Corpus of Indus Seals and Inscriptions

1. Collections in India
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edited by

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with the assistance of

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Preface

We are happy to be able to publish the present volume which contains nearly 3900 photographs of 1537 Indus seals and inscriptions belonging to collections in India. About one fourth of these objects are illustrated for the first time here.

This is number one of the three volumes planned, for the time being, to complete the photographic Corpus of Indus Seals and Inscriptions. The purpose of the Corpus is to provide a basic tool for the research of the little understood script, language and religion of the Indus Civilization and for the study of the administrative organization and external cultural contacts of the Harappans. The Corpus will contain the literary and sphylogistic remains of one of the earliest cultures of mankind, a forgotten urban civilization that has had a profound impact on the subsequent traditions of South Asia up to the present day.

The publication of such a work in international collaboration was first proposed by one of us to the 29th International Congress of Orientalists meeting in Paris in 1973. The proposal was accepted in a unanimous resolution. After the Archaeological Survey of India (ASI) and the Department of Archaeology and Museums, Government of Pakistan, had agreed to collaborate with the University of Helsinki in bringing out the Corpus, after the Finnish Academy of Sciences and Letters had agreed to publish it in its Annales, and after distinguished experts from many countries had supported the scheme, an application for financial assistance was submitted to the International Union of Philosophy and Human Studies (CIPSH) through the International Union of Oriental and Asian Studies. The General Assembly of UNESCO meeting at Nairobi in 1976 agreed to support the Corpus as a scholarly project of a confirmed international character and of major importance.

With the financial assistance of UNESCO, granted through the CIPSH in 1978-80, it was possible to start preparing new photographs of the Indus seals and inscriptions for the Corpus and to reproduce old ones. In India, the work was co-ordinated by the Director General of the ASI, Shri B.K. Thapar. The photographers of the ASI, however, had many other duties, and the progress was slower than had been anticipated. In spite of the best efforts, only about 500 objects, approximately one third of the relevant material, were photographed by 1980. The actual number of photographs taken was much larger, however, because each side of every object was to be photographed. An impression of most of the objects was taken in plasticine, also. After the retirement of Shri B.K.
Thapar, the photography was stopped for a while, but after further negotiations with the Ministry of Education and Social Welfare, Government of India, carried out with the kind assistance of the Embassy of Finland in New Delhi, the photography was taken up again in 1982 by the ASI under the supervision of Dr Debala Mitra, the new Director General. This additional photography covered, again, about one third of the objects and also included most of the relevant material in the National Museum of India; the expenses for it were defrayed by the Finnish Ministry of Education.

In 1983, the late Prime Minister of India, Mrs Indira Gandhi, paid an official visit to Finland, and an agreement of cultural exchange was signed between the two countries. In order to expedite the publication of the Corpus, Dr Asko Parpola suggested that this project be included in the cultural exchange programme for the years 1984-1986. This met with the approval of the Finnish Ministry of Education, and the Government of India deputed an official delegation to plan Indo-Finnish collaboration in archaeology with the Corpus project as its main concern. The delegation, consisting of Prof. B.B. Lal, former Director General of the ASI, Dr M.S. Nagaraja Rao, the then Director General of the ASI, and Dr K.V. Ramesh, Director of Epigraphy, ASI, visited Finland in June 1984, and a mutual understanding was reached.

Since a choice between two sets of photographs was sure to guarantee a higher and more even quality to the publication than a single set, it was agreed to enlist the services of an expert photographer for photographing the seals and other material anew. The Finnish Ministry of Education made travel grants and a publication subsidy available in 1984-1986. During this same three-year period, the University of Helsinki, for the first time after a very long interval, had substantial research funds of its own, and the project was granted money to employ two photographers and one half-day research assistant as well as for purchasing equipment. The Chancellor of the University of Helsinki also helped with travel grants. The Research Council for the Humanities at the Academy of Finland, which had supported the Corpus project from its initiation until 1981 by allowing Dr Parpola to work on it while employed as its Research Fellow, took over the main financial responsibility for the project from the beginning of the year 1987.

This financial support has made it possible to carry out the work with dispatch. The project could enlist the services of Ms Erja Lahdenperä and Mr Jyrki Lytytikkä, two young photographers, as well as of Mrs Virpi Hämeen-Anttila. In 1984-85, with the kind assistance of the ASI, the Museums involved, and the Embassy of Finland in New Delhi, Ms Lahdenperä photographed 1378 Indus seals and inscriptions available in India. She also reproduced the old photographs of the Indus seals and inscriptions in the Sind and Punjab series of the ASI's photo archive. The double set of negatives taken is now deposited in the archives of the ASI and the Department of Asian and African Studies, University of Helsinki. In addition to publishing the present volume, one purpose of the Indo-Finnish collaboration in archaeology has been to establish in India and in Finland a comprehensive photo archive, which will enable researchers to get good prints of individual objects.

After her return, Ms Lahdenperä made enlarged prints of the Indus seals and inscriptions and their impressions from the new negatives which she had taken of them. Mr Jyrki Lytytikkä printed the photos of the old Sind and Punjab volumes and also did a good deal of supplementary printing from Ms Lahdenperä's new negatives. The major part of the old photographs of the ASI's photo archive had been identified in 1975 by Dr Parpola, but a lot remained to be done, including the identification and sorting of the new photos as well. This was done carefully and efficiently by Mrs Hämeen-Anttila.
Within the cultural exchange programme, the ASI sent Dr K.V. Ramesh to work on the project for three weeks in November-December 1986. The outlines of the preface and introduction subsequently drafted by Dr Parpola and the principles of selecting the photographs were then agreed upon. During the spring and summer of 1987, the photographs were selected, arranged and prepared for the press by Asko Parpola with the assistance of Virpi Hämén-Antilla. Mrs Hämén-Antilla also skilfully carried out the layout of the photographs; drew the map planned by Dr Parpola and the symbols in Table 1 and in the page captions; and substantially helped Dr Parpola in the preparation of the list of basic data for the objects illustrated. Shri Jagat Pati Joshi, Additional Director General of the ASI, was nominated by the Government of India as the co-editor for editing the work of the Corpus in the light of the fund of information available in India on the subject.

Because all existing material was not accessible when the photography was done by the photographers of the ASI in 1978-83 and by Erja Lahdenperä in 1984-85, Ms Lahdenperä left for supplementary photography in India in March 1987. She was also to carry out colour documentation and to photograph better impressions of some seals. This tour had not yet been fully completed when the volume went to the press in order to meet the publication schedule necessitated by the financial arrangements. Whatever was received prior to the end of August 1987 could be included in this volume. The remainder will be included in the addenda part of the third volume of the Corpus. In any case, it would not have been worthwhile to postpone the publication of this already bulky volume for the sake of a few missing items, since the Corpus will never be complete in the absolute sense of the term: new objects keep turning up, and we trust that eventually further volumes of the Corpus will be published.

We beg the reader’s indulgence for some flaws caused by the tight schedule. As the printing had to be commenced long before the book emerged in its final form and a few mistakes passed unnoticed until a late stage, these errors and their consequences could not be eliminated fully. They are catalogued and explained in the Corrigenda section.

The introduction, it should be noted, pretends to be nothing but an introduction. Its aim is to place the objects illustrated in their historical context, to hint at the various aspects involved in their study, with select references to the existing literature, and to explain the principles and conventions of their publication in the Corpus.

* * * *

The publication of this volume would not have been possible without the generous help, support and collaboration of the Governments of India and Finland and of many persons and institutions to whom we extend our cordial thanks.

The late Professor Jean Filliozat of the Collège de France, Vice-President of the Congress, took personal interest in passing the resolution in favour of the Corpus at the 29th International Congress of Orientalists.

Among the experts recommending the project to UNESCO were Dr F.R. Allchin, of the Faculty of Oriental Studies, University of Cambridge; Dr K.A. Bhattacharyya, then Director, Indian Museum, Calcutta; Dr Jean-Marie Casal, the late Director of the Mission Archéologique de l’Indus, Musée Guimet, Paris; Dr Raoul Curiel, then Curator of the Cabinet des Médailles, Bibliothèque
National, Paris; Prof. George F. Dales, Jr, of the Dept. of South and South East Asian Studies, University of California at Berkeley; Prof. A.H. Dani, then Dean of the Faculty of Social Sciences, University of Islamabad; Prof. Walter A. Fairservis, Jr, then of the American Museum of Natural History, New York; Prof. B.B. Lal, then of Jiwaji University, Gwalior, and formerly Director General of the ASI; the late Prof. J.E. van Lohuizen - de Leeuw, of the Institute of South Asian Archaeology, University of Amsterdam; Dr R. Nagaswamy, Director of the Tamilnadu State Department of Archaeology, Madras; Dr S.T. Satyamurti, then Director of the Government Museum, Madras; Dr C. Sivaramamurti, the late Director of the National Museum of India, New Delhi; Dr Odette Viennot, Paris; and the late Professor Sir Mortimer Wheeler, The British Academy.

Prof. Yrjö Blomstedt, the editor of the *Annales Academiae Scientiarum Fennicae* and Dean of the Faculty of Humanities, University of Helsinki, has been an indispensable and ever obliging supporter of the project from the very beginning. We cordially thank the Finnish Academy of Sciences and Letters and its office holders, especially Prof. Blomstedt and Prof. Lauri Honko, for kindly accepting the Corpus for publication and for procuring the major part of the very considerable printing expenses.

Prof. Louis Bazin, Secretary General, International Association of Oriental and Asian Studies, and Prof. Jean d’Ormesson, Secretary General, International Council for Philosophy and Humanistic Studies, were most helpful in securing UNESCO support and in administering the grant. We are much obliged also to Prof. R.N. Dandekar of the Bhandarkar Oriental Research Institute, Pune, the President of the International Union of Oriental and Asian Studies, for his personal interest and kind help.

Through the good offices and kind help and collaboration of Shri B. K. Thapar, then Additional Director General, the project had the full support of the ASI from the beginning. Since the project was actively initiated, it has been graciously coordinated by the successive Directors General, Shri B.K. Thapar (1978-80), Dr Debala Mitra (1981-83), Dr M.S. Nagaraja Rao (1984-86), and Shri R. C. Tripathi (1987).

Among the officers of the ASI who kindly made accessible the materials and rendered valuable assistance, we especially thank Shri M.C. Joshi, Joint Director General; Dr K.V. Ramesh, Director, Epigraphy; Dr K.D. Banerjee, Course Director; Shri B.M. Pande, Deputy Director, Institute of Archaeology; Shri R.S. Bishu, Superintending Archaeologist; Shri S.A. Sali, Superintending Archaeologist (ret.); Shri R.P. Sharma, Assistant Director, Institute of Archaeology; Kum. Madhu Bala, Deputy Superintending Archaeologist, Kalibangan Excavation Report Section, Purana Qila; and Kum. Purna Iyer, Assistant Superintending Archaeologist (ret.), and Kum. A. Banerjee, Assistant Superintending Archaeologist in the Central Antiquities Collection, Purana Qila. Photographers of the ASI who have worked for the project include Shri Sovan Chatterjee, Shri R.S. Rana, Shri R.K. Sehgal and Shri Rajbir Singh. The modellers Sarvashri G. Sudarshanam, Shri Kapil Deo and Shri D. K. Malik are responsible for making the seal impressions.

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We thank Shri P.V. Narasimha Rao, Minister, and Smt. Krishna Sahi, Minister of State; and also former Minister, Smt. Sheila Kaul; Shri K.P. Singh Deo, Smt. Sushila Rohtagi, former Ministers of State; and Shri P.K. Thungon, former Deputy Minister of State; Smt. Serla Grewal, former Secretary (now Secretary to the Prime Minister); Dr Kapila Vatsayan, former Additional Secretary (presently Secretary, Indira Gandhi Centre for Art and Culture) in the Ministry of Human Resource Development (formerly designated as the Ministry of Education, Culture and Social Welfare), Government of India; Shri Y.S. Das, former Secretary; and Shri M. Varadarajan, Secretary, Culture; and Shri I.U. Ramachandani, Secretary (ret.), the Indian National Commission for Cooperation with UNESCO. Shri P.A. Nazareth, former Director of the Indian Council of Cultural Relations, Ministry of External Affairs, the Government of India, has also helped the project.

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The generous financial support of the Finnish Ministry of Education has been indispensable to the project. Our very special thanks go to the Director of International Affairs, Mr Kalervo Silikala, and to Counsellor Ritva Kaipio, both of whom have taken a great personal interest in the publication of the Corpus.

