



WALKING WITH THE UNICORN

SOCIAL ORGANIZATION AND MATERIAL
CULTURE IN ANCIENT SOUTH ASIA

JONATHAN MARK KENOYER
FELICITATION VOLUME

Edited by

DENNYS FRENEZ, GREGG M. JAMISON, RANDALL W. LAW,
MASSIMO VIDALE AND RICHARD H. MEADOW

ISMEO

Walking with the Unicorn

Social Organization and Material Culture
in Ancient South Asia

Jonathan Mark Kenoyer
Felicitation Volume

Edited by

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



ARCHAEOPRESS PUBLISHING LTD

Summertown Pavilion
18-24 Middle Way
Summertown
Oxford OX2 7LG

www.archaeopress.com

ISBN 978 1 78491 917 7

ISBN 978 1 78491 918 4 (e-Pdf)

© ISMEO - Associazione Internazionale di Studi sul Mediterraneo e l'Oriente, Archaeopress and the authors 2018

Front cover: SEM microphotograph of Indus unicorn seal H95-2491 from Harappa (photograph by J. Mark Kenoyer © Harappa Archaeological Research Project).

Back cover, background: Pot from the Cemetery H Culture levels of Harappa with a hoard of beads and decorative objects (photograph by Toshihiko Kakima © Prof. Hideo Kondo and NHK promotions).

Back cover, box: Jonathan Mark Kenoyer excavating a unicorn seal found at Harappa (© Harappa Archaeological Research Project).



ISMEO - Associazione Internazionale
di Studi sul Mediterraneo e l'Oriente
Corso Vittorio Emanuele II, 244
Palazzo Baleani
Roma, RM 00186

www.ismeo.eu

Serie Orientale Roma, 15

This volume was published with the financial assistance of a grant from the Progetto MIUR 'Studi e ricerche sulle culture dell'Asia e dell'Africa: tradizione e continuità, rivitalizzazione e divulgazione'

All rights reserved. No part of this book may be reproduced, or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

Printed in England by The Holywell Press, Oxford

This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

Jonathan Mark Kenoyer and ISMEO – Occasions in ContinuumV 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 Approach1 Abhayan 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 Asia19 Marta Ameri	
Reflections on Fantastic Beasts of the Harappan World. A View from the West26 Joan Aruz	
Fish Symbolism and Fish Remains in Ancient South Asia33 William R. Belcher	
Some Important Aspects of Technology and Craft Production in the Indus Civilization with Specific Reference to Gujarat48 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 Review90 Alessandro Ceccarelli and Cameron A. Petrie	
Family Matters in Harappan Gujarat104 Brad Chase	
Revisiting the Ornament Styles of the Indus Figurines: Evidence from Harappa, Pakistan120 Sharri R. Clark	
The Harappan ‘Veneer’ and the Forging of Urban Identity150 Mary A. Davis	
Private Person or Public Persona? Use and Significance of Standard Indus Seals as Markers of Formal Socio-Economic Identities166 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 Investigation210 Brian E. Hemphill	
Indus Copper and Bronze: Traditional Perspectives and New Interpretations251 Brett C. Hoffman	
A Short Note on Strontium Isotope Analysis of Human Skeletal Remains from the Site of Sarai Khola265 Asma Ibrahim	
The Organization of Indus Unicorn Seal Production. A Multi-faceted Investigation of Technology, Skill, and Style272 Gregg M. Jamison	



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 H��l��ne 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	



Indus Stone Beads in the Ghaggar Plain with a Focus on the Evidence from Farmana and Mitathal.....	568
Akinori Uesugi, Manmohan Kumar and Vivek Dangi	
Locard’s Exchange Principle and the Bead-Making Industries of the 3rd Millennium BC.....	592
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.....	605
Heather Walder	
The Volumetric System of Harappa.....	623
Bryan K. Wells	
An Harappan History of US Researchers in Pakistan. In Celebration of Jonathan Mark Kenoyer	628
Rita P. Wright	
Editors	636
Authors Contacts.....	637



Jonathan Mark Kenoyer and ISMEO – Occasions in Continuum

Adriano V. Rossi

President, ISMEO

Associazione Internazionale di Studi sul Mediterraneo e l'Oriente

The intervention of the Italian archaeologists of IsMEO – Tucci's IsMEO – in the archaeology of the Indus Civilization under the direction of the late Maurizio Tosi took place in the early 1980s at Mohenjo-daro, Sindh (Pakistan), within the framework of an intensive and fruitful collaboration with Michael Jansen, Günther Urban and a wide group of German colleagues from the prestigious Rheinisch-Westfaelische Technische Hochschule of Aachen, mainly specialists in topographic recording and architectural analysis.

After a century from its discovery, Mohenjo-daro is still considered, rightly or wrongly, the city-symbol of this enigmatic civilization, and the joint Italian-German project, which followed a holistic but strictly non-destructive approach, represents a crucial moment for its historical understanding and socio-cultural fostering, as well as for the structural conservation of the exposed areas (Jansen and Urban 1984, 1987; Leonardi, Balista and Vidale 1988).

It is in this pivotal archaeological reality, and in a moment of deep revision and fast evolution of archaeological methodologies, that the Italian archaeologists and geo-archaeologists working with IsMEO met Jonathan Mark Kenoyer and began a long season of common fieldwork and scientific exchange (Figure 1). At Mohenjo-daro, the effort was not only to understand the erosion and transformation in time of the buried ruins, but also to record the distribution of the craft workshops and their dumps in the core of the ancient city; here, Kenoyer's contribution on the marine shell industries was crucial (Kenoyer 1984, 1985).



Figure 1. Massimo Vidale, Alexandra Ardeleanu-Jansen and Jonathan Mark Kenoyer at Mohenjo-daro during the IsMEO–Aachen University Mission in 1983 (courtesy J. M. Kenoyer and IsMEO–Aachen University Mission).



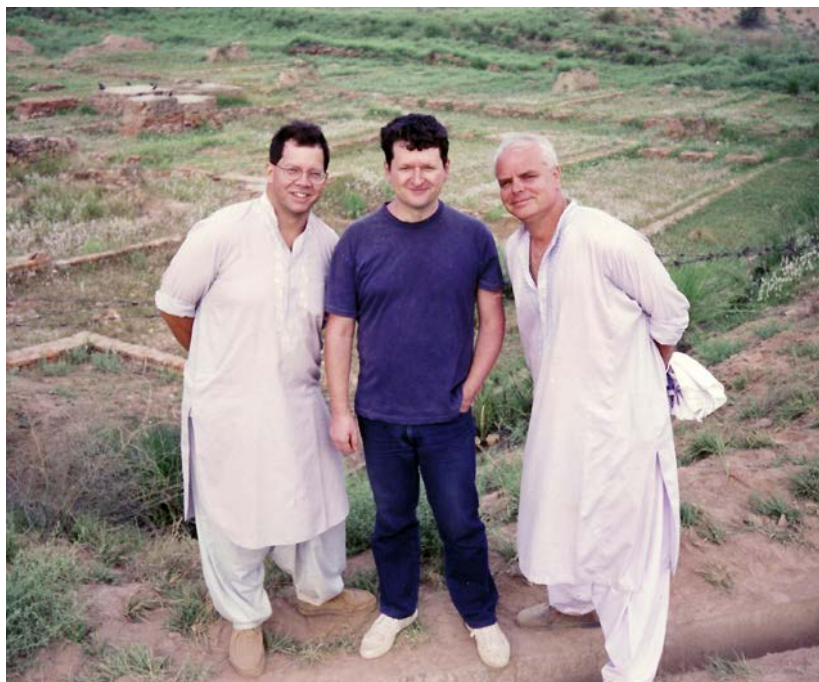


Figure 2. William Belcher, Massimo Vidale and Jonathan Mark Kenoyer at Harappa in 1995 (courtesy W. Belcher and Harappa Archaeological Research Project).

After Mohenjo-daro, the collaboration of Italian scholars linked to ISMEO/IsIAO, in particular Massimo Vidale, with Mark Kenoyer and his colleagues from the University of Wisconsin–Madison and various South Asian institutions continued in the ethnoarchaeological study of the agate beads factory of Khambhat in Gujarat (India), and in the excavation projects at Harappa in Punjab (Pakistan) (for examples, see Kenoyer and Vidale 1992; Kenoyer, Vidale and Bhan 1991, 1994; Vidale, Kenoyer and Bhan 1993) (Figure 2). This fruitful research partnership led to the understanding of several enigmatic aspects of the Indus material culture and technologies, and produced a large number of seminal publications, including papers and monographs often published by ISMEO/IsIAO (for examples, see Kenoyer and Meadow 2000; Meadow and Kenoyer 2000; Miller and Vidale 2000; Vidale 2000).



