a loanword from Dravidian (as noted in D.5004).

The name Mūlaka is said to be the son of Aṃsaka (MW). According to the purāṇas, Aṃsaka and Mūlaka, father and son, ruled over Ayodhya. It is said that Mūlaka reigned during the time of Paraśurāma. Mūlaka was in fear of Paraśurāma and had to be protected by a group of women (Pargiter 1922). The Mūlakas appear to be a sub-division of the Aṃsaka tribe both of which are depicted pictorially by a single Indus ideogram E, for ‘weeds’ and ‘root’. The supposition is confirmed by the fact that there is no record of a Dravidian tribe named after ‘root’ or ‘radish’. The name Mūlaka dates only from the Indo-Aryan times.

Kṣudrakas – Name of a people

Kṣudrakas ‘Name of a people living by warfare’ (MW). Their army fought on the side of Duryōdhana in the Bhārata war (Mbh. Index).

The name Kṣudraka is apparently derived from kṣuḍra ‘minute’ (CDIAL 3712).

kṣuḍra ‘minute, little, trifling’; ‘mean, low, vile; also name of several plants’ (MW).

We suggest that kṣuḍra is a loan translation from Indus-Dravidian kal- ‘N. of a tribe’ depicted by the ideogram E. The tribal names, both Dravidian and Indo-Aryan, appear to be connected with the meaning ‘weeds’. The later pejorative meanings of kṣuḍra find parallels in similar meanings for Dr. kalo-. In classical Sanskrit khaḷa means ‘vile people’ and is the antonym of sajña ‘good people’. Here we see yet another instance of Dr. kalo- > IA khaḷa acquiring a pejorative sense in later usage (see also paragraph ‘Ideogram E – ROOT’ in Section 3).

Dr. kala > IA khaḷa ‘threshing floor’ (RV 10.48.7; here, Indra boasts that he threshed his enemies ‘like sheaves (of grain) on a threshing floor’ (Jamison and Brereton 2014).

The hyphenated name kṣuḍraka-māḷava in the Epic connects the two warrior tribes who lived in the Māḷava region of the Punjab, where they survived into the historical times. It is recorded in Greek sources that the Oxydrakai (Kṣuḍraka) fought valiantly against Alexander (Majumdar 1952). There is no region in North and Central India named after the Kṣuḍrakas, even though they were a powerful warrior tribe. The absence may be due to the pejorative connotation of the expression kṣuḍra. This situation finds a parallel in the Dravidian South where no territory was named after the Kallar, apparently because of the pejorative meaning of the homonym kāḷḷar ‘thieves’.

Indo-Aryan names of tribes related to the Indus

ideogram F: AXE

Mālavas, Madras and Yaudhēyas are among the well-known ancient warrior tribes of the Northwest of the Indian sub-continent. They were in origin Dravidian who continued to flourish in the region with sanskritised names in early historical times. We shall trace their origin to the Indus Civilization through the ideogram F: AXE associated with their names.
The Mālavas

Indus-Dravidian origin of the Mālavas is derived as follows:

\[ \text{mal-}(a) \, 'axe' \rightarrow \text{mal-}(a) \, 'N. of a tribe' \, (cf. Ta. Maḻavar; see Table 8). \]

Maḻavar was borrowed into Indo-Aryan as a loanword:

Dr. \text{maḻava} > IA \text{maḻa} 'N. of a tribe' > \text{māḷa} 'N. of a people and of their country'.

\[ \text{māḷuva} \rightarrow \text{maḷuva} \rightarrow \text{māḷavam} \rightarrow \text{māḷavattu} \rightarrow \text{māḷavānām} \rightarrow \text{māḷava-gaṇa-saṁghas} \, (cf. Ta. Maḻavar). \]

The form \text{maḻ-} is significant as it points to the derivation from Dr. \text{l} > IA \text{l} / \text{l}.

The name was re-borrowed from IA into Tamil, always with -\text{l}.

\[ \text{māḷuva vēntar} \, 'kings of the Māḷava country' \, (\text{Cilap. 30: 159}); \]

\[ \text{māḷavatu} \, 'of the Māḷava country' \, (\text{Civaka. 2159}); \]

\[ \text{māḷavān} \, 'N. of a country' \, (\text{Periya.1621}). \]

The form \text{maḷuva} appears to be related literally to the symbol 'axe':

Ta. \text{maḻ-ar} (\text{maḻavar}) 'they with the axe'.