Our grateful thanks for its generous support and encouragement go also to the University of Helsinki. The Chancellor, Prof. Nils Oker-Blom, the Rector, Academician Olli Lehto, and the Dean of the Faculty of Humanities, Prof. Yrjö Blomstedt, have done everything in their power to further the project. We would also like to mention especially Mr Matti Malmberg and Ms Marja Nikkarinen of the University administration, Prof. Heikki Palva, Prof. Simo Parpola and Mr Harry Halen, Lic.Ph., of the Department of Asian and African Studies, and Mr Mauri Laakso and the other staff of the Department of Photography for all possible assistance. Prof. Rauno Ruuhijärvi has kindly allowed the Corpus project to use the photo laboratory of the Department of Botany for years.

At an early stage of the project, Mr Lauri Pohjakallio, M.A., of Kuopio Museum, kindly
helped in planning the photography. Dr Ingo Pini, Editor, Corpus of Minoan and Mycenaean Seals, Marburg, FRG, and Dr Poul Kjaerum, Moesgård Museum, Århus, editor of the Dilmun seals found at Failaka, have given valuable advice, especially on the technique of taking impressions. Dr Paul Yule, formerly of Kommission für Allgemeine und Vergleichende Archäologie des Deutschen Archäologischen Instituts, Bonn, and now in charge of the Corpus of Prehistoric Asian Metal Finds, has kindly supplied us with photos and information of copper and bronze objects. Dr Michael Jansen and Mrs Alexandra Ardeleanu-Jansen, of the Forschungsprojekt Mohenjo-daro, Lehrstuhl für Baugeschichte und Denkmalspflege, Rheinisch-Westfälische Technische Hochschule, Aachen, have given us access to the unpublished original archaeological field books of the excavators of Mohenjo-daro discovered by them in Pakistan. Mrs Ute Franke-Vogt, Institut für Vorderasiatische Altertumskunde, Freie Universität, Berlin, who is working on these records, has sent us copies of her unpublished lists and informed us about the results of her visits to various Indian museums.

The devoted and skilful assistance of Ms Erja Lahdenperä and Mrs Virpi Hämeen-Anttila, as well as of Mr Jyrki Lyytikäi in the last stages, has been indispensable.

We thank Ms Virginia Johnson, B.A., for kindly checking our English.

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Last but not least, our profound thanks go to the Academy of Finland for taking over the financial responsibility of the project at a crucial stage. It is hoped that this essential support will continue until the project is completed.

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We trust that the time, labour and money invested in the publication will have been worthwhile. The volume will surely encourage enlightened research on the difficult but fascinating problems of the Indus Civilization. We would like to end this preface by appealing to private persons as well as to institutions owning collections of Indus seals and inscriptions - anywhere in the world - to write to Prof. Asko Parpola, Department of Asian and African Studies, University of Helsinki, Finland, or to Shri Jagat Pati Joshi, Additional Director General, Archaeological Survey of India, New Delhi, India. Photographs of objects (all sides with data on measurements) sent to the editors can be included in the proposed third volume of this Corpus and thereby be made available to research. Purely private communications from knowledgeable quarters will also be greatly appreciated.

Helsinki and New Delhi, July and August 1987

ASKO PARPOLA

JAGAT PATI JOSHI
Introduction

1. The Indus seals and the discovery of the Indus Civilization

The Indus Civilization ranks among the most ancient urban cultures of mankind. It covered an appreciably larger area than either the Early Dynastic Egypt or Sumer. Like the other Old World civilizations, the Indus Civilization seems to have grown from the skillful utilization of the fertile river valleys. Its distinctive characteristics - the gridiron layout of the cities, their elaborate drainage, and the puzzling pictographic script - are still best known from the excavations of Harappa and Mohenjo-daro.1

Three distinctive seals - representing the object type that has remained most characteristic of the Indus civilization - were found at Harappa in the Punjab and published in 1875, 1886 and 1912.2 But the full implication of these finds was not realized before excavations were started in 1920 at Harappa, and, by chance almost simultaneously, in 1922, at Mohenjo-daro in Sind, some 600 km south in the Indus valley. More seals of the same type were immediately found at both of these sites, and it became evident that an entirely unknown bronze-age civilization had come to light.3 This led to large-scale excavations at Mohenjo-daro and Harappa,4 followed by much more limited digs at Chanhu-daro further south in Sind.5 The bulk of the Indus (or Harappan) seals and inscriptions available to research comes from these excavations in the 1920's and 1930's.

In the partition of British India in 1947, all the major sites of the Indus civilization known at that time became part of Pakistan. During the last four decades, due to constant efforts of the Indian archaeologists, more than 862 Early Harappan, Harappan and Late Harappan sites have been

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3 For a comprehensive history of Harappan studies, see Michael Jansen, Die Indus-Zivilisation: Entdeckung einer frühen Hochkultur, Köln 1986.


5 Ernest Mackay, Chanhu-daro Excavations 1935-36, American Oriental Series 20, New Haven 1943. Mackay's excavations were a follow-up of the pioneering explorations of N.G. Majumdar. The Indus seals and inscriptions from Amri, Jhukar and Lohumjo-daro included in this volume were discovered by Majumdar and reported by him in the Annual Report of the Archaeological Survey of India for 1927-28 (1931), 76-83 & pl. XXVII-XXX (Excavations at Jhukar) and in his Explorations in Sind, Memoirs of the Archaeological Survey of India 48, Delhi 1934. The seals from Mehı and Shahi-tump were discovered by another famous early explorer, Sir Aurel Stein; see his report, An Archaeological Tour in Gedrosia, Memoirs of the Archaeological Survey of India 43, Calcutta 1931.
discovered in the Indian Union. In India the area of distribution of Harappan settlements runs broadly from Manda in Jammu (Jammu & Kashmir) in the north to Daimabad in Maharashtra in the south, and from Desalpur, District Kutch, Gujarat, in the west to Hulas in district Shaharanpur, U.P., in the east. Among the newly extensively excavated sites in India are Kalibangan, Lothal, Surkotada, Daimabad and Banawali. These important excavations have thrown fresh light on the cultural style of the Indus civilization and have produced the greatest number of seals and inscriptions in India. The recently started marine archaeology along the coast of Gujarat has already produced exciting results at Bet Dwaraka.

2. The Indus seals and the external contacts of the Indus Civilization

Immediately after the first news about the discovery of the Indus Civilization was published in 1924, it became apparent that the Harappans had been in contact with the ancient cultures of West Asia. Evidence for this was Indus seals coming from Susa, Ur, and other Mesopotamian sites;


8 See *The Statesman*, Delhi, April 17, 1985.

among these were both square stamp seals of a purely native Harappan type and seals combining Harappan and local elements such as the cylinder form.\textsuperscript{10}

Later, a few round Indus seals (a type rarely found in the Indus valley) were discovered along with a large number of local round stamp seals\textsuperscript{11} on the islands of Failaka and Bahrain in the Gulf, where excavations since the 1950's have revealed a flourishing "Dilmun Civilization".\textsuperscript{12} Furthermore when one purely "Dilmun-type" seal (L-123) was found at Lothal,\textsuperscript{13} much attention was paid to cuneiform sources dealing with the early maritime trade of Mesopotamia. Three foreign countries are referred to as participants of the sea trade: Dilmun (closest to Mesopotamia), Magan and (farthest away) Meluhha. Magan is now widely identified with Oman and the opposite coast of Makran, and Meluhha with the Harappan realm. Some tablets refer to a village of Meluhhans residing near Lagash for generations.\textsuperscript{14}

The gradual evolution of the Indus Civilization from the earlier neolithic cultures of the Indo-Iranian borderlands and the relationship of these cultures with those of the ancient Near East and particularly with the cultures of the Iranian plateau and Turkmenia have started being properly understood only during the past decade or so. The French excavations at Pirak (1968-74)\textsuperscript{15} and at Mehrgarh, Sibri and Nausharo (1974-87) have been really revolutionary in providing an unbroken stratigraphic sequence from the early 7th millennium to the middle of the 1st millennium B.C. in the Kachi plain, which leads from the Indus valley to the highlands of Baluchistan.\textsuperscript{16}


\textsuperscript{13} Cf. S.R. Rao, A 'Persian Gulf' Seal from Lothal, \textit{Antiquity} 37, 1963, 96-99 & pl. IX-XI. Some further Dilmun seals are reported from the submerged city of Bet-Dwaraka off the Kathiawar coast (cf. \textit{The Seafarer}, Delhi, April 17, 1985), but they are yet to be published.


excavations at Shahr-i Sokhta in Seistan, 17 the American excavations at Tepe Yahya in Southeastern Iran, 18 and the Soviet excavations in Central Asia 19 are just some of the other crucial archaeological research projects of recent times which have created a veritable explosion of knowledge. The emerging new picture stresses the leading role played by the Proto-Elamites in the increasing cultural interaction in the Iranian plateau during the first half of the third millennium B.C. 20

Another revelation is the expansion of the Bronze Age Civilization of Northeast Iran during the second half of the third millennium from the Gorgan plain (Tepe Hissar III and related sites) to Southern Turkmenia (Namazga V and related sites), to Seistan (Shahdad), to ancient Bactria (Dashly and Sapalli in Northern Afghanistan), to Baluchistan and to the Indus valley. 21 The current excavations of Sibri and Nausharo near Mehrgarh have proved that intrusive NE Iranians became a dominant element in the lower Indus valley around 2000 B.C., and that their merging with the Indus Civilization started the Late Harappan period. 22 This immigration is reflected in the seals of the Jhukar period at Chanhu-daro in Sind (C-41 to 50, especially C-49 and C-50) and at Shahi-Tump (Sht-1) and Mehi (Mchi-1) in Baluchistan. Distant interaction between the NE Iranian and Indus Civilizations is evidenced earlier during the Mature Harappan period. While two Harappan seals have been unearthed at Altin Tepe in southern Turkmenia, 23 one clearly NE Iranian type stepped seal comes from Harappa (see H-166). 24 The plain (Baluchistan, Pakistan) at the beginning of the second millennium B.C., in: J. Schotsmans and M. Taddei (eds.), South Asian Archaeology 1983, Naples 1985. Vol. 1, 35-68; etc.

23 See V.M. Masson, Seals of a Proto-Indian Type from Altyne-depe, in: Kohl (ed.) 1981 (see fn. 19), 149-162, with
few cylinder seals found at the Indus sites have so far been thought to indicate connections with Mesopotamia, where this seal type is most characteristic. However, we now know that the NE Iranian civilization, too, used cylinder seals (which there, of course, ultimately go back to Mesopotamian inspiration); indeed, one cylinder seal from Mohenjo-daro (M-419) resembles more closely the NE Iranian type cylinders in having an engraved motif at the round ends, too. It seems that the cylinder seals of Daimabad (Drd-4) and Maski (Msk-1) continue the NE Iranian tradition.

Thus the seals have played a leading role in the discovery of the Indus Civilization and its external relations. They continue to be centrally important in the archaeological study of the bronze age, not least as chronological indicators.

3. The function and iconography of the Indus seals and tablets

Preserved ancient seal impressions prove that the Indus seals have served as instruments of control in administration and trade, as in ancient West Asia. Some seal impressions have been made, undoubtedly by the potter, on wet clay pots before firing (cf., e.g., M-420 to 424). Other impressions have survived on clay tags, once attached to bales of goods whose integrity they thus guaranteed. The most important collection of such labels comes from the burnt warehouse of Lothal (L-124 ff.). The study of the seals and seal impressions in combination with their archaeological contexts and details of style and manufacture can significantly contribute to the understanding of the economic and administrative aspects of an ancient civilization.

The quality of the seal increases with its size, and the largest and most expensive seals must have belonged to important persons or institutions. Since the seals were probably worn in a visible

Kohler's note ibid., xix.

24 The unique T-shaped seal H-165 may also be of NE Iranian origin.
26 The dating of the Indus civilization continues to be a controversial issue. Based on the Near Eastern contacts evidenced by the Indus seals and by cuneiform references to sea-borne contacts with the far-off country of Meluhha since the times of Sargon the Great (c. 2350 B.C.), as well as radiocarbon dates, the time bracket for the mature urban phase is conventionally placed between 2550/2300 and 2000/1700 B.C. Cf. Bridget and Raymond Allchin, The rise of civilization in India and Pakistan, Cambridge 1982; D.P. Agrawal, The archaeology of India, Scandinavian Institute of Asian Studies Monograph Series 46, London 1982.
fashion by their owners, as is suggested by the cord holes, they are likely to have secondarily functioned as indicators of the wearers' rank, seen at a distance by the size of the seal.30

Some of the seals, such as M-319, are carved hollow and provided with a lid so that something - most probably a magic charm - could be kept inside. This has generally been taken to support the old hypothesis that the seals, besides their primary function as administrative instruments, also served as protective amulets. In addition to the script, the majority of the Indus seals contain iconographic motifs, whose clearly religious nature has suggested an amuletic function. The pictorial motifs not only rank among the very best preserved examples of Harappan artistic expressions but also provide some of the most important clues to the Harappan religion and to the accompanying inscriptions.