Figure 3. Dennys Frenez and Jonathan Mark Kenoyer in the Sultanate of Oman taking silicon impressions of an Indus seal found at Salut (courtesy D. Frenez and Italian Mission to Oman).

More recently, when ISMEO had already been refounded, this collaboration landed on the opposite shores of the Arabian Sea in the Sultanate of Oman, where Mark Kenoyer is now working with Dennys Frenez to decode the complex nature of the earliest Indo-Arabian connections in the Early Bronze Age, revealing an unexpected, deep penetration of Indus traders in the Omani hinterland (Frenez *et al.* 2016; Méry *et al.* 2017) (Figure 3).

The re-established ISMEO – *Associazione Internazionale di Studi sul Mediterraneo e l'Oriente*, founded in Rome in November 2012 and now very close to become a Foundation under the Italian Law and with the support of the Ministries of Education and Cultural Heritage, aims at being considered the direct heir – also through its denomination – of the *Istituto per il Medio ed Estremo Oriente* (ISMEO), founded in 1933 by Giovanni Gentile and Giuseppe Tucci.



This sense of continuity is further strengthened by the presence within the refounded ISMEO of many members who were also part of the now dissolved Institute, whose studies and research focus on that greater 'Indian' world, which – since its prehistoric roots to the present – has always been at the centre of Tucci's ISMEO, in all its religious, geographical, political and cultural forms.

This is the main reason why the amount and quality of the scientific information that over the past thirty years sprang from Kenoyer's collaboration with ISMEO's researchers can be said impressive. It is indeed a great pleasure for all ISMEO associates to have contributed to the publication of this relevant Felicitation Volume, sign of a long-lasting friendship but also a promise for future initiatives and new joint research to come in a region of the world central to both ancient and modern history not less than Eastern Mediterranean and the Near East.

Bibliography

- Frenez, D., Degli Esposti, M., Méry, S. and Kenoyer, J. M. 2016. Bronze Age Salūt (ST1) and the Indus Civilization. Recent discoveries and new insights on regional interaction. *Proceedings of the Seminar for Arabian Studies* 46: 107–24.
- Jansen, M. and Urban, G. (eds) 1984. *Interim Reports, Volume 1. Reports on Field Work Carried Out at Mohenjo-Daro, Pakistan, 1982-83 by the ISMEO–Aachen University Mission*. Istituto italiano per il Medio ed Estremo Oriente – Rheinisch-Westfälische Technische Hochschule, Rome – Aachen.
- Jansen, M. and Urban, G. (eds) 1987. *Interim Reports, Volume 2. Reports on Field Work Carried Out at Mohenjo-Daro, Pakistan, 1983-84 by the ISMEO–Aachen University Mission*. Istituto italiano per il Medio ed Estremo Oriente – Rheinisch-Westfälische Technische Hochschule, Rome – Aachen.
- Kenoyer, J. M. 1984. Shell Industries at Mohenjo-Daro, Pakistan. In M. Jansen and G. Urban (eds), *Interim Reports, Volume 1. Reports on Field Work Carried Out at Mohenjo-Daro, Pakistan, 1982-83 by the ISMEO–Aachen University Mission*: 99–116. Istituto italiano per il Medio ed Estremo Oriente – Rheinisch-Westfälische Technische Hochschule, Rome – Aachen.
- Kenoyer, J. M. 1985. Shell Working at Mohenjo-Daro, Pakistan. In J. Schotsmans and M. Taddei (eds), *South Asian Archaeology 1983*: 297–344. Naples, Istituto Universitario Orientale.
- Kenoyer, J. M. and Meadow, R. H. 2000. The Ravi Phase. A New Cultural Manifestation at Harappa. In M. Taddei and G. De Marco (eds), *South Asian Archaeology 1997*: 55–76. Istituto Italiano per l'Africa e l'Oriente – Istituto Universitario Orientale, Rome – Naples.
- Kenoyer, J. M. and Vidale, M. 1992. A new look at stone drills of the Indus Valley Tradition. In P. Vandiver, J. R. Druzick, G. S. Wheeler and I. Freeston (eds), *Materials Issues in Art and Archaeology, III*, 267. Materials Research Society, Pittsburgh: 495–519.
- Kenoyer, J. M., Vidale, M. and Bhan, K. K. 1991. Contemporary stone beadmaking in Khambhat, India: patterns of craft specialization and organization of production as reflected in the archaeological record. *World Archaeology* 23 (1): 44–63.
- Kenoyer, J. M., Vidale, M. and Bhan, K. K. 1994. Carnelian Bead Production in Khambhat India. An Ethnoarchaeological Study. In B. Allchin (ed.), *Living Traditions. Studies in the Ethnoarchaeology of South Asia*: 281–306. Oxford and IBH, New Delhi.
- Leonardi, G., Balista, C. and Vidale, M. (eds) 1988. *Interim Reports, Volume 3. Mohenjodaro: From surface evaluation to ground testing*. Istituto italiano per il Medio ed Estremo Oriente – Rheinisch-Westfälische Technische Hochschule, Rome – Aachen.
- Meadow, R. H. and Kenoyer, J. M. 2000. "Tiny Steatite Seals" (Incised Steatite Tablets) of Harappa. Some observations on their context and dating. In M. Taddei and G. De Marco (eds), *South Asian Archaeology 1997*: 321–340. Istituto Italiano per l'Africa e l'Oriente – Istituto Universitario Orientale, Rome – Naples.
- Méry, S., Degli Esposti, M., Frenez, D. and Kenoyer, J. M. 2017. Indus potters in central Oman in the second half of the third millennium BC. First results of a technological and archaeometric study. *Proceedings of the Seminar for Arabian Studies* 47: 163–83.
- Vidale, M. 2000. *The archaeology of Indus crafts. Indus craftspeople and why we study them* (Reports and memoirs, Series minor, Volume 4). Istituto Italiano per l'Africa e l'Oriente, Rome.
- Vidale, M., Kenoyer, J. M. and Bhan, K. K. 1993. Ethnoarchaeological Excavations of the Bead Making Workshops of Khambhat. A View from Beneath the Floors. In A. J. Gail and G. J. Mevissen (eds), *South Asian Archaeology 1991*: 273–288. G. J. R. Verlag, Stuttgart.



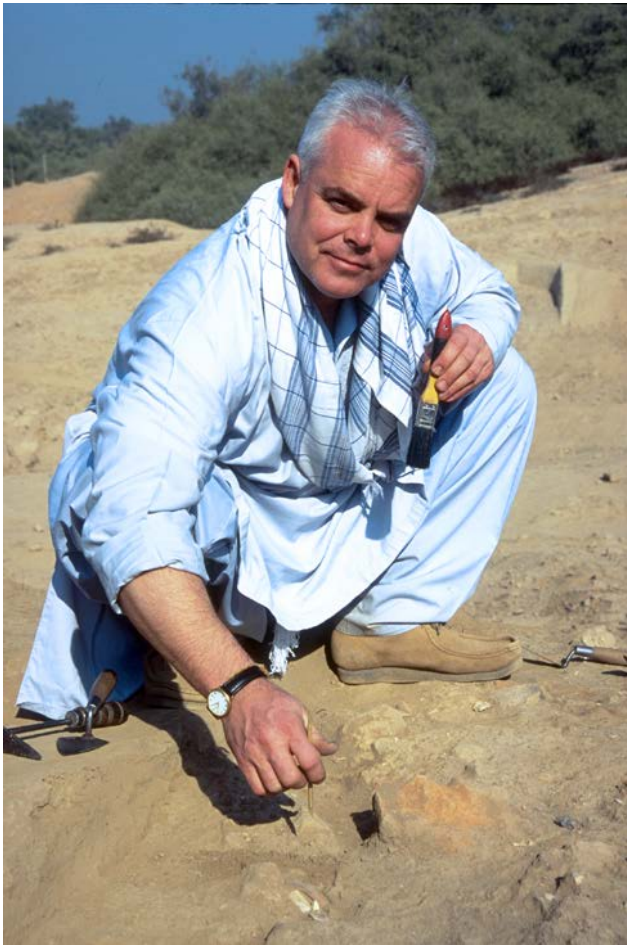


Jonathan Mark Kenoyer – The Tale of Sikander and the Unicorn

Dennys Frenez, Gregg Jamison, Randall Law,
Massimo Vidale and Richard H. Meadow

‘Oh, this is the animal that doesn’t exist. Not knowing that, they admire anyway its stride, its posture, its neck, the quiet light in its gaze. Indeed, it never was. Yet because they loved it, the creature came into existence’.