Mālavas in the Punjab: the Mālavas and the Kṣudrakas are mentioned together by Pāṇini as \text{āyuda-jīvī-saṁghas} 'non-monarchical tribes who lived by the profession of arms'. The Mbh. also refers to the hyphenated name Kṣudraka-Mālavas who served in the army of Duryōdhana (Mbh. Index). The Mālava Country in the Punjab is identified with the Malwa Plateau in the Eastern Punjab. The Mālavas lived to the north of the confluence of the rivers Ravi and Chenab. The Kṣudrakas lived in the neighbouring Montgomery District. The two tribes formed a confederacy to fight Alexander. The Greek sources refer to the Mālavas and the Kṣudrakas respectively as Malloi and Oxydrakai. Their joint forces are said to have numbered 90,000 foot soldiers, 10,000 cavalry and 900 war chariots. They were eventually defeated, but Alexander had to withdraw from the Punjab (Majumdar 1952). Though their original habitat was in the Punjab, the Mālavas occupied a much wider area in Northwest and Central India during early historical times and even later. Their settlements are also found in Rajasthan and in the Malwa plateau in Central India.

Mālavas in Rajasthan: a section of the Mālava tribe occupied South Eastern Rajasthan from at least the 2nd century BC. They established their capital at Mālavā-nagara identified with modern Nagar near Jaipur. The Mālavas of Rajasthan are mainly known from numismatic evidence. Hoards of inscribed coins of the Mālava-gaṇa dated in the 2nd-4th centuries AD have been found at Nagar. Many of them bear the legends: \text{malavānām jaya} (or) \text{malava-ganasya jaya}. Allan (1936: cv), commenting on the coin-legends, notes the absence of the long vowel in \text{mā} and the absence of the \text{vṛddhi} form \text{māḷava} referring to the country.

Mālavas in Central India: Avanti (later Ujjaini: modern Ujjain) was the principal settlement of the Mālavas in Western Madhya Pradesh between the Aravalli hills in the North and the Vindhyas in the South. Avanti (Ujjaini) was one of the Sixteen Mahājanapadas in ancient India. It was a non-monarchical \text{gaṇa-saṁgha} ruled by a tribal council (Singh 2009).

The edict of Asoka at Dhauli is the earliest epigraphical reference to Ujjēni (CII: 1 Inscriptions of Asoka). Coins with the Brāhmi legend \text{sjēni} in characters dated from the 2nd century BC have been found in and around Ujjain. Ujjain developed into one of the greatest centres of culture and learning in Central India during the medieval period. For a comprehensive historical account (see Jain 1972).

The Madras

Madra was the name of an ancient people in the Northwest region of the sub-continent.

\[ \text{madra} \, 'a country in Northwest India; people of Madra (pl.)' \, (CDIAL 9782; S Br.); \]

\[ \text{a country Northwest of Hindustan proper; a king of the Madras} \, (\text{MW}); \]

\[ \text{N. of a people} \, (\text{Mbh. Index}). \]

We propose that IA \text{madra} is a loanword from Indus-Dravidian \text{mar-}(a) (cf. Ta. \text{maṟavar}). The phonetic development, Dr. \text{r} voiced in IA as -\text{dr} has a parallel: Dr. \text{ayr-} (‘masculine singular suffix added to personal names’) > IA \text{andhra} ‘N. of a non-Aryan people’ (Ai. Br. VII: 18) (Mahadevan 2010). The Mahabharata enumerates Andhra-Madras among the 'low people', a legend that has at least the merit of connecting the Andhras with the Madras, indicating that they descended from the Dravidian tribes with ultimate origin in the Indus Civilization.

According to Mbh., Aśvapati, King of the Madras, had a daughter Mādrī who was married to Pându. Mādrī begat Nākula and Sahādeva through the gods Aśvins. Śāya, king of Madra and brother of Mādrī, was one of the great commanders of the army of Duryōdhana in the Bhārata war. Mālāvī was the name of another wife
of the Madra king Aśvapati. According to the legend in Mbh., Yama promised that Mālavī would bear a hundred Mālavas to Aśvapati. The legend is significant in connecting the Madras with the Mālavas.

The Yaudhēyas

The Yaudhēyas were one of the most powerful warrior tribes in the Punjab, judging from literary and numismatic evidence.

cf. yōdhā ‘warrior’ (CDIAL 10533; RV); yaudhēya ‘prob. from yōdhā; a war-like ethnic group mentioned in the Mbh’ (MW).

The Yaudhēyas are mentioned by Pāṇini as the āyudha jīvin ‘people living by the profession of arms’. They had a non-monarchical form of government (gaṇa-saṁgha). Their main settlement was in Eastern Punjab. They exercised political control over neighbouring regions in Rajasthan and Uttar Pradesh, where their coins and inscriptions are found. They flourished from at least 4th century BC to 4th century AD, after which they disappear from history, weakened by incessant battles with more powerful adversaries like Rudradāman, the Western kṣatrapa in the 2nd century AD and with Samudragupta in the 4th century AD.