In addition to being found on the seals, iconographic motifs are found in particular on "tablets". An important general characteristic of this category of objects is that they comprise many identical duplicates. The incised "miniature tablets" from the lower levels of Harappa are the earliest known examples of the fully developed Indus script.31 Later, incised tablets give way to embossed ones, often massproduced in moulds. Sometimes great numbers of similar tablets (especially H-252 ff.) have been found together, or their find places are very close to each other. This has suggested that most of the tablets, both the embossed and the engraved ones, may have functioned as tokens of votive offerings or of visits to temples.32

The inscriptions of the tablets point to such a conclusion, too. Many of the tablets have on one side a U-shaped sign which looks like a pot drawn in profile; it is preceded by zero to four vertical strokes that clearly stand for numbers. In M-494 A and M-495 A, there is a sequence of three U-shaped signs in succession: this may be another way to write the sequence 3+U occurring on numerous tablets and apparently meaning "three pots". Sometimes the U-shaped sign on the reverse of tablets is held in the hand of a kneeling or standing man-sign (cf. H-247 A). In the moulded tablets M-478 and M-479, the sign combination of 4+U stands next to an iconographic scene where a kneeling worshipper extends a pot shaped like the U-formed sign towards a tree. Apparently the tree is sacred, and the man is presenting the pot (or according to the inscription, four pots) to it as an offering.33

The engraved copper tablets of Mohenjo-daro form an unusual class of inscribed objects, in that their inscriptions and iconographic motifs are clearly interrelated; this is not so obvious in other classes of Indus inscriptions, although cases like the above cited tablets M-478 and M-479 may occasionally be found.34

34 For an analysis of the copper tablets, see Asko Parpola, *Tasks, methods and results in the study of the Indus script*, *Journal of the Royal Asiatic Society* 1975:2. 196ff. with fig. 12, and Paul Yule, *Figuren, Schmuckformen und
The interpretation of the iconography of the Indus seals and tablets constitutes a major scholarly challenge. Various comparisons have been made with the ancient West Asian glyptics as well as with the later art of classical India.\textsuperscript{35} Although it is impossible to go into detail here, one further example may be briefly mentioned because of its intrinsic interest and also in order to point out that these two kinds of comparisons need not be mutually exclusive. Sir John Marshall’s identification of a "Proto-Siva" in the buffalo-horned deity of a famous seal from Mohenjo-daro (M-304)\textsuperscript{36} may well be correct, and so may be Alf Hiltebeitel’s even more convincing identification of this figure as "Proto-Mahisha"\textsuperscript{37}, although this deity and his "yogic posture" have close counterparts in the earlier glyptic art of the Proto-Elamites.\textsuperscript{38} Comparative studies thus suggest that the Indus Civilization may have been an integral if marginal part of the West Asian cultural area and that there is an unbroken cultural continuity in South Asia from the Harappan times until the present day.

4. The enigma of the Indus script

From the very beginning, the pictographic Indus script has been the most tantalizing one among the many problems presented by the Harappan culture. Slightly more than 3500 short inscriptions hold an answer to the most debated question concerning this early urban culture, that concerning its language. Many attempts at deciphering this unknown writing system have been made ever since the first specimen was published in 1875, and all sorts of ‘solutions’ have been proposed.

The Indus script has been considered as genetically connected with the Brahmi script of early historical India.\textsuperscript{39} Other hypotheses have connected the Indus script with the scripts of the ancient

\textsuperscript{35} Töfelchen der Harappa-Kultur, Prähistorische Bronzelfunde I, 6, München 1985.
\textsuperscript{39} See the last but one paper cited in fn. 35.
Sumerians, Proto-Elamites, Egyptians, Hittites and Chinese and even with Etruscan pot-marks and with script-like carvings on wooden tablets found in the Easter Island, in the middle of the Pacific Ocean. The language underlying the Indus script has been supposed to be Sumerian, Proto-Dravidian, Proto-Indo-European, Proto-Indo-Iranian, Sanskrit, Prakrit, and so on.40

But no unanimity has been reached even on the basic issues, and most literature on the Indus script requires a lot of sifting in order to pick up useful ideas. The main reason for this unfortunate state of affairs is the fact that all keys that opened other unknown scripts are unavailable here. There are no bin- or multilingual inscriptions giving the same text in both Indus script and some readable characters. There are no understood historical texts which could tell the names of the Harappan gods, kings or cities, or which would quote samples of the language spoken by the Indus people. Even the type of the writing system represented by the Indus script is debated. Moreover, all the texts are short and limited in nature: the average length is five signs, and the longest texts, two identical three-sided tablets (M-494 and M-495), contain 26 signs each. The longest inscription on any single side of an object is found on a seal (M-314) with 17 signs divided into three lines.

But students of the Indus script must face these formidable difficulties and the pessimistic prognoses based on them. In fact, some more objective work has been done also. There has been serious discussion of the methodology, and essential research tools in the form of documentation and concordances have been created. On one point, at least, most scholars agree: the direction of writing is from right to left (but in the seal stamps, engraved in mirror image, from left to right); however, in some texts (particularly in the early tablets from Harappa) the direction of writing runs from left to right, and in a few texts alternatingly, boustrophedon.41

We cannot enter into a detailed discussion of the Indus script and its study here. For this, the reader is referred to literature published elsewhere.42 In the sequel we shall only try to justify our this view, mention may be made of S.R. Rao (The Decipherment of the Indus script, New Delhi 1982), who derives the Brahmi script as well as the Semitic alphabet from the Indus script. However, it is a well-established fact that the Brahmi script is derived from the Semitic consonantal alphabet, and this in turn from the uniconsonantal signs of the Egyptian hieroglyphic writing. Cf. e.g. Georg Bühler, Indische Palaeographie, Grundriss der Indo-Arischen Philologie und Altertumskunde I:11, Strassburg 1896, 10ff.; A.H. Dani, Indian Palaeography, Oxford 1963, 23ff.; I.L. Gelb, A study of writing, 2 ed., Chicago 1963, 147ff, 197ff. 40 For surveys of various attempts at deciphering the Indus script, see Arlene R. K. Zide, A brief survey of work to date on the Indus valley script, Papers from the 4th Regional Meeting, Chicago Linguistic Society, April 19-20, 1968, Chicago 1968, 225-237, reprinted in Journal of Tamil Studies II:1, 1970, 1-12; Jaroslav Vacek, The problem of the Indus script, Archiv Orientalni 38, 1970, 198-212; N.V. Gurov, Izuchenie protoindijskikh tekstov (kratkij obzor), in: Soobshchenie ob issledovanii protoindijskikh tekstov - Proto-Indica: 1972, Moskva 1972, 1, 5-51.
belief that the present work will constitute an indispensable tool for research in this field: the Corpus of Indus Seals and Inscriptions endeavours to collect all the primary material necessary for the study of the Indus script and to make it available in as good form as possible.

5. Earlier documentation of the Indus seals and inscriptions

The collection, edition and careful indexing of all existing material is a basic requirement in the critical and methodical study of any unknown script.

A praiseworthy early undertaking in this task was the book by G.R. Hunter published in 1934. It contained drawings of all the Indus texts excavated by February 1927 (comprising 518 texts from Mohenjo-daro and 243 texts from Harappa), with a documentation of the excavation numbers, as well as a concordance to the occurrences of each individual sign within these inscriptions. Hunter further discussed this evidence and drew certain conclusions from it. Even if one disagrees with his general findings, Hunter is to be credited for a good number of pertinent observations and for the preparation of a valuable research tool.

The official reports of the excavations at Mohenjo-daro, Harappa, Chanhujo-daro and Lothal have included photographs and very substantial and comprehensive descriptions of most of the seals and inscribed objects discovered. It must be noted, though, that the photographs of many duplicate inscriptions from Harappa (and a few from Mohenjo-daro) were omitted from the excavation reports, being replaced in the data tabulations by the short statement "similar to...". Objects in a bad state of preservation were also excluded. The reports of Mohenjo-daro and Harappa further comprise sign lists which record occurrences of the individual pictograms. The sign lists are valuable, even include a few unpublished texts, but are not always accurate and are limited to a portion of the material.


43 See above, footnotes 4, 5, 7. These reports remain essential, and the reader is referred to them also because the detailed catalogue of the material published in this volume will be published later, in the third volume of the Corpus. It is, however, useful to keep in mind that a few mistakes have crept into the excavation reports, especially that of Harappa. Thus, pictures of two-sided tablets have occasionally been mixed up, so that the two sides of a given object actually belong to two different objects. Sometimes two sides of one object have been separated from each other and given separate numbers. The tabulations are not fully reliable, either: in addition to misprints, some objects have excavation numbers which are quite different from those written on the respective objects themselves.
only.

A computer-drawn concordance to the Indus inscriptions was published in 1973 by a group of Finnish scholars. In the preparation of this work, Dr Asko Parpola visited the principal museums in Pakistan and India in 1971 in order to compare the readings based on the published photographs with the original objects. To his surprise he found more than 400 seals and inscriptions from Mohenjo-daro and Harappa that had never been published. Most of them came from the digs carried out by the custodians of the site museums after the official excavations and reported only very briefly in the Annual Reports of the ASI. (Fortunately, the unpublished fieldbooks of these as well as of the official excavations have since been discovered in Pakistan, and are in the process of being published.)

Mr Mahadevan brought out his edition and concordance of the texts in the Indus script in 1977, improving upon the Finnish concordance in several respects. Besides, Mahadevan could include more text material on the basis of the Photo Archive of the ASI, which preserves old unpublished photographs of objects since lost. On the other hand, however, Mahadevan excluded all material that Asko Parpola had discovered in the museums of Pakistan and that had been included in the Finnish concordance. Mahadevan's book further included a listing of the texts on which the concordance is based, good documentation, and several cross charts with interesting statistics of different kinds.

Dr Parpola had gone through the Photo Archive of the ASI in 1975 and identified most of its material. In collaboration with Dr Kimmo Koskenniemi, he brought out a revised edition of the Finnish concordance in three volumes in 1979-1982, since there was still scope for improving upon the reading of the inscriptions and upon Mahadevan's work. The new version was published in a preliminary limited edition as research reports, because the work on the present Corpus of Indus Seals and Inscriptions was expected to bring still further improvements upon the textual readings as well as new inscriptions. The updated version will appear in print after the publication of the three

49 Iravatham Mahadevan, The Indus script: Texts, concordance and tables. Memoirs of the Archaeological Survey of India 77, New Delhi 1977. One improvement was the general arrangement of the concordance, which took the single sign as the basis, as in Hunter's concordance, while the Finnish concordance indexed the pairwise combinations of signs and left the isolated occurrences of signs unindexed.
volumes of the Corpus, for such a standardized and indexed text edition remains a necessary complement to the photographic Corpus.

6. The purpose and scope of the Corpus

The texts in standardized editions and concordances are based upon the subjective judgements of individual scholars, and they do not display all the intricacies of the originals. Moreover, they contain numerous admittedly doubtful readings. Objective photographic documentation of the original inscriptions thus is a necessary complement to such textual studies. Photographs of the original objects are equally indispensable tools for the historians of art and religion studying the iconographic motifs and for archaeologists engaged in a comparative study of the objects. In short, there is no replacement for good photographs of all the Indus seals and inscriptions.

A major part of the material has been published in photographs in the excavation reports of Mohenjo-daro and Harappa: they illustrate altogether roughly 2500 objects. These publications have long been out of print and difficult to procure. It is true that they have been reprinted in recent years, but the quality of the photographs in the reprints is so low that they are practically unusable. The published photographs of the rest of the material, on the other hand, are scattered in a number of publications, and their mere collection involves great difficulties for persons without access to specialized libraries.

It would have been simple enough to collect and reproduce the old photographs of the earlier publications. Such a procedure, however, would have resulted in a book that would not have fully satisfied the serious student of the Indus script and iconography. The size and quality of the illustrations, even in the original reports, is not always sufficient. Moreover, the available material is documented incompletely, for, as pointed out above, there are many hundreds of unpublished objects: objects coming from excavations conducted at Mohenjo-daro and Harappa after the conclusion of the official excavations; a large number of duplicate and broken or indistinct objects, especially from Harappa; and objects from excavations and explorations carried out in India and Pakistan during the past few decades but not yet published in full.

Apart from their inscriptions and iconography, the seals form an important category of artifacts in their own right, which we have seen to have much relevance for the study of the external relations of a culture as well as of its internal processes. Therefore, in addition to all the inscriptions in the Indus script, this Corpus will contain all the Harappan seals, including those without any inscription. In the case of other object types, 'inscription' has occasionally been understood rather liberally so as to include, for example, K-119, a most interesting 'terracotta cake' from Kalibangan, though its incisions form an iconographic motif rather than an inscription.