Rainer Maria Rilke – *Sonnets to Orpheus* II-4, The Unicorn



Mark Kenoyer excavating a unicorn seal he found at Harappa
(© Harappa Archaeological Research Project).

Can archaeology be an historical and scientific field of study? According to some ‘culturalist’ viewpoints, the answer would be a curt no. Those views see human cultures as having fenced perimeters of meanings that are highly structured according to specific codes and to a large extent inaccessible to other contemporary systems of thought and values. Within such an ideological framework, growing distance in space and time worsens this intrinsic lack of understanding, thereby hindering the construction of a reliable science of the past. Under such a viewpoint, western anthropologists are thought incapable of gaining insights into Asiatic or ‘third-world’ traditional cultural systems and even less capable of deciphering the buried material records of societies that were extinguished millennia ago, their complex semantic and ideological constructions consigned to oblivion along with them. Moreover, some would argue that any claim of writing or re-writing the past of a different culture using western historical narratives and perspectives is arrogant, colonial or even openly racist.

Isn’t archaeology, as a whole, a fictional exercise for well-to-do intellectuals who artfully mask the building up of new relationships of power and domination? In rejecting such culturalist positions, we believe that – although archaeology may divide certain types of scholars – it may also bring people together for the sake of sharing knowledge. Accordingly, the recovery and rehabilitation of an archaeological heritage can provide spaces for joint intercultural ventures and create new contexts to promote mutual understanding.

Over the past forty years, Mark Kenoyer – Sikander as he is commonly called at Harappa and in different parts of Pakistan and India – has been a leading contributor and role model for sharing the past with those in the present. In a world where the search for more and increasingly narrow cultural ‘identities’ accompanies an escalation of nationalisms and bitter conflicts, seeking out variability and expressions of hybridization represent added value.



The scientific career of Mark has, and still does, provide that value and has extended extraordinary benefits to many scholars and especially to those who have contributed to the present volume.

Mark was born in Assam to a family of Christian missionaries and he grew up playing with the Naga children in a complex linguistic knot, being part of two completely different and traditionally clashing worlds. As time passed, he instinctively came to combine a rational and modern approach to knowledge and science with an extreme sensibility for the cognitive and emotional landscapes of South Asia. His deeply hybridized cultural background, language skills and refined awareness of the variegated communities of the Subcontinent allowed him to instinctively move with ease across India and Pakistan, accessing knowledge hidden in plain sight even to the most experienced anthropologists and sharing that knowledge with people from all walks of life. In the process, Mark inspired scholars and non-scholars alike and fostered a sense of pride in the rich and diverse cultural heritage of the Subcontinent, both past and present.



Mark's favorite unicorn seal
(© Harappa Archaeological Research Project).

At Harappa, Sikander creatively and successfully hosted and trained scholars of various countries, cultures, creeds, ages and experience – including both male and female students – still a sensitive issue in contemporary South Asia and elsewhere. He continually involved students and scholars in his ethnoarchaeological and archaeological projects and provided research opportunities for them to follow their own lines of enquiry. Thanks to him, many have gained access to communities, contexts and opportunities that would have been otherwise difficult or impossible to obtain. In carrying out his own research he has always shared crucial information with all of us even though, admittedly, sometimes it seemed that his ideas and observations had always to be the best and the only true ones! Jokes aside, it has never been easy to contest his arguments and quite often it turned out that he was just right!

Many subtle interpretations now commonly accepted as granted in the study of the Indus Civilization are the results of Mark's original insights. His revealing studies of the seashell industries of contemporary South Asia and of the carnelian bead makers of Khambhat have led many students and colleagues to include ethnoarchaeology and experimental archaeology in their research agendas. His excavations at Harappa – where for the first time in Indus archaeology he combined the high resolution of micro-stratigraphy with the advantages of large-scale exposures – have provided important new insights into the loci, context and nature of craft and other small scale and even mundane activities at an urban site. These approaches, in combination with his extensive use of instrumental analyses and technological studies to define the cultural attribution of decontextualized artifacts have contributed to shed formidable light on the nature and the evolution of Bronze Age urbanism in the Subcontinent and beyond, from Oman to Afghanistan, from Japan to the Mediterranean.

We have tried to convey all these implications in the cover and title of this volume – *Walking with the Unicorn* – itself a rare, beautiful and hybrid creature, but also quite probably a powerful and highly visible symbol of social interaction – Mark, in fact, is very proud of having found near the citadel at Mohenjo-daro the earliest three-dimensional terracotta figurine of such a fantastic animal! The Indus Civilization – Mark's favorite subject – is the focus of many articles collected in this volume published to celebrate his 65th birthday. Other papers illustrate how Mark's ideas and research have affected the archaeology of a broader area of the Middle and South Asian worlds. All contributions are dedicated to our friend, colleague and mentor in acknowledgment of a debt that will not easily be repaid and as a sign of a deep and lasting respect and affection.



Jonathan Mark Kenoyer Bibliography

George F. Dales Jr. and Barbara A. Dales
Professor of Anthropology

Department of Anthropology
5402 Sewell Social Science Bldg.
1180 Observatory Dr, Madison WI 53706
University of Wisconsin–Madison
Email: jkenoyer@wisc.edu

The research interests of Professor Jonathan Mark Kenoyer – PhD, University of California, Berkeley – include the archaeology of early urbanism and state level societies, ancient technology, ornaments, textiles, pottery, lithics and metallurgy. He also is involved in ethnoarchaeology, experimental archaeology, and uses a wide range of archaeometric techniques and quantitative methods. His geographic areas of interest include South Asia (particularly India and Pakistan, as well as Afghanistan, Bangladesh and Sri Lanka), West Asia (Oman, UAE, Egypt), the Mediterranean (Greece and Italy), East Asia (China, Japan and Korea) and Southeast Asia.

Professor Kenoyer has been excavating and carrying out research on the Indus Civilization since 1975 and has excavated at the site of Harappa, Pakistan since 1986. He has also worked at sites and on ethnoarchaeological projects in India, Pakistan, and more recently in China and the Sultanate of Oman. He has a special interest in ancient technologies and crafts, socio-economic and political organization, religion and ideology. These interests have led him to study a broad range of cultural periods in South Asia as well as other regions of the world. As part of his research on ancient bead technologies, he has undertaken studies of collections throughout the world, with a special focus on West Asia, China, Taiwan, Japan, Korea and Southeast Asia. He was elected to the American Academy of Arts and Sciences in 2011, a recipient of the prestigious National Science Foundation-Presidential Young Investigator Award recipient, and a Fulbright Fellow. His publications include monographs on the Indus civilization as well as numerous articles, a grade school book on ancient South Asia and even a coloring book on the Indus cities for children. His work is featured on the website www.harappa.com and www.imagesofasia.com.



Jonathan Mark Kenoyer painting a geometric design on a carnelian bead to experimentally replicated the production of Indus ‘bleached’ beads (© Harappa Archaeological Research Project)

He was Guest Curator with the Asia Society for the exhibition on the *Ancient Cities of the Indus Valley Civilization*, which toured the U.S. in 1998-99. He was a special consultant for the *Art of the First Cities. The Third Millennium B.C. from the Mediterranean to the Indus* exhibition at the Metropolitan Museum of Art, New York in 2002.



Professor Kenoyer has also won numerous teaching awards, has mentored many students in the USA, Pakistan, India, and elsewhere. He continues to train students throughout the world and participate in public outreach concerning the cultural heritage of the areas in which he works.

Bibliography

Monographs

- 2018 *Ancient Cities of the Indus Valley Civilization, 2nd, Revised Edition*. Oxford University Press and American Institute of Pakistan Studies, Karachi. (in preparation)
- 2003 *Ancient Cities of the Indus Valley Civilization*. Oxford University Press and American Institute of Pakistan Studies, Karachi. (Chinese translation)
- 1998 *Ancient Cities of the Indus Valley Civilization*. Oxford University Press and American Institute of Pakistan Studies, Karachi.
- 1986 *Excavations at Mohenjo Daro, Pakistan. The Pottery* (University Museum Monograph 53). Philadelphia – by Dales, G. F. and J. M. Kenoyer.
- 1983 *Shell Working Industries of the Indus Civilization. An Archaeological and Ethnographic Perspective*. PhD thesis, University of California, Berkeley. UMI microfilms: <http://wwwlib.umi.com/dxweb/gateway/#8413450>.

Popular Articles and Children's Educational Materials

- 2017 Ganga – A Journey Along India's Sacred River, And So the Water Flows, What the Grains 'Say', Kumbha Mela, Kaushambi, Yamuna River, Saraswati River, Ganges River, Artifact. *DIG magazine*.
- 2005 *The Ancient South Asian World*. Oxford University Press, New York – by Kenoyer, J. M. and K. Heuston.
- 2004 *Sarang and Jeevai. A coloring book story of the ancient Indus Valley*. Oxford University Press, Karachi. (in Urdu)
- 1998 *Sarang and Jeevai. A coloring book story of the ancient Indus Valley*. Oxford University Press, Karachi.