We propose that Yaudhēya, lit. ‘warrior’, is a loan translation from Dr. maṟ-(a) also lit. ‘warrior’ from māṟam ‘valour’. The loan translation is a parallel formation with the loanword madra, also derived from Dr. mar-(a) as shown above. It is likely that, originally, Yaudhēya was a common appellation to denote warrior tribes, but became a specific tribal name in course of time (cf. the parallel development in Old Tamil in which Māṟavar was the common term for both Kallar and Māḷavar, but developed into a specific tribal name as at present).

It is instructive to study the course of derivation of the three IA tribal names from the symbolism of the Indus Ideogram F: AXE:

cf. teṉṉavar [...] māṟavaṉ ‘Māṟavaṉ of the Pāṇṭiyar’ (Puṛa. 380: 5);
vāṉavaṉ maṟavaṉ ‘Māṟavaṉ of the Cērar’ (Aka. 143: 10);
cōḻar maṟavaṉ ‘Māṟavaṉ of the Cōḷar’ (Aka. 326: 9).

Table 19. Indus-Dravidian tribal names borrowed into Indo-Aryan.

<table>
<thead>
<tr>
<th>Indus Signs</th>
<th>Indus-Dravidian Interpretations</th>
<th>Indo-Aryan Borrowals: Names of different tribes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E: WEEDS</td>
<td>kal ‘weeds’ &gt; ‘N. of a tribe’. (cf. Ta. kal[ăr])</td>
<td>Aśmaka &lt; aśma ‘stone’ (cf. Dr. kal ‘weeds’ &gt; kal ‘stone’); Kṣudraka &lt; kṣudra ‘minute, N. of plants’ (cf. Dr. kal ‘weeds, grass’)</td>
</tr>
<tr>
<td>E: ROOT</td>
<td>kīḻ- ‘bulbous root’ (cf. Ta. kīḻan[ku])</td>
<td>Mūlaka &lt; mūlai, mūl[i]kan[ku]</td>
</tr>
<tr>
<td></td>
<td>mar-(a) ‘N. of a tribe’ &lt; māṟam ‘valour’ (cf. Ta. māṟavar) connected by ideo. ‘battle-axe’</td>
<td>Madra Loanword from Dr. mar- with voicing of Dr. -r- as IA -dr-</td>
</tr>
</tbody>
</table>

Yaudhēya < yōdhā ‘warrior’, loan translation from Dr. mar-
Summary of Indus tribal names in Indo-Aryan borrowals

The interpretations suggested in Section 4 are summarized in Table 19.

Table 20. Re-interpretation of Indus Sign 267 with the top to the West.

<table>
<thead>
<tr>
<th>Sign 267</th>
<th>![Sign 267 Image]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Initial: 298. Total: 376.</td>
</tr>
<tr>
<td>Pictorial Interpretation</td>
<td>Four walls of the city with the citadel inside the top quadrant</td>
</tr>
<tr>
<td>Indus-Dravidian Interpretation</td>
<td>aka-(m) ‘inside, house’ (D.7)</td>
</tr>
<tr>
<td>New Finding</td>
<td>Top of the sign to the West</td>
</tr>
</tbody>
</table>

High-West equivalence. Application to Indus Sign 267

Finally, we return to Balakrishnan’s finding: High-West equivalence in Dravidian (see paragraph ‘High-West, Low-East in Dravidian’ in the Introduction). It leads us to a significant new result relating to Sign 267, the

Figure 7. Seals from Mohenjo-daro (see Table 17). Clockwise from top left: M-1307, M-809, M-269, M-1726 (from Joshi and Parpola 1987; Shah and Parpola 1991).
most frequent initial sign in the Indus Script. The sign has been interpreted as an ideogram depicting the four walls of the city with the citadel inside the top quadrant (Mahadevan 1981, 2011a). We can now understand that Sign 267 also indicates simultaneously the elevation (High) and direction (West) of the citadel. The sign is oriented with the top to the west. Modern maps of the Indus cities showing north at the top follow cartographic conventions different from those of the Indus (Table 20).

Conclusion

One may ask: even if the proposed results are plausible, what is the proof that they are correct? Our answer is: the proof comes from the firm inter-locking of evidence at three levels: Indus ideograms, Dravidian equivalents and Indo-Aryan borrowals. Such grid-like interlocking cannot happen by chance (for discussion and more examples, see Mahadevan 2014). This is indeed the best proof we have for the proposed interpretations. Clues for decoding the Indus Script come from survivals in the bilingual Indian tradition. Dravidian is the warp and Indo-Aryan the weft of the closely woven fabric of India’s cultural past.