Moreover, the concept of 'Indus seals' is to be understood in its widest meaning. In addition to the Mature Harappan period or the Indus Civilization proper, the Corpus will, with certain restrictions, cover the Early and Late Harappan periods as well and also include all the imported seals of foreign types coming from Harappan sites. Furthermore, 'Harappan' is understood to

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51 See the discussion in chapter 2. In the past, some clearly imported seals like H-166 have often been treated as Harappan; in order to prevent this from happening in the future, the word "foreign" has, space permitting, been put in the page caption of the Corpus at such seals.
include closely related cultures such as that of Kulli in Baluchistan or Prabhas Patan in Saurashtra. Thus the "Northeast Iranian" type seal coming from the Kulli site of Mehi has been included, and it would have been folly to exclude the NE Iranian type seal from Shahi-tump found in Indian collections. Although Maski is not a Harappan site, the cylinder seal found there is of great interest: obviously made in India - witness its elephant motif - it demands comparison with the cylinder seal found not so far from Maski, in Daimabad, in a Late Harappan context.

Some objects kept in the museum collections together with Indus seals or inscriptions have been purposely excluded as irrelevant. In the case of this volume, these include some Kuṣāṇa coins from Mohenjo-daro,\(^{52}\) some Harappan ear studs (?) with geometrical motifs carved on them,\(^{53}\) and some quite indistinct objects from Lothal.\(^{54}\)

The relatively few seals and clearly Harappan-type inscriptions from the Late Harappan period have been included in the Corpus, but Late Harappan graffiti have been excluded, with a few exceptions. These graffiti are short and appear to be just "pot-marks" rather than real writing. Still, they are potentially interesting to the student of the Indus script, even though not to the same extent as the Early Harappan pot-marks. The problem is their great number, coupled with the difficulties of drawing a line between Late Harappan and Post-Harappan and of finding the original potsherds. For these reasons we have decided not to reproduce the graffiti from Rangpur in this volume; these have been collected and published (only partially in photographs) by S.R. Rao.\(^{55}\) Only the most elaborate Late Harappan "inscription" from Rangpur (Rgp-2) has been reproduced in this volume along with the one original sherd that could be traced (Rgp-1). The "Late Harappan inscriptions" from Machhala Mota,\(^{56}\) the signs painted on Jorwe pottery from Daimabad\(^{57}\), and, among other things, the graffiti on red pottery from Ganeshwar\(^{58}\) have been excluded for similar reasons.

7. The documentation of the objects

Original objects and their present-day impressions

Because the texts carved in mirror image on the seals are to be read as they appear in the impression, the reports of the excavations at Mohenjo-daro and Harappa published just the

\(^{52}\) (Sd 2756, ASI 63.10.294) Two copper coins, one round, one square; one copper coin found by R.D. Banerjee (ASI 63.10.301); and one round copper coin (Y 71, ASI 63.10.418).

\(^{53}\) DK 8991 (PWM 350); DK 12204 (PWM 351); HR 225 (IM 10508, A 7978) and HR 822 (PTN Arch. 10259) from Mohenjo-daro; 336 (IM 11109, A 21202) and 3603 (IM 11101, A 22435) from Harappa; and one of uncertain provenance (PWM 352). Cf. E. Mackay, *Further Excavations at Mohenjo-daro*, Delhi 1938, Vol. I, 532f.

\(^{54}\) The objects having the exc. nos. 2839 and 3750 could be remnants or elements of seals, but this seems most uncertain, and in any case they contain no writing. The clay lumps having the exc. nos. 1837, 1856, 1890, 1984, and 5242 contain no trace of a seal impression.

\(^{55}\) S.R. Rao, Excavations at Rangpur and other explorations in Gujarat, *Ancient India* 18-19 (1962-63), 5-207, especially p. 130 and pl. XXV B - XXVIII.


\(^{57}\) See *Indian Archaeology 1974-75 - A Review*, pl. XXVI.

impressions. However, the impression may not faithfully reproduce all the features of the original, and the original always remains the ultimate authority. On the other hand, the impression is needed not only because it shows the inscription in its proper form but also because it sometimes reveals details not immediately visible by the inspection of the original. For example, it is harder to see an inscription on a rough or transparent or multicoloured surface than in an impression taken on a neutral and unweathered material (cf. M-221 and L-36). Thus the original and its impression complement each other and furthermore make a double checking possible.

As a rule, an impression of an object is always published in this Corpus when the object was originally meant to produce one, as is the case with the stamp seals. Exception is taken to this rule, however, if it was not possible to get an impression, as for example if a seal was too brittle. In addition, an impression is published whenever it clearly helps in understanding an object meant to be read directly (e.g., H-176).

The ASI has taken the responsibility for making the impressions of these unique and often fragile Harappan objects. The use of silicone rubber was considered, but in their tests the chemists of the ASI came to the conclusion that the condition of the objects does not allow this material to be used. Unfortunately the plasticine used instead is not sensitive enough, so that all details have often not been reproduced. Moreover, small crevices often form when a forceful impression is made on plasticine, with a result that is not aesthetically pleasing even if it may otherwise be adequate (cf., e.g., M-32 a & M-208 a). And in the case of large seals especially, it is difficult to obtain a good impression in which all parts of the inscription and the device are perfect. However, in the vast majority of the seals, the new impression is much better than the old one.

Since an impression was taken and photographed twice for most of the objects, there was often the possibility to choose a second if one was not good, but in numerous cases neither version was publishable. In 1987, an effort was made to obtain a good new impression of such seals. Where this could not be done, recourse was taken to old impressions made soon after the excavations, either those published in the excavation reports or, if better, those available in the Photo Archives of the ASI.

It would have been possible to replace missing or bad impressions by reversed prints of the original seals, but this procedure was strictly refrained from; it could have lead to serious misunderstandings, for some seals have a reversed direction of writing.

**Broken objects**

Old photographs have been published besides the new if they clearly complement each other and whenever they show an object in a state of preservation that is better than its present state. A broken object may have been restored afterwards, and in some cases the impression taken nowadays of the object may be quite misleading.

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59 Sometimes the photograph of a new impression was received only after the printing was started, with the result, e.g., that M-81 a bis now makes M-81 a irrelevant.

60 Cf., e.g., H-141 and especially H-129. From M-277 a, an old impression, it can be seen that one corner was originally missing from this seal. The restoration evidenced already in another early impression, M-277 a bis, seems dubious, for the inscription in the added corner does not seem to fit.
The excavation reports sometimes left one wondering whether the object depicted is complete, and if not, how much is missing. This can be checked by examining its back or sides. In the case of the regular square seals, this is often superfluous, because the estimate can be made from the front side itself, but for the rectangular seals without iconography it is indispensable to see the flank side and the position of the cord hole that is usually pierced through its centre.\(^{61}\)

The different sides of the objects and their specification

Many of the objects have two or more (up to six) sides with inscriptions, pictures or engravings of one kind or another. It is clear that all such sides had to be photographed and published. But the photography carried out for the Corpus was extended to comprise even the empty sides. This procedure made it possible to verify afterwards whether a given side of a specific object really is empty. Another reason for documenting all the sides of the objects was the need to check the excavation number (and often the museum number as well), which has usually been painted on the object.\(^{62}\)

Originally the publication of all the sides of all the objects was contemplated, but this would have been too expensive, and for most of the users of the Corpus, the sides now left out are of little interest. So only a selection of the uninscribed sides is published in the Corpus: they are shown when needed to give an idea of the shape of the object, especially if a divergent type of seal is concerned.\(^{63}\)

The different sides of the objects are indicated in the Corpus by means of capital letters, which normally have the following significance: A = the obverse (which is taken as the point of reference for the other sides) / B = the reverse / C = the upper side / D = the right side / E = the lower side / F = the left side. The principal (rectangular) sides of the three-sided prisms are numbered A, B, and C and their (triangular) ends D and F.\(^{64}\)

The corresponding lower case letter is used to refer to the impression taken of any of the sides, for instance, a = impression of A.

Different inscriptions (for instance, impressions made with separate seals) on any one side of an object have been numbered with Arabic numerals following the letter for the side, and usually the corresponding numbers have been marked beside the respective inscriptions alongside the photograph. The order is, conventionally, from left to right and from top to bottom.

If two or three different photographs of the same side are published, the code number for the second, third and fourth photograph is followed by the words *bis*, *ter* and *quater* respectively. Such photographs are usually arranged in the temporal order, from the oldest (first) to the latest (last). If

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\(^{61}\) This can sometime be tricky. For example, the seal L-84 at first sight seems to be complete even when one looks at its side edges, because the hole goes through the middle of the seal. But the remains of a second hole show that the seal has been reshaped.

\(^{62}\) In some cases the excavation number painted on the object differs from that assigned to it in the lists of the excavation reports; sometimes the difference is likely to be due to a mistake in the report; sometimes the number painted on the object has become obliterated and has been erroneously restored.

\(^{63}\) However, it was deemed unnecessary to show all the sides of some shapeless lumps (such as L-120). If side edges are shown, it is the edge with a hole going through the object that is selected.

\(^{64}\) An additional letter G is used in M-494 and M-495 which, classified as three-sided prisms, actually are four-sided.
different parts of the same side are shown in several photographs (as in the case of the cylinder seal M-418), these are given a separate Arabic numeral put within parentheses after the letter indicating the side: M-418 A (1), M-418 A (2), etc. The same is done if one picture gives a general view of a side and another an enlargement of its inscription (as in the case of the pots M-420 to M-422).

The aim of these conventions is to make each photograph and the reference to it unambiguous.

The scaling and printing of the photographs

In the excavation reports, the seals are normally depicted in their natural size, but this scale has proved to be too small for a clear recognition of all details of the inscriptions and iconographic motifs. The policy adopted in this Corpus is to print all the sides of all objects bearing either inscriptions or any kind of iconography in double size (2:1, or 200%) whenever possible, and their uninscribed sides (if illustrated at all) either in the natural size (1:1, or 100%) or in the double size (200%). All exceptions to this rule will be specifically indicated in each case. Most of the graffiti from Lothal are shown half-sized (50%) - this percentage is given in the page caption, and exceptions to it in casu.

As the great majority of the photographs is in the same scale, one will have an idea of the relative size of the different objects. This is important, because in the case of the seals, for instance, the relative size seems to convey information of its own.65

The major part of the prints was made on plastic in order to avoid the distortions due to the stretching of the wet paper. Moreover, while photographing the original objects Ms Lahdenperä measured them, and most of the prints have been enlarged by using these measurements.66 Note, however, that reproductions of (published and unpublished) old photographs especially, which were not necessarily in the correct size originally and which were mechanically enlarged in the double size, are liable to be slightly inaccurate. As the actual measures of the objects will be listed separately in the third volume and are partly available even now in the published reports, the reader will be able to check the size of the photographs.

Deep etching gives an aesthetically pleasing look to the page, but it has its drawbacks.67 For this reason it is used sparingly in the Corpus.

8. The criteria of arrangement and related conventions of the Corpus

General considerations

Theoretically, the Indus seals and inscriptions could be classified in several ways. For example, the inscriptions could be arranged according to the pictographic sequences they contain. However, this arrangement would only serve the needs of scholars interested in the script and is better left to the concordances of the script. If the concordances are keyed to the Corpus, cross-reference and verification will be easy, whatever the principles of arrangement.

65 Cf. above, at fn. 30.
66 If the enlargement is based on a scale visible in the picture, there is an element of error, for the scale is often at a different level from the surface of the object.
67 Cf., e.g., E. Mackay, Further Excavations at Mohenjo-daro, Delhi 1938, Vol. II, no. 361 with M-153 below.
Ernest Mackay, in *Further Excavations at Mohenjo-daro*, arranged the objects coming from Mohenjo-daro according to the different areas of the site and the absolute depth of the finding place from the surface.\(^68\) He wished to control the data from the point of view of archaeological distribution, looking for evolutionary and other trends. The result was chaotic: objects of different types and sizes were mixed with each other. Unless one knows the number of the object, it is impossible to locate it without scanning through the entire material. In the present Corpus, the archaeological context is taken into account in the arrangement of the objects when it is feasible and useful: thus the objects from the Late Harappan period from Lothal (graffiti only) and Chanhu-daro (seals) are presented as a separate section at the end.

The aim of the classification must be efficiency in placing and locating any given object within the whole. The type of the object, form, material, iconographic motif, size, style and state of preservation have been chosen as parameters in the Corpus, in this order. A solution of this kind, which makes a neat layout possible, was followed by Sir John Marshall in *Mohenjo-daro and the Indus Civilization* and, less successfully, by M.S. Vats in *Excavations at Harappa*.