Edited volumes

- 2017 *Archaeology and Cultural Heritage in Pakistan, Afghanistan and India*. American Institute of Pakistan Studies, Islamabad. (in preparation)
- 2017 *Cultural Heritage Issues in Pakistan. Archaeology, Museums and Conservation*. American Institute of Pakistan Studies, Islamabad. (in preparation)
- 2017 *Indus Valley Archaeology. Recent Research and New Directions* (Wisconsin Archaeology Reports, Vol. 4). Department of Anthropology, University of Wisconsin–Madison. (in preparation)
- 1994 *From Sumer to Meluhha. Contributions to the Archaeology of South and West Asia in Memory of George F. Dales, Jr.* (Wisconsin Archaeology Reports,

Vol. 3). Department of Anthropology, University of Wisconsin–Madison.

- 1989 *Old Problems and New Perspectives in the Archaeology of South Asia* (Wisconsin Archaeology Reports, Vol. 2). Department of Anthropology, University of Wisconsin–Madison.

Articles in Peer Reviewed Journals

- 2018 Overlooked Imports. Carnelian Beads in the Korean Peninsula. *Asian Perspectives* – by Glover, L. and J. M. Kenoyer. (in review)
- 2017 The Bhamala Buddhist Complex. A Review of Earlier Investigations at Bhamala. *Frontier Archaeology* 9: 1–10 – by Samad, A., J. M. Kenoyer, A. Hameed and Shakirullah.
- 2017 Preliminary Report of Bhamala Excavations (2012–13). *Frontier Archaeology* 9: 11–29. – by Samad, A., J. M. Kenoyer, A. Hameed and Shakirullah.
- 2017 Indus potters in central Oman in the second half of the 3rd millennium BC. First results of a technological and archaeometric study. *Proceedings of the Seminar for Arabian Studies* 47: 1–22 – by S. Méry, M. Degli Esposti, D. Frenez and J. M. Kenoyer.
- 2016 Investigation of ancient Harappan faience through LA-ICP-AES and SR- μ CT. *Journal of Instrumentation* 11 – by Zhou Gu, J. M. Kenoyer, Yimin Yang.
- 2016 Bronze Age Salut (ST1) and the Indus Civilization. Recent Discoveries and New Insights on Regional Interaction. *Proceedings of the Seminar for Arabian Studies* 46: 107–124 – by Frenez D., Degli Esposti M., Méry S. and J. M. Kenoyer.
- 2015 The Indus Civilization (2600–1900 BC). Early Urbanism in South Asia and its Legacy. *Bulletin of the Shanghai Archaeology Forum* 1: 304–322.
- 2015 Shell fish-hook production at Ras al-Hadd HD-5, Sultanate of Oman (fourth millennium BC). Preliminary archaeological and experimental studies. *Proceedings of the Seminar for Arabian Studies* 45 (2015): 15–20 – by Bavutti, E., Borgi, F., Maini, E. and J. M. Kenoyer.
- 2015 New perspectives on Stone Bead Technology at Bronze Age Troy. *Anatolian Studies Journal* 65: 1–18 – Ludvik, G., J. M. Kenoyer, M. Pieniazek and W. Aylward.
- 2015 Evidence for patterns of selective urban migration in the Greater Indus Valley (2600–1900 BC): A lead and strontium isotope mortuary analysis. *PLoS ONE* 10(4): e0123103. doi: 10.1371/journal.pone.0123103 – by Valentine, B., Kamenov, G. D., Kenoyer, J. M., Shinde, V., Mushrif-Tripathy, V., Otarola-Castillo, E., J. Krigbaum.



- 2015** The sources and processing of raw materials for making ceramic molds, models, and cores at Yinxu. *Cultural Heritage from the South* 4: 152–159 – by Yue, Zhanwei, Zhichun Jing, Hongbin Yue, J.B. Stoltman and J. M. Kenoyer. (in Chinese)
- 2014** Experimental archaeology of the manufacture and firing of the graywares unearthed at Yinxu. *Cultural Heritage from the South* 3: 100–109 – by Yue, Zhanwei, Zhichun Jing, Hongbin Yue, J.B. Stoltman and J. M. Kenoyer. (in Chinese)
- 2014** Uncovering the keys to the Lost Indus Cities. *Scientific American (Special Issue on Archaeology)*: 9–17. (reprinted in Chinese)
- 2014** Eye Beads from the Indus Tradition. Technology, Style and Chronology. *Journal of Asian Civilizations* 36(2): 1–23
- 2013** Connections between the Indus Valley and Mesopotamia. Preliminary Results of Strontium Isotope analyses from Harappa and Ur. *Journal of Archaeological Science* 40: 2286–2297 – by J. M. Kenoyer, T. D. Price and J. Burton.
- 2013** Nondestructive Analysis of Dragonfly Eye Beads from the Warring States Period, Excavated from a Chu Tomb at the Shenmingpu Site, Henan Province, China. *Microscopy and Microanalysis* 19(2): 335–343 – by Yang, Y., L. Wang, S. Wei, G. Song, J. M. Kenoyer, T. Xiao, J. Zhu and C. Wang.
- 2012** Stone Drill Bits from Dholavira – A Multi-faceted Analysis. *Man and Environment* 37(1): 8–25 – by Prabhakar, V. N., Bisht, R. S., Law, R. W. and J. M. Kenoyer
- 2011** Changing Perspectives of the Indus Civilization: New Discoveries and Challenges. *Puratattva* 41: 1–18.
- 2011** A Reply to Ji-Huan He. *Archaeometry* 53(6): 1257–1258 – by Good, I., J. M. Kenoyer and R. H. Meadow.
- 2010** Gandharan Cultural Traditions: Context, Chronology and Legacies of the Indus Civilization. *Ancient Punjab* 1: 1–18.
- 2009** Indus Seals: An overview of Iconography and Style. *Ancient Sindh* 9: 7–30.
- 2009** What Happened to the Harappans? *ABC-CLIO online Social Studies Database*. URL: <http://www.ancienthistory.abc-clio.com>
- 2009** New Evidence for Early Silk in the Indus Civilization. *Archaeometry* 51(3): 457–466 – by Good, I., J. M. Kenoyer and R. H. Meadow.
- 2008** Collaborative Archaeological Research in Pakistan and India: Patterns and Processes. *The SAA Archaeological Record* 8(3): 12–20.
- 2005** Steatite and Faience Manufacturing at Harappa: New Evidence from Mound E Excavations 2000–2001. *Museum Journal (National Museum of Pakistan)* 3–4: 43–56.
- 2005** Uncovering the keys to the Lost Indus Cities. *Scientific American (Special Issue)* 15 (1): 24–33. (reprinted)
- 2004** Chronology and Interrelations between Harappa and Central Asia. *Journal of the Japanese Society for West Asian Archaeology* 5: 38–45.
- 2003** Uncovering the keys to the Lost Indus Cities. *Scientific American (July)*: 67–75.
- 2001** Early Developments of Art, Symbol and Technology in the Indus Valley Tradition. *INDO-KOKO-KENKYU Indian Archaeological Studies* 22: 1–18.
- 2001** Recent Discoveries and Highlights from Excavations at Harappa: 1998–2000. *INDO-KOKO-KENKYU Indian Archaeological Studies* 22: 19–36 – by Meadow, R. H. and J. M. Kenoyer.
- 2000** The Indus Valley Mystery. *Discovering Archaeology (April)*: 38–43 – by Meadow, R. H. and J. M. Kenoyer.
- 1999** Harappa in 3D. A powerful new tool rebuilds the past in the Indus Valley. *Discovering Archaeology (March/April)*: 89–93 – by Wayne R. Belcher, A. Keith Turner and J. Mark Kenoyer.
- 1999** Harappa. New Discoveries on its origins and growth *Lahore Museum Bulletin* 12 (1): 1–12 – by Kenoyer, J. M. and R. H. Meadow.
- 1998** Seals and Sculpture of the Indus Cities. *Minerva* 9(2): 19–24.
- 1998** Craft Traditions of the Indus Civilization and their Legacy in Modern Pakistan. *Lahore Museum Bulletin* 9(2): 1–8.
- 1997** Excavations at Harappa 1986–1997: A Brief Overview. *Punjab Journal of History and Archaeology* 1: 61–76.
- 1997** Trade and Technology of the Indus Valley: new insights from Harappa, Pakistan. *World Archaeology* 29(2): 262–280.
- 1997** New Inscribed Objects from Harappa. *Lahore Museum Bulletin* 9(1): 1–20 – Kenoyer, J. M. and R. H. Meadow.
- 1996** Antique Bead and Ornament Replicas from South Asia: An Alternative to Antique Bead Collecting and the destruction of Global Cultural Heritage. *Ornament Winter* 20(2): 68–71.
- 1996** The Ancient City of Harappa. *Asian Art and Culture* (A. M. Sackler Gallery, Smithsonian Institution, Spring): 85–99.
- 1995** Ideology and Legitimation in the Indus State as revealed through Public and Private Symbols. *The Archaeological Review* 4(1–2): 87–131.
- 1994** Harappan Technology: Methodological and Theoretical Issues. *Man and Environment* 19(1–2): 141–157 – by Bhan, K. K., M. Vidale and J. M. Kenoyer.
- 1994** Faience Ornaments of Harappa and the Indus Civilization. *Ornament* 17(3): 35–39, 95.
- 1992** La civiltà della Valle dell’Indo. *ARCHEO (September, 1992)*: 54–99 – by Vidale, M. and J. M. Kenoyer.
- 1992** Stratigraphic Complexities and Recording of Archaeological Sites: Models from Recent Excavations at Harappa. *Journal of Pakistan Archaeologists Forum* 1(1): 1–24.
- 1992** Lapis lazuli bead making in Afghanistan and Pakistan. *Ornament* 15(3): 71–73.