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ai. Br.</td>
<td>Aitareya Brāhmaṇa</td>
</tr>
<tr>
<td>Aka.</td>
<td>Akanāṉūṟu</td>
</tr>
<tr>
<td>ASI Concordance</td>
<td>Mahadevan 1977</td>
</tr>
<tr>
<td>AV</td>
<td>Atharva Veda</td>
</tr>
<tr>
<td>BMC</td>
<td>British Museum Catalogue of Ancient Indian Coins = Allan 1936</td>
</tr>
<tr>
<td>CDIAL</td>
<td>Comparative Dictionary of Indo-Aryan Languages = Turner 1969</td>
</tr>
<tr>
<td>Cilap.</td>
<td>Cilappatikāram</td>
</tr>
<tr>
<td>Civaka</td>
<td>Civakacināmani</td>
</tr>
<tr>
<td>CII</td>
<td>Corpus Inscriptionum Indicarum = Hultzsch 1925</td>
</tr>
<tr>
<td>CISI</td>
<td>Corpus of Indus Seals and Inscriptions 1 = Joshi and Parpola 1987</td>
</tr>
<tr>
<td>CISI</td>
<td>Corpus of Indus Seals and Inscriptions 2 = Shah and Parpola 1991</td>
</tr>
<tr>
<td>CISI</td>
<td>Corpus of Indus Seals and Inscriptions 3.1 = Parpola et al. 2010</td>
</tr>
<tr>
<td>D.</td>
<td>Prefixed to Entry Numbers in DEDR</td>
</tr>
<tr>
<td>DEDR</td>
<td>A Dravidian Etymological Dictionary = Burrow and Emeneau 1984</td>
</tr>
<tr>
<td>Dr.</td>
<td>Dravidian</td>
</tr>
<tr>
<td>IA</td>
<td>Indo-Aryan</td>
</tr>
<tr>
<td>Ka.</td>
<td>Kannada</td>
</tr>
<tr>
<td>Kali.</td>
<td>Kalittokai</td>
</tr>
<tr>
<td>Ko.</td>
<td>Kota</td>
</tr>
<tr>
<td>Koḍ.</td>
<td>Koḍagu</td>
</tr>
<tr>
<td>Kur.</td>
<td>Kurukkuraḥ</td>
</tr>
<tr>
<td>Kurukh</td>
<td>Kurukh</td>
</tr>
<tr>
<td>Mattur.</td>
<td>Maturaikkānī</td>
</tr>
<tr>
<td>Ma.</td>
<td>Malayalam</td>
</tr>
<tr>
<td>Malai.</td>
<td>Malaiapaṭukaṭām</td>
</tr>
<tr>
<td>Mbh.</td>
<td>Mahābhārata</td>
</tr>
<tr>
<td>Mbh. Index</td>
<td>Mahābhārata Index = Sorensen 1904</td>
</tr>
<tr>
<td>Mani.</td>
<td>Maṇimēkalai</td>
</tr>
<tr>
<td>MW</td>
<td>Monier-Williams = Monier-Williams 1899</td>
</tr>
<tr>
<td>Narr.</td>
<td>Naṟṟinai</td>
</tr>
<tr>
<td>Niḷa.</td>
<td>Niḷakēci</td>
</tr>
<tr>
<td>Paṭṭiṇa.</td>
<td>Paṭṭiṇappāḷai</td>
</tr>
<tr>
<td>PED</td>
<td>Pali-English Dictionary = Rhys Davids and Stede 1925</td>
</tr>
<tr>
<td>Periya.</td>
<td>Periyapurāṇam</td>
</tr>
<tr>
<td>Perum.</td>
<td>Perumpāṇāṟṟuppatai</td>
</tr>
<tr>
<td>Pkt.</td>
<td>Prākṛt</td>
</tr>
<tr>
<td>Pura.</td>
<td>Paṇanāṉūṟu</td>
</tr>
<tr>
<td>RV</td>
<td>Ṛgveda</td>
</tr>
<tr>
<td>ŚBr.</td>
<td>Śatapatha Brāhmaṇa</td>
</tr>
<tr>
<td>Skt.</td>
<td>Sanskrit</td>
</tr>
<tr>
<td>Ta.</td>
<td>Tamil</td>
</tr>
<tr>
<td>Ta. Lex.</td>
<td>Tamil Lexicon = Pillai 1926-36</td>
</tr>
<tr>
<td>Te.</td>
<td>Telugu</td>
</tr>
<tr>
<td>Tivā.</td>
<td>Tivākara Nikaṇṭu</td>
</tr>
<tr>
<td>Tol. Col.</td>
<td>Tolkāppiyam; Collāṭikāram</td>
</tr>
<tr>
<td>Tu. Tuḷu</td>
<td>Tuḷu</td>
</tr>
</tbody>
</table>

Bibliography