The 1st criterion: the owners of the objects; and the overall publication plan

Ideally, of course, one would like to see all the objects coming from a single site, for example Mohenjo-daro, neatly arranged into one single sequence. There are, however, other considerations and realities, which have made it impracticable to realize this ideal. Instead, the Corpus is divided into three volumes according to the first criterion of physical location and ownership of the original objects. In this the *Corpus of Indus Seals and Inscriptions* follows the example of the *Corpus of Minoan and Mycenaean Seals*, for instance, which is divided into different volumes according to the museums in which seals are preserved. The first volume of the Corpus presents the collections housed in the museums of India, the second volume the collections in the museums of Pakistan.\(^69\)

The third volume will contain the relatively few objects known to exist in collections outside India and Pakistan and the large number of lost objects, which are not directly documentable but must be published as old photographs only. Besides addenda to the previous volumes, this third (and for the time being last) volume will also contain a detailed catalogue of all the objects of the Corpus, documenting (in addition to the excavation and museum numbers, which are given separately in the first two volumes as well) such matters as the archaeological context, measures, notes on the material, manufacture, text and iconography, and published references. Furthermore this information will be fully indexed.\(^70\)

This first volume, then, contains 1537 Indus seals and inscriptions physically existing in

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\(^68\) On Mackay’s "stratigraphy", cf. Jansen 1986 (fn. 3), 52-54.

\(^69\) We want to emphasize that the order of the volumes is due simply to the fact that the Indian material first reached the stage when publication could be begun and has no political implications. In fact, the possibility of leaving out the volume numbers altogether in order to avoid the issue was considered, but then dropped as impractical.

\(^70\) This arrangement has practical reasons. The first two volumes are bulky because of a large number of photographs, while the third volume will contain an essentially smaller number of photographs. Therefore, it has more space to accommodate both the lengthy catalogue and the indexes, which naturally should be cumulative. Even the museum indexes, which would have been handy in the first two volumes, have to be published in the third volume for these reasons.
public collections in India. We have excluded the objects stolen from the Prince of Wales Museum of Western India, Bombay, although photographs of these objects are available; they will be published as lost objects in the third volume. As far as possible, we have tried not to publish old photographs, but to procure new better ones. When originals almost certainly existing in Indian collections could not be located, however, we have resorted to reproductions. If better pictures of such objects are obtained later, they will be published in the third volume.

The 2nd criterion: the provenance of the objects; and their numbering system

It is clearly undesirable to lose control over the sitewise distribution of the objects; a purely typological arrangement mixing objects from all sites would be inadvisable. The site from which the object comes has to be a primary parameter of the classification. Now that seals and inscriptions coming from one and the same site will be distributed in several volumes, a flexible new numbering system is required which will both allow additions at will and make it easy to place the object in its proper context.\(^{71}\) The *Corpus of Indus Seals and Inscriptions* employs a separate consecutive numbering for each site, prefixed by a letter code which is more easily remembered than a numerical code. The major sites have a short, one-letter code. These sites are, moreover, arranged in each volume according to the total number of seals and inscriptions found at them, in the descending order. The sites which are "smaller" (in respect to the number of seals and inscriptions found at them) have a two-, three- or four-lettered code corresponding to their standard archaeological abbreviations and they are arranged in alphabetical order for easy reference. (See the table of contents.) The letter prefix for the site is followed by a dash and the number of the object assigned to it by its place within the classification sequence. Thus the objects from Mohenjo-daro in this first volume are numbered M-1 to M-620, and they are followed by the objects from Harappa starting with H-1. The objects from Mohenjo-daro in the second volume will start with M-621. Any number of additions can be made.

The 3rd, 4th and 5th criteria: the object type, form and material; and the symbols in the page captions

After the site, the next criterion of organization of the Corpus is the type of the object.

\(^{71}\) In the recent editions and concordances, the Indus inscriptions from Mohenjo-daro and Harappa were keyed to the published excavation reports: a number code was allotted to each of these reports and prefixed to the consecutive numbers used for the objects in the plates of the respective report. This basic reference number system was then extended to cover the other sites as well and also the unpublished objects from Mohenjo-daro and Harappa found in museums. In principle, one could recognize the site from which any given object came from the first one or two digits of its four-digit reference number. However, this system has its obvious drawbacks and limitations. Mohenjo-daro required three separate first numbers: 1 for Marshall's report, 2 for Mackay's report, and 0 (in the Finnish concordance) or 3 (in Mahadevan's concordance) for the unpublished objects. The small sites required at least two consecutive first numbers, difficult to remember. And not only had this system become a bit complex, but it also started to run out of numbers. Cf. S. Koskenniemi, A. Parpola and S. Parpola, *Materials for the study of the Indus script I: A concordance to the Indus inscriptions*, Annales Academiae Scientiarum Fennicae B 185, Helsinki 1973, xvi; and I. Mahadevan, *The Indus script: Texts, concordance and tables*, Memoirs of the Archaeological Survey of India 77, New Delhi 1977, 30.
Table 1 lists in order and explains the simplified symbols for the typological subcategories used in the page captions of volume one. Because this table simultaneously gives a convenient overview of the typological classification of the seals and tablets, the captions over each page are explained first in this context.

The caption lists in order (1) the full name of the site and the numbers of the objects coming from it that are illustrated on the page; (2) the principal object type spelled out in letters; (3) simplified symbol(s) specifying the form of the object(s); (4) material (if metal), iconographic motif(s) and size class(es) expressed with Roman numerals. Occasionally, exceptional scaling or archaeological period is mentioned. Only one-line captions are used, and information that cannot be accommodated is dropped, starting from the last categories. The captions have been reversed on even-numbered pages, in order to place the first and most needed subcategories closest to the page number on the right.72

We have tried to keep the typological classification as simple and unambiguous as possible. Four broad categories are distinguished: (1) seals & seal impressions, (2) tablets, (3) graffiti on pottery and (4) miscellaneous. These main groups, which are functionally different from each other, are subdivided further according to formal criteria. The material of the object is taken into account next, but only in the form of a broad division into non-metal and metal (mainly copper or bronze)73 objects, which are placed at the end of each class.

Seals are the most important category of Indus inscriptions in terms of frequency, so they are placed at the beginning. The most common basic form of the Indus seals is square, which is placed first, and the next frequent form, rectangular, is placed after it. Within both forms, subcategories are distinguished.

The square seal normally has a perforated boss at the back, which apparently served both for hanging the seal by a cord and as an aid in making the impression. This type is presented first, with the rare example of a metal (silver) seal at the end, followed by the exceptional seals of this category: those that have been inscribed on more than one side and those having a case (probably for an amulet) inside them. Next follow the square seals where the boss is absent: first perforated seals with one side inscribed, then perforated seals with two or more sides inscribed, and then the un perforated seals similarly subdivided. These seals without a boss share similar inscriptions and iconographic motifs with the ordinary seals having a boss, so they have been placed after them, before the seals with nothing but a swastika or some other geometric motif, although the reverse of these last-mentioned seals does have a perforated boss (usually smaller than the normal seals and undivided, see M-332).

Imported foreign objects are usually placed at the end of each category; thus a fine Iranian square seal with a perforated undivided boss (M-353) is the last of the square seals of Mohenjo-daro.

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72 The decision to reverse the captions on even-numbered pages was perhaps not quite so felicitous, because they have become somewhat difficult to interpret: each subcategory forms an entity to be read from left to right, so two or more symbols of form class (each with or without information on the iconographic motifs on the left) are to be read from left to right on even-numbered pages.

73 Most of the Harappan metal objects are copper rather than bronze; cf. D.P. Agrawal, The archaeology of India, Scandinavian Institute of Asian Studies Monograph Series 46, London 1982, 151. It is hoped that all the objects can be properly analysed in the near future, so that the results can be published in the detailed documentation of the third volume.
The normal type of rectangular seals has a profile that is straight on the front side and convex on the back side with a hole for the suspension cord going through the middle (cf. M-354 C).\textsuperscript{74} Whenever the side profile is rectangular, or the back has a boss similar to that of the square seals, this is shown by publishing the relevant side(s) (cf. M-407ff.).

Other forms of seals are rare, and in most cases these forms have been inspired by foreign models, if the seal itself is not a foreign import (see above, chapter 2). The round seals of the Indus Civilization have a perforated boss of the same type as the square seals and differ in this respect from the round "Dilmun" seal (L-123). In the round seals of the Late Harappan period, the suspension hole goes through the flat body of the seal (cf. C-45 to 50). With regard to the cylinder seals, which come next, before the stepped seals, it has to be pointed out that two small cylinders from Harappa have been classified as incised tablets (H-368 and H-369).\textsuperscript{75}

The ancient seal impressions stand for the seals they were once made with, so they are placed next to the actual seals. A distinction is made between impressions on pots, which come first, and impressions on clay tags. Uninscribed sides of clay tags that have been attached to bales of goods are illustrated, if they bear significant traces of the package material. The tags have been arranged according to the number of seal impressions they contain, those with single impressions being placed first, then according to the iconography and the inscriptions of the seal impressions.\textsuperscript{76}

There is a large group of objects which we have lumped together and called, neutrally, tablets. A basic distinction is made between stamped or moulded tablets, whose texts and iconography are in bas-relief, and incised or engraved tablets, whose texts are depressed. The incised copper tablets (placed at the end), so far found at Mohenjo-daro alone, can be divided into three groups according to their shape: square, rectangular and oblong (or long rectangular).

Round tablets in bas-relief often bear a square seal impression on one side and are flat on the other side. These round 'tablets' are placed at the beginning, because they might also be classed as seal impressions;\textsuperscript{77} they may have functioned as tokens of identification, or 'passports' of representatives of the seal owners. Since some of the other tablets in bas-relief, too, may have been produced with the help of seals, these round tablets have not been separated from the rest.

In both of the main categories, the embossed and the engraved, the tablets are subdivided firstly according to their form (and material) and secondly according to their iconography, size, and condition of preservation. We have tried to avoid form-based classifications that will lead to ambiguous cases and practical difficulties: thus, the class of rectangular shape includes both thin and thick tablets and evenly flat tablets as well as tablets that are slightly thicker at the centre than at the edges. Finer classifications have been proposed, but they are difficult to carry through in practice.

\textsuperscript{74} The arch of the back is usually smooth (as in the case of M-354), sometimes edged (cf. M-374 C), but as this distinction is often a question of degree, it is not systematically noted in the Corpus.

\textsuperscript{75} The fact that the inscription has the normal direction of writing, from right to left, in the original cylinder but is reversed in the impression, is in itself not a sufficient proof for such a cylinder not being a seal, because the direction of writing has not yet been fixed in the early layers of Harappa. But the inscription in H-369 C connects this object with the vast majority of the 'tablets'.

\textsuperscript{76} The Lothal tags with multiple seal impressions have been arranged in accordance to the preliminary analysis presented by Ask Oboropaa, The Indus Script: A Challenging Puzzle, in: World Archaeology 17: 3, February 1986, 401 f. with fig. 1.

\textsuperscript{77} Incised tablets with a round shape have a different place in the sequence.
and would complicate locating a given object in the Corpus.

The term *graffiti* is understood here to mean inscriptions incised on pottery before or after firing and inscriptions painted on pottery. An attempt has been made to place graffiti with similar signs together, and the better and clear inscriptions at the beginning. When the text is very fragmentary, it is often quite uncertain in which direction the potsherd should be read. The reader, therefore, must never take the solution offered in the Corpus for granted, but be prepared to turn the photograph around.

*Miscellaneous objects* is a heterogeneous category designed to accommodate the few odd objects that fall outside the other typological classes. Inscribed copper or bronze weapons and tools is the most important object type here, but in this volume the category also comprises an incised terracotta cone (M-619) and an incised shell ladle (M-620).

The 6th criterion: the iconographic motifs

The classification of the iconographic motifs in the Corpus is based on the following oppositions:

- **iconographic motif:** no iconography
- moving animate being: unmoving animate being
- object: design
- animal: anthropomorph
- real animal: imagined animal
- single: group
- joined animals: composite animal

A detailed analysis of the iconography of the Indus seals and tablets is in preparation and will be published elsewhere. What we offer here is a broad classification of motifs sufficient for organizing the material into coherent classes: 'unicorn' / ursos / bison / zebu / buffalo / markhor / goat / deer / rhinoceros / elephant / tiger / hare / snake / gharial / animal group / joined animals / composite animal / anthropomorph / tree / cult object (variously interpreted as a manger, incense burner or filter) / ship / swastika / other geometric design.