- 1992 Ornament Styles of the Indus Valley Tradition: Evidence from recent excavations at Harappa. Pakistan. *Paléorient* 17(2): 79–98.
- 1991 The Indus Valley Tradition of Pakistan and Western India. *Journal of World Prehistory* 5(4): 331–385.
- 1991 Contemporary stone beadmaking in Khambhat, India: patterns of craft specialization and organization of production as reflected in the archaeological record. *World Archaeology* 23 (1): 44–63 – by Kenoyer, J. M., M. Vidale and K. K. Bhan.
- 1991 Harappan Craft Specialization and the Question of Urban Segregation and Stratification. *Eastern Anthropologist* 44(3-4): 39–54.
- 1990 Harappa Excavations 1988. *Pakistan Archaeology* 24: 68–176 – by Dales, G. F. and J. M. Kenoyer.
- 1988 Traditional Indian Potters at the Smithsonian. *Expedition* 29(3): 55–63 – by Beaudry, M. P., J. M. Kenoyer and Rita P. Wright.
- 1988 Recent Developments in the Study of the Indus Civilization. *The Eastern Anthropologist* 41(1): 65–76.
- 1987 The Indus Civilization: Unfathomed Depths of South Asian Culture. *Wisconsin Academy Review* 33(2): 22–26.
- 1986 The Indus Bead Industry and Its Contribution to Bead Technology. *Ornament* 10(1): 18–23.
- 1984 Nageshwar. A Mature Harappan Shell Working Site on the Gulf of Kutch, Gujarat. *Journal of the Oriental Institute, M.S. University of Baroda* 33(3-4): 67–80 – by Bhan, K. K. and J. M. Kenoyer.
- 1984 Shell Working Industries of the Indus Civilization; A Summary. *Paléorient* 10(1): 49–63.
- 1983 An Upper Palaeolithic Shrine in India? *Antiquity* 57: 88–94 – by Kenoyer, J. M., J. D. Clark, J. N. Pal and G. R. Sharma.
- 1983 Nageshwar. An Industrial Centre of the Chalcolithic Period. *Puratattva* 12: 115–120 – by Bhan, K. K. and J. M. Kenoyer.
- 1977 Shell Working at Ancient Balakot, Pakistan. *Expedition* 19 (2): 13–19 – by Dales, G. F. and J. M. Kenoyer.
- 1833-1835: 52–57. British Museum Press, London – by Rienjang, W. K., J. M. Kenoyer and M. Sax.
- 2017 South Asia – Indus Civilization. In T. Insoll (ed.), *The Oxford Handbook of Prehistoric Figurines*: 493–519. Oxford, Oxford University Press – by S. R. Clark and J. M. Kenoyer
- 2017 History of Stone Beads and Drilling. South Asia. In A. Kanungo (ed.), *Stone Beads of South and South-East Asia: Archaeology, Ethnography and Global Connections*: 125–148. Indian Institute of Technology-Gandhinagar and Aryan Press, Ahmedabad and Delhi.
- 2017 Stone Beads of the Indus Tradition: New Perspectives on Harappan Bead Typology, Technology and Documentation. In A. Kanungo (ed.), *Stone Beads of South and South-East Asia: Archaeology, Ethnography and Global Connections*: 149–164. Indian Institute of Technology-Gandhinagar and Aryan Press, Ahmedabad and Delhi.
- 2017 Living Tradition. Stone Bead Production in Khambhat – An Ethnoarchaeological Approach. In A. Kanungo (ed.), *Stone Beads of South and South-East Asia: Archaeology, Ethnography and Global Connections*: 165–188. Indian Institute of Technology-Gandhinagar and Aryan Press, Ahmedabad and Delhi – by Bhan, K. K., J. M. Kenoyer, and M. Vidale.
- 2017 Using SEM to Study Stone Bead Technology. In A. Kanungo (ed.), *Stone Beads of South and South-East Asia: Archaeology, Ethnography and Global Connections*: 405–433. Indian Institute of Technology-Gandhinagar and Aryan Press, Ahmedabad and Delhi.
- 2016 Textiles and Trade in South Asia during the Proto-historic and Early Historic Period. In B. Hildebrandt (ed.), *Silk. Trade and Exchange along the Silk Roads between Rome and China in Antiquity*: 9–33. Oxbow Books, Oxford.
- 2016 Bead Drill Hole SEM Analysis. In F. Højlund and A. Abu-Laban (eds), *Tel F6 on Failaka Island: Kuwaiti-Danish Excavations 2008-2012*: 198–206. Aarhus, Kuwait National Council for Culture, Arts and Letters and Jutland Archaeological Society and Moesgaard Museum.
- 2016 Excavations at Harappa: 1986-2010. New Insights on the Indus Civilization and Harappan Burial Traditions In G. R. Schug and S. R. Walimbe (eds), *The Companion to the South Asian Past*: 145–168. John Wiley and Sons, Hoboken, NJ – by Kenoyer, J. M. and R. H. Meadow.
- 2015 The Archaeological Heritage of Pakistan: The Indo-Gangetic Tradition: Early Historic Chiefdoms and States of the Northern Subcontinent. In R. Long (ed.), *History of Pakistan*: 91–134. Oxford University Press, Karachi.
- 2015 The Archaeological Heritage of Pakistan: From the Palaeolithic to the Indus Civilization. In R. Long (ed.), *History of Pakistan*: 1–90. Oxford University Press, Karachi.

Articles in edited volumes

- 2017 The Indus Script. Origins, Use and Disappearance. In H. Zhao (ed.), *Dialogue of Civilisation. Comparing Multiple Centers*. Shanghai Guji Press, Shanghai. (in press)
- 2017 Trade and Technology in the Eastern Arabian Peninsula. New Insights based on Archaeological Studies of Stone Beads. In *Research Reports of the Sultan Qaboos Cultural Center*. Washington DC. (in press)
- 2017 Stone beads from the relic deposits. A preliminary morphological and technological analysis. In E. Errington, (ed.), *Charles Masson and the Buddhist Sites of Afghanistan. Explorations, Excavations, Collections*