The 'unicorn' motif is placed first because it is the most common one of the Indus seals. The style of representing this animal in profile, so that just one single horn is shown, has in all probability been borrowed from the art of the ancient Near East. Although this representation undoubtedly has had a mythological explanation and importance in the Harappan religion, the 'unicorn' is likely to be a real animal (probably the ursos, or Bos primigenius) which actually had two horns. It is in fact sometimes depicted as having two horns, but for the sake of analysis and classification, these two-horned representations have been separated from the 'unicorns' under the immediately following heading of 'ursos'. These two headings are followed by other boids, these by caprids and other cloven-hoofed ruminants.

An "animal group" consists of two or more natural animals appearing on one object, either

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78 Not infrequently, it is difficult to distinguish between a painted inscription on pottery and a painted pot decoration. This applies especially to the Early Harappan 'pot-marks', many examples of which will be published in the second volume of the Corpus.
separately or forming one scene like the two confronting bison. "Joined animals" usually have more than one head (as do the three tigers joined into a rhomb in M-295 or the bison which, in addition to its own head, has the head of the 'unicorn' in M-298) or, while composed of two or more animals, may not be complete animals (for example, just the heads and necks of two 'unicorns' are joined with each other and a fig tree and a cult object in M-296).79 The "composite animal", again, is a complete beast whose body parts belong to different animals.

Usually only one type of composite animal is represented in the seals. It has the horns of the zebu, the face of man, the tusks and the trunk of the elephant, the neck and front legs of the goat, the middle body of the 'unicorn', the hind legs of the tiger, and the snake for a tail (cf. M-299 to M-302).80 But in the incised copper tablets of Mohenjo-daro, one can distinguish several composite animals. The composite nature of most of the animals depicted on these copper tablets has rarely been recognized so far.81 The "mastiff" of the excavation reports, for example, is actually a composite animal put together of the zebu (horns), tiger (head and front part of the body) and rhinoceros (back part of the body). In this fashion, we distinguish the following composite animals on the copper tablets (given separate Roman numerals when occurring after one another): buffalo + man + deer (?) + snake (M-504 to 506) / markhor + unicorn (M-543 to 549) / two-headed zebu + tiger (?) + unicorn (M-550) / markhor + camel + buffalo (M-551 to 566) / zebu + tiger + buffalo (M-567 to 570) / zebu + elephant + rhinoceros + snake (M-571) / zebu + tiger + rhinoceros (M-572 to 574) / zebu + camel + rhinoceros + snake (M-575 to 581).

The "anthropomorph" is another broad category, which lumps together almost82 all the scenes in which any man-like figure is seen. This motif is broadly arranged as follows:83 sitting anthropomorphic deity / anthropomorphic deity inside a fig tree / "contest": hero fighting with two tigers / man sitting in a tree and a tiger beneath looking at him / tiger-bodied goddess / deity holding by the hand two men who carry uprooted trees / archer / men jumping over a buffalo / man spearing a buffalo / tree-worship / sexual intercourse / religious procession with carried cult objects.

The 7th, 8th, and 9th criteria: the size, style, and state of preservation

The size criterion implies that, other things being equal, the larger object comes first. Only in two categories of objects has it seemed necessary to distinguish between several size groups according to their height, for both intrinsic and layout reasons.

The rectangular seals without iconography have been divided into three classes: (I) 18.5 mm and more, (II) 13 to 18 mm, (III) 12.5 mm and less.

79 For the iconography of C-26 and C-41, cf. A. Parpola, The Sumerian 'bull-harp' motif in late Indus seals from Chanhjo-aro (forthcoming).
80 M-303 represents a deviant type, with not only the horns but also the hump of the zebu and a less human face.
81 An exception is Paul Yule, Figuren. Schmuckformen und Täfelchen der Harappa-Kultur, Prähistorische Bronzemunde I: 6, München 1985, 32-34. Yule's analysis is somewhat different in detail.
82 The scene in M-459 to M-441 B is classified as an "animal group" although three anthropomorphs are seen in it.
83 This sketchy list is not exhaustive for the anthropomorphic motifs nor is it meant to provide an adequate description of the scenes involved.
The square 'unicorn' seals have been divided into six groups:  (I) 43.5 mm and more, (II) 35 - 43 mm, (III) 29 - 34.5 mm, (IV) 23 - 28.5 mm, (V) 17.5 - 22.5 mm, (VI) 17 mm and less.

Within each size group, the 'unicorn' seals have been further arranged according to stylistic criteria. We have adopted the basic scheme developed by Paul Rissman by placing first the unicorns with a "collar", then the unicorns with "hatched neck", and finally the unicorns with "hatched face". Each of these groups, which apparently have a chronological significance, is subdivided according to the details of the "cultic object" in front of the unicorn.84

As a general principle, badly broken objects are placed after the better preserved specimens of their category. However, exception is taken to this rule in the class of rectangular seals, which are arranged according to their length, since broken seals have once been longer than the full seals of the same length.

9. A note on the material and production of the objects and on the colour photographs

Space forbids discussing the material and production of the Indus seals and inscriptions in any detail here; for this the reader is once again referred to the excavation reports. It can only be noted that the great majority of the Indus seals are made of steatite, generally whitish in colour. The seals were first sawed and cut into their forms and then polished; the subject was outlined with a sharp point and then engraved with a drill. Finally the seal was coated with an alkali and heated. It seems that the alkali coating was applied mainly to dark steatite in order to make it white. Heating hardens the steatite, which is a very soft stone, and thus protects it against wear. The various stages of this process can be seen from different examples, the unfinished ones being particularly instructive.85

The moulded tablets are normally made of terracotta or faience, but there are also a few cast copper tablets (placed at the end), while the incised tablets usually are of steatite or copper.

Some selected objects are shown in colour and in as big enlargements as the space allows at the end of the volume. In part, this 16-page selection aims at doing justice to the artistic beauty of some superb pieces of Harappan art, and partially it is intended to convey an idea about the colour and material of the objects.86 Naturally some enlargements, such as that of the "Proto-Siva" seal (M-304), are also meant to help scholars in distinguishing important details. No scale is given, because the relative and absolute size of the objects may be seen from the black-and-white photographs, to which they are keyed.

86 Of the objects illustrated in the colour photographs, 10 (M-332), 20 (M-453), 23 (M-445) and 26 (H-231) are said to be faience (20 "with a white glossy coat", 23 with traces of green glaze); 21 (M-449), 22 (M-440), 31 (K-89), 32 (K-96) and 35 (Sktd-3) are pottery (21 once coated with dark chocolate coloured slip); and 24-25 (M-534) copper. All the rest are said to be steatite (of different colours), but this remains to be checked by mineralogists.
Mohenjo-daro
MOHENJO-DARO 44-46 SEALS

'unicorn' III

M-44 A

M-44 a

M-45 A

M-45 a

M-46 A

M-46 a
SEALS MOHENJO-DARO 173-179
MOHENJO-DARO 295-296 SEALS

joined animals

M-295 A

M-295 B

M-295 a

M-296 A

M-296 a

M-296 A bis

M-296 a bis
MOHENJO-DARO 313-317 SEALS

no iconography; silver

M-313 A
M-314 A
M-315 A
M-313 a
M-314 a
M-315 a
M-316 A
M-317 A
M-317 a
M-316 b
M-317 C
M-316 C
M-316 D
M-317 B
M-317 D
MOHENJO-DARO 319-321 SEALS

M-319 A

M-319 a

M-319 a bis

M-319 C

M-319 C bis

M-319 E

M-319 F

M-319 D

M-320 A

M-320 a

M-320 B

M-320 D

M-321 A

M-321 a

M-321 B

M-321 D

'tiger'

'unicorn'
'unicorn'
M-345 A

M-345 a

M-346 A

M-346 a

M-347 A

M-347 a

M-348 A

M-348 a

M-349 A

M-349 a

M-350 A

M-350 a

M-351 A

M-351 a

M-351 B

M-351 C

M-351 D
MOHENJO-DARO 445-451 TABLETS in bas-relief

- 'unicorn', rhinoceros etc.

M-445 A
M-445 B
M-446 A
M-446 B
M-447 A
M-447 B
M-448 A
M-448 B
M-448 C
M-449 A
M-449 B
M-449 B
M-450 A
M-450 B
M-450 B
M-450 b
M-451 C
M-451 A
M-451 B
<table>
<thead>
<tr>
<th>M-486 A</th>
<th>M-486 a</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-486 B</td>
<td>M-486 b</td>
</tr>
<tr>
<td>M-486 C</td>
<td>M-486 c</td>
</tr>
<tr>
<td>M-486 C bis</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-487 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-487 B</td>
</tr>
<tr>
<td>M-487 C</td>
</tr>
</tbody>
</table>
MOHENJO-DARO 498-499 TABLETS in bas-relief □ animals + geom. designs
MOHENJO-DARO 525-528 TABLETS incised, copper

buffalo, elephant
MOHENJO-DARO 533-536 TABLETS incised, copper elephant, hare
M-541 A

M-541 B

M-542 A

M-542 B

M-543 A

M-543 B

M-544 A

M-544 B
MOHENJO-DARO 549-552 TABLETS incised, copper

composite a. I, II, III

M-549 A

M-549 B

M-550 A

M-550 B

M-551 A

M-551 B

M-552 A

M-552 B
Harappa

H-1 A

H-1 A bis

H-1 a

H-1 a bis
bison
zebu, buffalo, rhinoceros
HARAPPA 252-254 TABLETS in bas-relief ☐ ☐ 'unicorn'
[For H-266 to H-275 see vol. 2]
HARAPPA 291–301 TABLETS incised □ cult object; no iconography

H-291 A
H-291 B
H-292 A
H-292 B
H-293 A
H-293 B
H-294 A
H-294 a
H-294 A bis
H-294 B
H-294 b
H-295 A
H-295 a
H-295 B
H-295 B
H-296 A
H-296 a
H-296 B
H-296 b
H-297 A
H-297 B
H-298 A
H-298 B
H-299 A
H-300 A
H-301 A
H-301 A bis
H-299 B
H-300 B
H-301 B
H-301 B bis
Lothal
'unicorn', geometric design, no icon.
LOTHAL 158-162 SEAL IMPRESSIONS 'unicorn'; elephant
LOTHAL 210-212 SEAL IMPRESSIONS several impressions

L-210 A 1-2

L-210 A 1-2 bis

L-211 A 1-3

L-212 A 1-3
'unicorn' V, urus, bison

SEALS KALIBANGAN 22–28

K-22 A
K-23 A
K-24 A
K-22 a
K-23 a
K-24 a
K-25 A
K-26 A
K-27 A
K-27 B
K-27 a
K-28 A
K-28 a
SEALS

bison, zebu, buffalo, markhor
tiger, joined animals, indistinct animal
Chanhujo-daro

C-1 B

C-1 A

C-1 a
anthropomorph; tree; no icon.
Banawali

'B-1 A

'B-1 B

'B-2 A

'B-2 a

'B-3 A

'B-3 a

'B-4 A

'B-4 a

'B-5 A

'B-5 a

'B-6 A

'B-6 a
Alamgirpur

Agr-1 A (1) (19 %)

Agr-1 A (2) (50 %)

Agr-2 A (50 %)

Agr-3 A (50 %)

Agr-1 A (2) bis (100 %)
Daimabad

Dmd-1 A  Dmd-1 B  Dmd-2 A  Dmd-2 C
Dmd-1 E  Dmd-1 a  Dmd-2 B  Dmd-2 a
Dmd-3 A  Dmd-3 B  Dmd-3 D  Dmd-3 E
Desalpur (Desalpar)

Dholavira (Kotadi, Kotda Timba)
Hulas

Jhukar
Khirsara (Khera-Shara, Netra)

Lohumjo-Daro
Maski

Msk-1 A (100 %)

Msk-1 a (100 %)

Mehi

Mehi-1 A

Mehi-1 B

Mehi-1 E

Mehi-1 a

Pabumath

Pbm-1 A

Pbm-1 B

Pbm-1 a
Prabhas Patan (Somnath)

Rakhigarhi
Rangpur
Shahi-tump

Sht-1 A
Sht-1 B
Sht-1 C
Sht-1 a

Surkotada

Sktd-1 A
Sktd-1 a
Sktd-2 A
Sktd-2 a
Sktd-2 B
Sktd-2 C
Sktd-2 D
Tarkhanewala-dera
Addenda

M-435 A

M-540 A

H-76 A

H-382 A (50 %)

B-26 a
Table 1: Symbols of the form classes of Indus seals and tablets in this volume

<table>
<thead>
<tr>
<th>SEALS</th>
<th>TABLETS in bas-relief &amp; incised</th>
</tr>
</thead>
<tbody>
<tr>
<td>square</td>
<td>round (tablets in bas-relief)</td>
</tr>
<tr>
<td>with a perforated boss</td>
<td>- perforated</td>
</tr>
<tr>
<td>- inscribed on one side</td>
<td>- perforated</td>
</tr>
<tr>
<td>- having a case</td>
<td>- twisted</td>
</tr>
<tr>
<td>perforated, without a boss</td>
<td>- long rectangular (distinguished in copper tablets only)</td>
</tr>
<tr>
<td>- inscribed on one side</td>
<td>- rectangular, rounded at both ends</td>
</tr>
<tr>
<td>unperforated, without a boss</td>
<td>- lanceolate with truncated ends</td>
</tr>
<tr>
<td>- inscribed on one side</td>
<td>- lanceolate</td>
</tr>
<tr>
<td>with a swastika or some other geometric motif</td>
<td>- rectangular, rounded at one end</td>
</tr>
<tr>
<td>(and with a perforated boss)</td>
<td>- half rectangular, half shield-shaped</td>
</tr>
<tr>
<td>with a perforated unperforated boss</td>
<td>- shield-shaped</td>
</tr>
<tr>
<td>rectangular</td>
<td>- crescent-shaped</td>
</tr>
<tr>
<td>perforated with a convex back</td>
<td>- half-moon-shaped</td>
</tr>
<tr>
<td>- inscribed on one side</td>
<td>- heart-shaped</td>
</tr>
<tr>
<td>with a perforated boss</td>
<td>- fish-shaped</td>
</tr>
<tr>
<td>perforated</td>
<td>- hare-shaped</td>
</tr>
<tr>
<td>unperforated</td>
<td>- leaf-shaped</td>
</tr>
<tr>
<td>- inscribed on one side</td>
<td>- triangular</td>
</tr>
<tr>
<td>round</td>
<td>- round (incised tablets)</td>
</tr>
<tr>
<td>with a perforated boss</td>
<td>- round with a perforated projection</td>
</tr>
<tr>
<td>with a perforated unperforated boss</td>
<td>- triangular prism incised on more than one side</td>
</tr>
<tr>
<td>perforated</td>
<td>- rectangular bar inscribed on more than one side</td>
</tr>
<tr>
<td>unperforated</td>
<td>- cubic inscribed on more than one side</td>
</tr>
<tr>
<td>- inscribed on more than one side</td>
<td>- perforated cylinder</td>
</tr>
<tr>
<td>cylinder</td>
<td>- unperforated cylinder</td>
</tr>
<tr>
<td>perforated or unperforated</td>
<td>- unperforated cylinder inscribed on more than one side</td>
</tr>
<tr>
<td>unperforated</td>
<td></td>
</tr>
<tr>
<td>- inscribed on more than one side</td>
<td></td>
</tr>
</tbody>
</table>

Basic data for the objects illustrated

Column 1: in the following tabulation gives the CISI numbers assigned to the objects in the present volume.
Column 2 gives the FC (= the Finnish Concordance in its current version, e.g. p. NX, fn. 30) numbers, according to which the material is arranged in the CISI archives at the University of Helsinki. This number is given also because the FC offers help in reading the inscriptions, as does also I. Mahadevan's Concordance (see p. XX, fn. 49), where many numbers are identical with the FC numbers (but
DATA L-99 to L-266

L-108 6224 10032 LTH SRG 1244 HU 1225
L-109 6007 1845 LTH SRG 1204 HU 1219
L-190 6092 1870 LTH SRG 1225 HU 1226
L-191 6079 1884 LTH SRG 1160 HU 1232
L-192 6158 1857 LTH SRG 1165 HU 1243 A | ASI
L-193 6178 1888 LTH SRG 1166 HU 1230
L-194 6178 1885 LTH SRG 1191 A L ASI; A 2. HU 1208
L-195 6180 1927 LTH SRG 1221 HU 1211
L-196 6065 1978 LTH SRG 1217 HU 1228
L-197 6167 1878 (?) LTH SRG 1383 HU 1249
L-198 6149 1842 LTH SRG 1210 HU 1242
L-199 6175 1882 (?) LTH SRG 1232 ASI
L-200 6132 1847 LTH SRG 1196 HU 245
L-201 6185 1882 (?) LTH SRG 1172 ASI
L-202 6187 2228 LTH SRG 1240 ASI
L-203 6174 1881 LTH SRG 2911 HU 1195
L-204 6077 1855 LTH SRG 1175 HU 1220
L-205 6151 1848 LTH SRG 1184 HU 1247
L-206 6016 2077 LTH SRG 1201 ASI
L-207 6195 14566 LTH SRG 1202 HU 1190
L-208 6249 1994 LTH SRG 1180 HU 1199
L-209 6184 1990 LTH SRG 1169 HU 1230, A | ASI
L-210 6004 722 LTH SRG 1201 HU 1218; A | ASI
L-211 6034 8767 (? LTH SRG 1231 HU 1268
L-212 6183 1883 (? LTH SRG 3179 HU 1231
L-213 6143 1882 LTH SRG 1179 HU 1200; A | ASI
L-214 6230 3081 LTH SRG 1187 HU 1183
L-215 6231 18652 (2) LTH SRG 1184 ASI
L-216 6038 1691 LTH SRG 1180 HU 1195
L-217 6208 12332 LTH SRG 1279 ASI
L-218 6003 800 LTH SRG 1251 HU 1176; B: ASI
L-219 6093 1754 LTH SRG 1164 HU 1274
L-220 6044 13051 LTH SRG 3157 HU 1205
L-221 6290 ??? ???? Ra | P&CCXIII-36 (sic, in ref. 4:11). As cited in ibid., p. 460
L-222 6284 ??? ?? Ra | P&CCXIII-20;
L-223 6266 ??? ?? Ra | P&CCXIII-21;
L-224 6255 ??? ?? Ra | P&CCXIII-18;
L-225 6259 ??? ?? Ra | P&CCXIII-20;
L-226 6269 ??? ?? Ra | P&CCXIII-26;
L-227 6300 ??? ?? Ra | P&CCXIII-22;
L-228 6273 ??? ?? Ra | P&CCXIII-12;
L-229 6286 ??? ?? Ra | P&CCXIII-21;
L-230 6293 ??? ?? Ra | P&CCXIII-23;
L-231 6299 ??? ?? Ra | P&CCXIII-24;
L-232 6299 ??? ?? Ra | P&CCXIII-25;
L-233 6303 ??? ?? Ra | P&CCXIII-26;
L-234 6302 ??? ?? Ra | P&CCXIII-27;
L-235 6301 ??? ?? Ra | P&CCXIII-28;
L-236 6300 ??? ?? Ra | P&CCXIII-29;
L-237 6301 ??? ?? Ra | P&CCXIII-30;
L-238 6299 ??? ?? Ra | P&CCXIII-31;
L-239 6299 ??? ?? Ra | P&CCXIII-32;
L-240 6287 ??? ?? Ra | P&CCXIII-33;
L-241 6286 ??? ?? Ra | P&CCXIII-34;
L-242 6297 ??? ?? Ra | P&CCXIII-35;
L-243 6299 ??? ?? Ra | P&CCXIII-36;
L-244 6299 ??? ?? Ra | P&CCXIII-37;
L-245 6299 ??? ?? Ra | P&CCXIII-38;
L-246 6299 ??? ?? Ra | P&CCXIII-39;
L-247 6299 ??? ?? Ra | P&CCXIII-40;
L-248 6299 ??? ?? Ra | P&CCXIII-41;
L-249 6299 ??? ?? Ra | P&CCXIII-42;
L-250 6299 ??? ?? Ra | P&CCXIII-43;
L-251 6299 ??? ?? Ra | P&CCXIII-44;
L-252 6299 ??? ?? Ra | P&CCXIII-45;
L-253 6299 ??? ?? Ra | P&CCXIII-46;
L-254 6299 ??? ?? Ra | P&CCXIII-47;
L-255 6299 ??? ?? Ra | P&CCXIII-48;
L-256 6299 ??? ?? Ra | P&CCXIII-49;
L-257 6299 ??? ?? Ra | P&CCXIII-50;
L-258 6299 ??? ?? Ra | P&CCXIII-51;
L-259 6299 ??? ?? Ra | P&CCXIII-52;
L-260 6299 ??? ?? Ra | P&CCXIII-53;
L-261 6299 ??? ?? Ra | P&CCXIII-54;
L-262 6299 ??? ?? Ra | P&CCXIII-55;
L-263 6299 ??? ?? Ra | P&CCXIII-56;
L-264 6299 ??? ?? Ra | P&CCXIII-57;
L-265 6299 ??? ?? Ra | P&CCXIII-58;
L-266 6299 ??? ?? Ra | P&CCXIII-59;
11: M-404 A

12: M-304 A
Memoirs — A. S. I.
A. S. I. — Memoirs

CATALOGUE
Corpus of Indus Seals and Inscriptions

1. Collections in India
Corpus of Indus Seals and Inscriptions

1. Collections in India

edited by
JAGAT PATI JOSHI and ASKO PARPOLA

with the assistance of
ERJA LAHDENPERÄ and VIRPI HÄMEEN-ANNTILA

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Preface

We are happy to be able to publish the present volume which contains nearly 3900 photographs of 1537 Indus seals and inscriptions belonging to collections in India. About one fourth of these objects are illustrated for the first time here.

This is number one of the three volumes planned, for the time being, to complete the photographic *Corpus of Indus Seals and Inscriptions*. The purpose of the Corpus is to provide a basic tool for the research of the little understood script, language and religion of the Indus Civilization and for the study of the administrative organization and external cultural contacts of the Harappans. The Corpus will contain the literate and sphenographic remains of one of the earliest cultures of mankind, a forgotten urban civilization that has had a profound impact on the subsequent traditions of South Asia up to the present day.

The publication of such a work in international collaboration was first proposed by one of us to the 29th International Congress of Orientalists meeting in Paris in 1973. The proposal was accepted in a unanimous resolution. After the Archaeological Survey of India (ASI) and the Department of Archaeology and Museums, Government of Pakistan, had agreed to collaborate with the University of Helsinki in bringing out the Corpus, after the Finnish Academy of Sciences and Letters had agreed to publish it in its *Annales*, and after distinguished experts from many countries had supported the scheme, an application for financial assistance was submitted to the International Union of Philosophy and Human Studies (CIPSH) through the International Union of Oriental and Asian Studies. The General Assembly of UNESCO meeting at Nairobi in 1976 agreed to support the Corpus as a scholarly project of a confirmed international character and of major importance.

With the financial assistance of UNESCO, granted through the CIPSH in 1978-80, it was possible to start preparing new photographs of the Indus seals and inscriptions for the Corpus and to reproduce old ones. In India, the work was co-ordinated by the Director General of the ASI, Shri B.K. Thapar. The photographers of the ASI, however, had many other duties, and the progress was slower than had been anticipated. In spite of the best efforts, only about 500 objects, approximately one third of the relevant material, were photographed by 1980. The actual number of photographs taken was much larger, however, because each side of every object was to be photographed. An impression of most of the objects was taken in plasticine, also. After the retirement of Shri B.K.
Thapar, the photography was stopped for a while, but after further negotiations with the Ministry of Education and Social Welfare, Government of India, carried out with the kind assistance of the Embassy of Finland in New Delhi, the photography was taken up again in 1982 by the ASI under the supervision of Dr Dehala Mitra, the new Director General. This additional photography covered, again, about one third of the objects and also included most of the relevant material in the National Museum of India; the expenses for it were defrayed by the Finnish Ministry of Education.

In 1983, the late Prime Minister of India, Mrs Indira Gandhi, paid an official visit to Finland, and an agreement of cultural exchange was signed between the two countries. In order to expedite the publication of the Corpus, Dr Asko Parpola suggested that this project be included in the cultural exchange programme for the years 1984-1986. This met with the approval of the Finnish Ministry of Education, and the Government of India deputed an official delegation to plan Indo-Finnish collaboration in archaeology with the Corpus project as its main concern. The delegation, consisting of Prof. B.B. Lal, former Director General of the ASI, Dr M.S. Nagaraja Rao, the then Director General of the ASI, and Dr K.V. Ramesh, Director of Epigraphy, ASI, visited Finland in June 1984, and a mutual understanding was reached.

Since a choice between two sets of photographs was sure to guarantee a higher and more even quality to the publication than a single set, it was agreed to enlist the services of an expert photographer for photographing the seals and other material anew. The Finnish Ministry of Education made travel grants and a publication subsidy available in 1984-1986. During this same three-year period, the University of Helsinki, for the first time after a very long interval, had substantial research funds of its own, and the project was granted money to employ two photographers and one half-day research assistant as well as for purchasing equipment. The Chancellor of the University of Helsinki also helped with travel grants. The Research Council for the Humanities at the Academy of Finland, which had supported the Corpus project from its initiation until 1981 by allowing Dr Parpola to work on it while employed as its Research Fellow, took over the main financial responsibility for the project from the beginning of the year 1987.