- 2014** New Perspectives on the Indus Tradition: Contributions from recent research at Harappa and other sites in Pakistan and India. In N. Rao (ed.), *Sindhu-Sarasvati Valley Civilization. New Perspectives – A Volume in Memory of Dr. Shikaripur Ranganatha Rao*: 500–535. DK and Nalanda International.
- 2014** The Indus Civilization. In C. Renfrew and P. Bahn (eds), *The Cambridge Prehistory*: 407–432. Cambridge University Press, Cambridge.
- 2014** Stone Bead-Making Technology and Beads from Hattuša. A Preliminary Report. In A. Schachner (ed.), *Die Arbeiten in Bođazköy-Hattuša 2013* (Archäologischer Anzeiger 2014/1): 147–153 – by Ludvik, Geoffrey, Magda Pieniasek and J. M. Kenoyer.
- 2013** Iconography of the Indus Unicorn: Origins and Legacy. In S. Abraham, P. Gullapalli, T. Raczek and U. Rizvi (eds), *Connections and Complexity. New Approaches to the Archaeology of South Asia*: 107–125. Left Coast Press, Walnut Creek.
- 2013** Mantai. Shell Artifacts. In J. Carswell, S. U. Deraniyagala and A. Graham (eds), *Mantai. City by the Sea*. Aichwald/Linden Soft Verlag, Stuttgart – by Edward J. Waddington and J. M. Kenoyer.
- 2012** Households and Neighborhoods of the Indus Tradition. An overview. In B. J. Parker and C. P. Foster (eds), *New Perspectives in Household Archaeology*: 373–406. Eisenbrauns, Winona Lake, IN.
- 2012** Marine and Riverine Trade of the Indus Cities. Strategies for Research and Interpretation. In A. Tripathi (ed.), *Proceedings of the International Seminar on Marine Archaeology*: 43–57. Indian Society for Marine Archaeology, New Delhi.
- 2011** Regional Cultures of the Greater Indus Valley. The Ravi and Kot Diji Phase Assemblages of Harappa, Pakistan. In Osada, T. and M. Witzel (eds), *Cultural Relations between the Indus and the Iranian Plateau during the Third Millennium BCE* (Harvard Oriental Series, Opera Minora Vol. 7): 165–217. Cambridge, MA, Department of South Asian Studies, Harvard University.
- 2011** Preface. In R. W. Law (auth.), *Inter-Regional Interaction and Urbanism in the Ancient Indus Valley. A Geologic Provenience Study of Harappa's Rock and Mineral Assemblage* (Occasional Paper 11. Linguistics, Archaeology and the Human Past): iii–v. Indus Project, Research Institute for Humanity and Nature, Kyoto.
- 2011** Comments on the SEM Images of Silicon-based Impressions of Beads Holes. In V. Shinde, T. Osada and M. Kumar (eds), *Excavations of Farmana, District Rohtak, Haryana, India: 2006-2008*: 469–470. Kyoto, Indus Project Research Institute for Humanity and Nature.
- 2010** Masters of Beasts or Beastly Masters in the Iconography of the Indus Civilization. In D. Counts and B. Arnold (eds), *Master of Animals in Old World Iconography*: 37–58. Archaeolingua, Budapest.
- 2010** Inscribed objects from Harappa Excavations, 1986–2007. In A. Parpola, B. M. Pande and P. Koskikallio (eds), *Corpus of Indus Seals and Inscriptions, Vol. 3. New Material, untraced objects, and collections outside India and Pakistan* (Annales Academiae Scientiarum Fennicae, B 241:1): xlv–lviii. Helsinki, Suomalainen Tiedeakatemia.
- 2010** Measuring the Harappan World. Insights into Indus Order and Cosmology. In I. Morley and C. Renfrew (eds), *The Archaeology of Measurement. Comprehending Heaven, Earth and Time in Ancient Societies*: 106–122. McDonald Institute for Archaeological Research, Cambridge, Cambridge University Press, Cambridge.
- 2010** Graphic Design of Indus Seals. Geometric, Naturalistic and Narrative Motifs. In S. M. Mazaar (ed.), *Bazaar. Design and Visual Culture in Pakistan*: 315–327. Oxford University Press and Prince Claus Funds Library, Karachi.
- 2009** Carts and wheeled vehicles of the Indus Civilization. New evidence from Harappa, Pakistan. In T. Osada and A. Uesugi (eds), *Linguistics, Archaeology and the Human Past*, (Occasional Paper 9): 1–34. Kyoto, Research Institute for Humanity and Nature.
- 2008** The Origin and Character of Indus Urbanism: New Perspectives and Challenges. In J. Marcus and J. A. Sabloff (eds), *Ancient City. New Perspectives on Urbanism in the Old and New World*: 183–208. Sante Fe, SAR Press/National Academy of Sciences.
- 2008** The Early Indus Script at Harappa. Origins and Development. In E. Olijdam and R. H. Spoor (eds), *Intercultural Relations between South and Southwest Asia. Studies in Commemoration of E. C. L. During-Caspers (1934-1996)* (BAR International Series 1826): 124–131. Oxford, Archaeopress – by Kenoyer, J. M. and R. H. Meadow.
- 2008** Indus and Mesopotamian Trade Networks. New Insights from Shell and Carnelian Artifacts. In E. Olijdam and R. H. Spoor (eds), *Intercultural Relations between South and Southwest Asia. Studies in Commemoration of E. C. L. During-Caspers (1934-1996)* (BAR International Series 1826): 19–28. Oxford, Archaeopress.
- 2008** Harappa Excavations 1998-1999. New evidence for the development and manifestation of the Harappan phenomenon. In E. M. Raven (ed.), *South Asian Archaeology 1999*: 85–109. Egbert Forsten, Groningen – by Meadow, R. H. and J. M. Kenoyer.
- 2008** What is it. In R. F. Baker and C. F. Baker (eds), *Ingenuity along the Indus: Birth of a Civilization*.
- 2008** Reading the Clues. In R. F. Baker and C. F. Baker (eds), *Ingenuity along the Indus: Birth of a Civilization*.
- 2008** What's New. In R. F. Baker and C. F. Baker (eds), *Ingenuity along the Indus: Birth of a Civilization*.
- 2008** Face to Face with History. In Baker, R. F. and C. F. Baker (eds), *Ingenuity along the Indus: Birth of a Civilization*.



- 2007** Stone beads in Ancient South Asia, 7000-600 BC. A comparative approach to technology, style, and ideology. In J. Allen and Hector V. (eds), *The Global Perspective of Beads and Beadwork. History, Manufacture, Trade and Adornment*: 1-12. Istanbul, Kadir Has University.
- 2007** Multiple Crafts and Socio-Economic Associations in the Indus Civilization. Perspectives on Continuity and Change from Harappa, Pakistan. In I. Shimada (ed.), *Rethinking Craft Production. The Nature of Producers and Multi-Craft Organization*: 152-183. Salt Lake City, University of Utah Press – by J. M. Kenoyer and H. M.-L. Miller.
- 2006** New Perspectives on the Mauryan and Kushana Period. In P. Olivelle (ed.), *Between Empires Studies in India 300 BCE to 400 CE*: 33-50. New York, Oxford University Press.
- 2006** Craft Traditions of the Indus Civilization and their Legacy in Modern Pakistan. In N. Bilgrami (ed.), *Pakistan Crafts*: 10-19. Karachi, Koel Publications.
- 2006** Cultures and Societies of the Indus Tradition. In R. Thapar (ed.), *Historical Roots in the Making of 'the Aryan'*: 21-49. New Delhi, National Book Trust.
- 2006** The Origin, Context and Function of the Indus Script. Recent Insights from Harappa. In T. Osada and N. Hase (eds), *Ethnogenesis of South and Central Asia. Proceedings of the Pre-Symposium of RIHN and the 7th ESCA Harvard-Kyoto Roundtable*, 6-8 June 2005: 9-27. Kyoto, Research Institute for Humanity and Nature.
- 2005** Excavations at Harappa 2000-2001. New insights on Chronology and City Organization. In C. Jarrige and V. Lefèvre (eds), *South Asian Archaeology 2001*: 207-224. Paris, Editions Recherche sur les Civilisations – by R. H. Meadow and J. M. Kenoyer.
- 2005** Bead Technologies at Harappa, 3300-1900 BC. A comparative summary. In C. Jarrige and V. Lefèvre (eds), *South Asian Archaeology 2001*: 157-170. Paris, Editions Recherche sur les Civilisations.
- 2005** Culture Change during the Late Harappan Period at Harappa. New Insights on Vedic Aryan Issues. In L. L. Patton and E. F. Bryant (eds), *The Aryan Invasion. Evidence, Politics, History*: 21-49. London, Routledge Curzon Press.
- 2004** Archaeology, Art and Interpretation. In C. Friewald, F. Salomon and J. M. Kenoyer (eds), *Reconstructing the Pre-Columbian World. Ancient American Civilizations through the Eyes of an Artist-Painter by Cristiane Clados*: 13. University Communications, University of Wisconsin-Madison, Madison WI.
- 2004** Ancient Textiles of the Indus Valley Region. In N. Bilgrami (ed.), *Tana Bana. The woven soul of Pakistan*: 18-31. Koel Publications, Karachi.
- 2004** Die Karren der Induskultur Pakistans und Indiens (Wheeled Vehicles of the Indus Valley Civilization of Pakistan and India). In M. Fansa and S. Burmeister (eds), *Rad und Wagen. Der Ursprung einer Innovation Wagen im Vorderen Orient und Europa (Wheel and Wagon. Origins of an innovation)*: 87-106. Mainz am Rhein, Verlag Philipp von Zabern.
- 2004** Sidis in the Agate Bead Industry of Western India. In A. Catlin-Jairazbhoy and E. A. Alpers (eds), *Sidis and Scholars*: 42-61. Rainbow Publishers, Noida, India – by Kenoyer, J. M. and K. K. Bhan.
- 2004** Fifty-five years of Archaeological Research in Pakistan. The Prehistoric Periods. C. In Baxter (ed.), *Pakistan on the Brink. Politics, Economics, Society*: 191-219. Lexington Books, Lanham, MD – by Kenoyer J. M. and R. H. Meadow.
- 2003** Stone Beads and Pendant Making Techniques. In J. W. Lankton (eds), *A Bead Timeline. Vol. 1 Prehistory to 1200 CE*: 14-19. The Bead Museum, Washington, DC.
- 2002** Some Important Aspects of the Harappan Technological Tradition. In S. Settar and R. Korisettar (eds), *Indian Archaeology in Retrospect, Volume 2 (Protohistory: Archaeology of the Harappan Civilization)*: 223-272. New Delhi, Indian Council of Historical Research – by Bhan, K. K., M. Vidale and J. M. Kenoyer.
- 2000** The Ravi Phase. A New Cultural Manifestation at Harappa. In M. Taddei and G. De Marco (eds), *South Asian Archaeology 1997*: 55-76. Rome/Naples, Istituto Italiano per l'Africa e l'Oriente / Istituto Universitario Orientale – by Kenoyer, J. M. and R. H. Meadow.
- 2000** The 'tiny steatite seals'. In M. Taddei and G. De Marco (eds), *South Asian Archaeology 1997*: 321-340. Rome/Naples, Istituto Italiano per l'Africa e l'Oriente / Istituto Universitario Orientale – by Meadow, R. H. and J. M. Kenoyer.
- 2000** Wealth and Socio-Economic Hierarchies of the Indus Valley Civilization. In J. Richards and M. Van Buren (eds), *Order, Legitimacy and Wealth in Early States*: 90-112. Cambridge University Press, Cambridge.
- 1999** Metal Technologies of the Indus Valley Tradition in Pakistan and Western India. In V. C. Pigott (ed.), *The Archaeometallurgy of the Asian Old World*: 107-151. Philadelphia, University of Pennsylvania Museum – by Kenoyer, J. M. and H. M.-L. Miller.
- 1997** Thangkairol. Manipuri Sword fighting of Eastern India. In M. Kiyota (ed.), *Personal Growth through Martial Arts. Studies in Kendo, Fencing and Indian Swordsmanship*: 53-64. Center for South Asia, University of Wisconsin-Madison, Madison, WI.
- 1997** Excavations at Harappa 1994-1995. New Perspectives on the Indus Script, Craft Activities, and City Organization. In B. Allchin and F. R. Allchin (eds), *South Asian Archaeology 1995*: 139-172. Oxford and IBH, New Delhi – by R. H. Meadow and J. M. Kenoyer.
- 1997** Early City-States in South Asia. Comparing the Harappan Phase and the Early Historic Period. In D. L. Nichols and T. H. Charlton (eds), *The Archaeology*



- of City-States. *Cross Cultural Approaches*: 51–70. Washington, Smithsonian Institution Press.
- 1995** Interaction Systems, Specialized Crafts and Culture Change. The Indus Valley Tradition and the Indo-Gangetic Tradition in South Asia. In G. Erdosy (ed.), *The Indo-Aryans of Ancient South Asia. Language, Material Culture and Ethnicity*: 213–257. W. DeGruyter, Berlin.
- 1995** Shell Trade and Shell Working during the Neolithic and Early Chalcolithic at Mehrgarh. In C. Jarrige, J.-F. Jarrige, R. H. Meadow and G. Quivron (eds), *Mehrgarh Field Reports 1975 to 1985. From Neolithic Times to the Indus Civilization*: 566–581. Dept. of Culture and Tourism, Govt. of Sindh and French Ministry of Foreign Affairs, Karachi.
- 1994** Indus Valley Technology. New Evidence from excavations and experimental studies at Harappa. In A. Parpola and P. Koskikallio (eds), *South Asian Archaeology 1993, Vol. 1*: 345–362. Helsinki, Suomalainen Tiedeakatemia.
- 1994** Harappa Archaeological Research Project 1993. In A. Parpola and P. Koskikallio (eds), *South Asian Archaeology 1993, Vol. 2*: 451–470. Helsinki, Suomalainen Tiedeakatemia – by Meadow, R. H. and J. M. Kenoyer.
- 1994** The Harappan State. Was it or Wasn't it? In J. M. Kenoyer (ed.), *From Sumer to Meluhha. Contributions to the Archaeology of South and West Asia in Memory of George F. Dales, Jr.* (Wisconsin Archaeology Reports, Vol. 3): 71–80. Department of Anthropology, University of Wisconsin–Madison, Madison WI.
- 1994** Carnelian Bead Production in Khambhat India. An Ethnoarchaeological Study. In B. Allchin (ed.), *Living Traditions. Studies in the Ethnoarchaeology of South Asia*: 281–306. Oxford and IBH, New Delhi – by Kenoyer, J. M., M. Vidale, and K. K. Bhan.
- 1994** Craft Traditions of Mohenjo daro and their legacy in Modern Pakistan. In I. M. Nadiem (ed.), *Proceedings of the Second International Conference on Moenjodaro, Karachi, Feb. 1992*. Department of Archaeology, Karachi. (in press)
- 1993** Excavations on Mound E, Harappa. A systematic approach to the study of Indus urbanism. In A. J. Gail and G. J. Mevissen (eds), *South Asian Archaeology 1991*: 165–194. G. J. R. Verlag, Stuttgart.
- 1993** Ethnoarchaeological Excavations of the Bead Making Workshops of Khambhat. A View from Beneath the Floors. In A. J. Gail and G. J. Mevissen (eds), *South Asian Archaeology 1991*: 273–288. G. J. R. Verlag, Stuttgart – by Vidale, M., J. M. Kenoyer, K. K. Bhan.
- 1993** The Harappa Project 1986–1989. New Investigations at an Ancient Indus City. In G. L. Possehl (ed.), *Harappan Civilization. A Contemporary Perspective (2nd edition)*: 469–520. New Delhi, Oxford and IBH and AIIS – by Dales, G. F. and J. M. Kenoyer.
- 1992** Socio-ritual Artifacts of Upper Paleolithic Hunter-Gatherers in South Asia. In G. L. Possehl (ed.), *Walter Fairservis Festschrift*: 227–240. New Delhi, IBH Pub. Co.
- 1992** A Discussion of the Concept of 'Chaîne Opératoire' in the study of stratified societies. Evidence from ethnoarchaeology and archaeology. In A. Gallay, F. Audouze and V. Roux (eds), *Ethnoarchéologie, Justification, Problèmes, Limites* (XIIe Rencontres Internationales D'Archeologie et D'Histoire D'Antibes): 181–194. Editions APDCA, Juan-les-Pins – by Vidale, M., J. M. Kenoyer, and K. K. Bhan.
- 1992** A new look at stone drills of the Indus Valley Tradition. In P. Vandiver, J. R. Druzick, G. S. Wheeler and I. Freeston (eds), *Materials Issues in Art and Archaeology, III*, 267. Materials Research Society, Pittsburgh: 495–519 – by J. M. Kenoyer and M. Vidale.
- 1992** Harappa 1989. Summary of the Fourth Season. In C. Jarrige (ed.), *South Asian Archaeology 1989*: 57–68. Prehistory Press, Madison, WI – by G. F. Dales and J. M. Kenoyer
- 1991** Urban Process in the Indus Tradition: A preliminary model from Harappa. In R. H. Meadow (ed.), *Harappa Excavations 1986–1990: A multidisciplinary approach to Third Millennium urbanism*: 29–60. Prehistory Press, Madison, WI.
- 1991** Summaries of Five Seasons of Research at Harappa (District Sahiwal, Punjab, Pakistan) 1986–1990. In R. H. Meadow (ed.), *Harappa Excavations 1986–1990: A multidisciplinary approach to Third Millennium urbanism*: 185–262. Prehistory Press, Madison WI – by Dales, G. F. and J. M. Kenoyer.
- 1989** Socio-economic structures of the Indus Civilization as reflected in specialized crafts and the question of ritual significance. In J. M. Kenoyer (ed.), *Old Problems-New Perspectives in the Archaeology of South Asia* (Wisconsin Archaeology Reports, Vol. 2): 183–192. Dept. of Anthropology, University of Wisconsin–Madison, Madison WI.
- 1987** Shell Industries of the Indus Civilization. In A. Ardeleanu-Jansen and M. Jansen (eds), *Vergessene Städte am Indus. Frühe Kulturen in Pakistan vom 8.-bis 2. Jahrtausend v. Chr*: 224–227. Mainz am Rhein, Verlagg Philipp von Zabern.
- 1985** Shell Working at Mohenjo-Daro, Pakistan. In J. Schotsmans and M. Taddei (eds), *South Asian Archaeology 1983*: 297–344. Naples, Istituto Universitario Orientale.
- 1985** South Asian Cooking. In *Festival of American Folklife Program Book 1985*: 82–86. Smithsonian Institution, Washington DC.
- 1984** Shell Industries at Mohenjo-Daro, Pakistan. In M. Jansen and G. Urban (eds), *Interim Reports, Vol 1. Reports on field work carried out at Mohenjo-Daro, Pakistan 1982-83*: 99–116. Aachen, RWTH.
- 1984** Chipped Stone Tools from Mohenjo-daro. In B. B. Lal and S. P. Gupta (eds), *Frontiers of the Indus Civilization. Sir Mortimer Wheeler commemoration volume*: 118–131. New Delhi, Books and Books.



- 1983** Report on the Excavation and Analysis of an Upper Acheulean Assemblage from Sahiwal II. In G. R. Sharma and J. D. Clark (eds), *Palaeoenvironments and Prehistory of the Middle Son Valley*: 23–38. Allahabad, Abinash – by Kenoyer, J. M. and J. N. Pal.
- 1983** Preliminary Report on Excavations at the Late Upper Palaeolithic Occupation Site of Baghor I Locality. In G. R. Sharma and J. D. Clark (eds), *Palaeoenvironments and Prehistory of the Middle Son Valley*: 117–142. Allahabad, Abinash – by Kenoyer, J. M., D. Mandal, V. D. Mishra and J. N. Pal.

Encyclopedia Contributions

- 2008** Indus Civilization. In D. Pearsall (ed.), *Encyclopedia of Archaeology*: 715–733. Elsevier, San Diego.
- 2005** Palaeolithic Age, Neolithic Age, Chalcolithic Age, Rock Art, Indus Valley Civilization, Mohenjo-daro, Harappa. In S. Wolpert et al. (eds), *Encyclopedia of Ancient India*. Scribner, New York.
- 2005** Indus Valley Civilization and eight different site entries. In *Enciclopedia Italiana*. Rome, Treccani. (in Italian)
- 2005** Indus Civilization, Ravi culture, Late Harappan culture, and site entries. In *Grolier Multimedia Encyclopedia*. Grolier, Danbury CT.
- 2003** The Indus Civilization, Beads of the Indus Valley and catalogue entries. In J. Aruz and R. Wallenfels (eds), *Art of the First Cities. The Third Millennium B.C. from the Mediterranean to the Indus*: 377–406. The Metropolitan Museum of Art, New York and Yale University Press, New Haven.
- 2003** Beads. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 54–55. Routledge, New York.
- 2003** Faience. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 187. Routledge, New York.
- 2003** Bangles. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 51–52. Routledge, New York.
- 2003** Glass. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 251–252. Routledge, New York.
- 2003** Jewelry and Ornament. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 308–309. Routledge, New York.
- 2003** Material Culture. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 391–393. Routledge, New York.
- 2003** Metal and Metalworking. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 398–402. Routledge, New York.
- 2003** Pottery. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 481–483. Routledge, New York.
- 2003** Tiles and Tile making, Terracotta. In M. A. Mills, P. J. Claus and S. Diamond (eds), *South Asian Folklore: An Encyclopedia. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka*: 606–607. Routledge, New York.
- 2002** Mature Indus. In P. N. Peregrine and M. Ember (eds), *South and Southwest Asia* (Encyclopedia of Prehistory, Vol. 8): 271–283. New York, Kluwer Academic/Plenum Publishers.
- 2002** Early Indus. In P. N. Peregrine and M. Ember (eds), *South and Southwest Asia* (Encyclopedia of Prehistory, Vol. 8): 116–121. New York, Kluwer Academic/Plenum Publishers.
- 2002** Indus Neolithic. In P. N. Peregrine and M. Ember (eds), *South and Southwest Asia* (Encyclopedia of Prehistory, Vol. 8): 151–155. New York, Kluwer Academic/Plenum Publishers.
- 2001** Harappa. In *Encyclopedia Britannica*. Chicago, Encyclopedia Britannica.
- 2001** Mohenjodaro. In *Encyclopedia Britannica*. Chicago, Encyclopedia Britannica.
- 1991** Indus Valley Civilization. In *World Book Encyclopedia*, Vol. 10 (1): 241–242. Chicago, World Book.

Book Reviews

- 2012** Review of ‘Temples of the Indus: Studies in the Hindu Architecture of Ancient Pakistan’ (Brill, 2010). *Himalaya. The Journal for the Association of Nepal and Himalayan Studies* 32(1-2): 11–12.
- 2011** Review of ‘The Ancient Indus: Urbanism, Economy, and Society’, by Rita P. Wright. *Journal of Anthropological Research* 67(3): 484–486.
- 2006** Review of ‘Les Parures de Mehrgarh: Perles et Pendants du Néolithique Pré-céramique à la Période Pré-Indus: Fouilles 1974-1985’, by B. Barthélemy de Saizieu (Editions Recherche sur les Civilisations, ADFP Association, Paris, 2003). *Paléorient* 32(1): 159–160.
- 2005** Review of ‘Agriculture and Pastoralism in the Late Bronze and Iron Age, North West Frontier Province, Pakistan’, by Ruth Young (BAR International Series 1124. Bradford Monographs in the Archaeology of Southern Asia, No. 1, 2003). *Asian Perspectives* 45(1): 115–118.
- 2003** Review of ‘The Indus Civilization. A Contemporary Perspective’, by G. L. Possehl, (Walnut Creek, CA, Alta Mira Press 2002). *Journal of Asian Studies* 62(2): 1289–1291.
- 2003** Review of ‘Indian Archaeology in Retrospect. Archaeology and Historiography: History, Theory and Method’, S. Settar and R. Korisettar, eds



- (Manohar/ICHR, New Delhi, 2002). *Asian Perspectives* 42(2): 401–404.
- 2003** Review of 'A Peaceful Realm. The rise and fall of the Indus Civilization', by J. R. MacIntosh (Westview Press, Boulder, 2002). *Asian Perspectives* 42(2): 376–380.
- 2003** Review of 'Beyond the Gorges of the Indus. Archaeology before Excavation', by K. Jettmar (Karachi, Oxford University Press, 2002). *Journal of Asian Studies* 62(2): 663–665.
- 2001** Review of 'Indian Beads. A Cultural and Technological Perspective', by S. B. Deo (Deccan College, Pune). *Journal of the Society for Bead Researchers* 12-13: 77–79.
- 1997** Review of 'Indus Age. The Writing System', by G. L. Possehl (University of Pennsylvania Press, Philadelphia, 1996). *Journal of Asian Studies*: 1139–40.
- 1997** Review of 'Irrigation and State Formation in Hunza. The Anthropology of a Hydraulic Kingdom', by H. Sidky (University Press of America, Inc. Lanham, MD, 1996). *American Anthropologist* 99(2): 34–35.
- 1997** Review of 'Fields of Victory. Vijayanagara and the Course of Intensification', by K. D. Morrison (University of California – Berkeley, 1996). *American Antiquity* 62(3): 564–565.
- 1997** Review of 'Man-Land Relationships during Palaeolithic Times in the Kaladgi Basin, Karnataka', by R. S. Pappu and S. G. Deo (Deccan College, Pune 1994). *Geoarchaeology* 12(3): 89–90.
- 1996** Review of 'Deciphering the Indus Script', by A. Parpola (Cambridge University Press, Cambridge, 1990). *American Anthropologist* 98(1): 24–25.
- 1992** Review of 'The presentations in Section 1: Archaeology. South Asian Archaeology, 1991, Berlin'. *Bulletin for the Asia Institute* 5.
- 1992** Review of 'Harappan Civilization and Oriyo Timbo', by P. C. Rissman and Y. M. Chitalwala (New Delhi, Oxford and IBH Publishing and American Institute of Indian Studies, 1990). *The Journal of Asian Studies* 51(2): 438–39.
- 1992** Review of 'H. Heras: Indological Studies', B. Anderson and J. Correia-Afonso, eds (New Delhi, Promilla and Co. and Bombay, Heras Institute of Indian History and Culture, 1990). *The Journal of Asian Studies* 51(2): 407–8.
- 1990** Review of 'The Archaeology of Mainland Southeast Asia: from 10,000 B.C. to the fall of Angkor', by Charles Higham (Cambridge University Press, 1989). *Journal of Asian and African Studies* 26 (3-4): 324–325.
- 1988** Review of 'Studies in the Archaeology of India and Pakistan', J. Jacobson, ed. *Antiquity* 62(236): 618–620.