This financial support has made it possible to carry out the work with dispatch. The project could enlist the services of Ms Erja Lahdenperä and Mr Jyrki Lyytikkä, two young photographers, as well as of Mrs Virpi Hämeen-Anttila. In 1984-85, with the kind assistance of the ASI, the Museums involved, and the Embassy of Finland in New Delhi, Ms Lahdenperä photographed 1378 Indus seals and inscriptions available in India. She also reproduced the old photographs of the Indus seals and inscriptions in the Sind and Punjab series of the ASI's photo archive. The double set of negatives taken is now deposited in the archives of the ASI and the Department of Asian and African Studies, University of Helsinki. In addition to publishing the present volume, one purpose of the Indo-Finnish collaboration in archaeology has been to establish in India and in Finland a comprehensive photo archive, which will enable researchers to get good prints of individual objects.

After her return, Ms Lahdenperä made enlarged prints of the Indus seals and inscriptions and their impressions from the new negatives which she had taken of them. Mr Jyrki Lyytikkä printed the photos of the old Sind and Punjab volumes and also did a good deal of supplementary printing from Ms Lahdenperä's new negatives. The major part of the old photographs of the ASI's photo archive had been identified in 1975 by Dr Parpola, but a lot remained to be done, including the identification and sorting of the new photos as well. This was done carefully and efficiently by Mrs Hämeen-Anttila.
Within the cultural exchange programme, the ASI sent Dr K.V. Ramesh to work on the project for three weeks in November-December 1986. The outlines of the preface and introduction subsequently drafted by Dr Parpola and the principles of selecting the photographs were then agreed upon. During the spring and summer of 1987, the photographs were selected, arranged and prepared for the press by Asko Parpola with the assistance of Virpi Häméen-Anttila. Mrs Häméen-Anttila also skilfully carried out the layout of the photographs; drew the map planned by Dr Parpola and the symbols in Table 1 and in the page captions; and substantially helped Dr Parpola in the preparation of the list of basic data for the objects illustrated. Shri Jagat Pati Joshi, Additional Director General of the ASI, was nominated by the Government of India as the co-editor for editing the work of the Corpus in the light of the fund of information available in India on the subject.

Because all existing material was not accessible when the photography was done by the photographers of the ASI in 1978-83 and by Erja Lahdenperä in 1984-85, Ms Lahdenperä left for supplementary photography in India in March 1987. She was also to carry out colour documentation and to photograph better impressions of some seals. This tour had not yet been fully completed when the volume went to the press in order to meet the publication schedule necessitated by the financial arrangements. Whatever was received prior to the end of August 1987 could be included in this volume. The remainder will be included in the addenda part of the third volume of the Corpus. In any case, it would not have been worthwhile to postpone the publication of this already bulky volume for the sake of a few missing items, since the Corpus will never be complete in the absolute sense of the term: new objects keep turning up, and we trust that eventually further volumes of the Corpus will be published.

We beg the reader's indulgence for some flaws caused by the tight schedule. As the printing had to be commenced long before the book emerged in its final form and a few mistakes passed unnoticed until a late stage, these errors and their consequences could not be eliminated fully. They are catalogued and explained in the Corrigenda section.

The introduction, it should be noted, pretends to be nothing but an introduction. Its aim is to place the objects illustrated in their historical context, to hint at the various aspects involved in their study, with select references to the existing literature, and to explain the principles and conventions of their publication in the Corpus.

* * * *

The publication of this volume would not have been possible without the generous help, support and collaboration of the Governments of India and Finland and of many persons and institutions to whom we extend our cordial thanks.

The late Professor Jean Filliozat of the Collège de France, Vice-President of the Congress, took personal interest in passing the resolution in favour of the Corpus at the 29th International Congress of Orientalists.

Among the experts recommending the project to UNESCO were Dr F. R. Allchin, of the Faculty of Oriental Studies, University of Cambridge; Dr A.K. Bhattacharyya, then Director, Indian Museum, Calcutta; Dr Jean-Marie Casal, the late Director of the Mission Archéologique de l'Indus, Musée Guimet, Paris; Dr Raoul Curiel, then Curator of the Cabinet des Médailles, Bibliothèque
National, Paris; Prof. George F. Dales, Jr, of the Dept. of South and South East Asian Studies, University of California at Berkeley; Prof. A.H. Dani, then Dean of the Faculty of Social Sciences, University of Islamabad; Prof. Walter A. Fairservis, Jr, then of the American Museum of Natural History, New York; Prof. B.B. Lal, then of Jiwaji University, Gwalior, and formerly Director General of the ASI; the late Prof. J.E. van Lohuizen - de Leeuw, of the Institute of South Asian Archaeology, University of Amsterdam; Dr R. Nagaswamy, Director of the Tamilnadu State Department of Archaeology, Madras; Dr S.T. Satyamurti, then Director of the Government Museum, Madras; Dr C. Sivaramamurti, the late Director of the National Museum of India, New Delhi; Dr Odette Viennot, Paris; and the late Professor Sir Mortimer Wheeler, The British Academy.

Prof. Yrjö Blomstedt, the editor of the *Annales Academiae Scientiarum Fennicae* and Dean of the Faculty of Humanities, University of Helsinki, has been an indispensable and ever obliging supporter of the project from the very beginning. We cordially thank the Finnish Academy of Sciences and Letters and its office holders, especially Prof. Blomstedt and Prof. Lauri Honko, for kindly accepting the Corpus for publication and for procuring the major part of the very considerable printing expenses.

Prof. Louis Bazin, Secretary General, International Association of Oriental and Asian Studies, and Prof. Jean d'Ormesson, Secretary General, International Council for Philosophy and Humanistic Studies, were most helpful in securing UNESCO support and in administrating the grant. We are much obliged also to Prof. R.N. Dandekar of the Bhandarkar Oriental Research Institute, Pune, the President of the International Union of Oriental and Asian Studies, for his personal interest and kind help.

Through the good offices and kind help and collaboration of Shri B. K. Thapar, then Additional Director General, the project had the full support of the ASI from the beginning. Since the project was actively initiated, it has been graciously coordinated by the successive Directors General, Shri B.K. Thapar (1978-80), Dr Debala Mitra (1981-83), Dr M.S. Nagaraja Rao (1984-86), and Shri R. C. Tripathi (1987).

Among the officers of the ASI who kindly made accessible the materials and rendered valuable assistance, we especially thank Shri M.C. Joshi, Joint Director General; Dr K.V. Ramesh, Director, Epigraphy; Dr K.D. Banerjee, Course Director; Shri B.M. Pande, Deputy Director, Institute of Archaeology; Shri R.S. Bist, Superintending Archaeologist; Shri S.A. Sali, Superintending Archaeologist (ret.); Shri R.P. Sharma, Assistant Director, Institute of Archaeology; Kum. Madhu Bala, Deputy Superintending Archaeologist, Kalibangan Excavation Report Section, Purana Qila; and Kum. Purna Iyer, Assistant Superintending Archaeologist (ret.), and Kum. A. Banerjee, Assistant Superintending Archaeologist in the Central Antiquities Collection, Purana Qila. Photographers of the ASI who have worked for the project include Shri Sovan Chatterjee, Shri R.S. Rana, Shri R.K. Sehgal and Shri Rajbir Singh. The modellers Sarvashri G. Sutarshanam, Shri Kapil Deo and Shri D. K. Malik are responsible for making the seal impressions.

At the National Museum of India, we have been afforded all possible help by the Directors, Dr C. Sivaramamurti, Dr I. D. Mathur, and Dr L.P. Sihare. We also thank Dr. S.P. Gupta, Assistant Director, and the Keepers, Dr G. N. Pant, Dr L. A. Narain, Dr Shashi Asthana, and Shri D.P. Sharma for valuable assistance. At the Indian Museum, Calcutta, we are grateful to the Directors, Dr A.K. Bhattacharyya and Dr R.C. Sharma, and to Dr Dilip Guha, Curator of the Prehistoric Gallery. We thank the Trustees of the Prince of Wales Museum of Western India,
Bombay, and Shri B.V. Shetti, Curator of Archaeology and Numismatics. At the Government Museum, Madras, we thank the Directors, Dr S.T. Satyamurti and Dr H. Harinarayanan, and Shri Devasahayam, Curator of the Department of Archaeology. We are grateful to the Department of Archaeology and Museums, Haryana State, Chandigarh, and to Shri P.K. Sharan, Deputy Director. We further express our most sincere thanks to the Directors of the Kachchh Museum, Bhuj; the Baroda Museum, Vadodara; the Patna Museum, Patna; the State Museum, Lucknow; the Central Museum, Nagpur; and the Archaeological Museum, Trichur. All these institutions have kindly made their material available and given valuable help.

Shri Iravatham Mahadevan, IAS (ret.), Madras, has been of invaluable help to us over the years. We thank him especially for graciously putting at our disposal his indexes to the museum registration numbers and other concordances, which have been of great value in cross-checking the data.

We thank Shri P.V. Narasimha Rao, Minister, and Smt. Krishna Sahi, Minister of State; and also former Minister, Smt. Sheila Kaul; Shri K.P. Singh Deo, Smt. Sushila Rohtagi, former Ministers of State; and Shri P.K. Thungon, former Deputy Minister of State; Smt. Serla Grewal, former Secretary (now Secretary to the Prime Minister); Dr Kapila Vatsayan, former Additional Secretary (presently Secretary, Indira Gandhi Centre for Art and Culture) in the Ministry of Human Resource Development (formerly designated as the Ministry of Education, Culture and Social Welfare), Government of India; Shri Y.S. Das, former Secretary; and Shri M. Varadarajan, Secretary, Culture; and Shri I.U. Ramchandani, Secretary (ret.), the Indian National Commission for Cooperation with UNESCO. Shri P.A. Nazareth, former Director of the Indian Council of Cultural Relations, Ministry of External Affairs, the Government of India, has also helped the project.

The Ambassadors of India in Helsinki, Shri A.R. Kakodkar and Shri K.P. Fabian, have taken a great personal interest in the project and done much to further it.

The Finnish Ministry of External Affairs and the Embassy of Finland in New Delhi have also been of great assistance to the project. We are much obliged to the Ambassadors Ms Riitta Örö, Dr Risto Hyvärinen and Mr Jan Groop, and to the First Secretaries Mr Hannu Himanen, Mr Mikko Pyhältö and Mr Antti Koisinen, as well as to Ms Kirsti Lintonen. Mr Himanen and Mr Pyhältö devoted much of their time and energy to the project in the course of many years.

The generous financial support of the Finnish Ministry of Education has been indispensable to the project. Our very special thanks go to the Director of International Affairs, Mr Kalervo Siikala, and to Counsellor Ritva Kaipio, both of whom have taken a great personal interest in the publication of the Corpus.

Our grateful thanks for its generous support and encouragement go also to the University of Helsinki. The Chancellor, Prof. Nils Oker-Blom, the Rector, Academician Olli Lehto, and the Dean of the Faculty of Humanities, Prof. Yrjö Blomstedt, have done everything in their power to further the project. We would also like to mention especially Mr Matti Malmberg and Ms Marja Nikkarinen of the University administration, Prof. Heikki Palva, Prof. Simo Parpola and Mr Harry Halen, Lic.Ph., of the Department of Asian and African Studies, and Mr Mauri Laakso and the other staff of the Department of Photography for all possible assistance. Prof. Rauno Ruuhijärvi has kindly allowed the Corpus project to use the photo laboratory of the Department of Botany for years.

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Last but not least, our profound thanks go to the Academy of Finland for taking over the financial responsibility of the project at a crucial stage. It is hoped that this essential support will continue until the project is completed.

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We trust that the time, labour and money invested in the publication will have been worthwhile. The volume will surely encourage enlightened research on the difficult but fascinating problems of the Indus Civilization. We would like to end this preface by appealing to private persons as well as to institutions owning collections of Indus seals and inscriptions - anywhere in the world - to write to Prof. Asko Parpola, Department of Asian and African Studies, University of Helsinki, Finland, or to Shri Jagat Pati Joshi, Additional Director General, Archaeological Survey of India, New Delhi, India. Photographs of objects (all sides with data on measurements) sent to the editors can be included in the proposed third volume of this Corpus and thereby be made available to research. Purely private communications from knowledgeable quarters will also be greatly appreciated.

Helsinki and New Delhi, July and August 1987

ASKO PARPOLA

JAGAT PATI JOSHI
Introduction

1. The Indus seals and the discovery of the Indus Civilization

The Indus Civilization ranks among the most ancient urban cultures of mankind. It covered an appreciably larger area than either the Early Dynastic Egypt or Sumer. Like the other Old World civilizations, the Indus Civilization seems to have grown from the skillful utilization of the fertile river valleys. Its distinctive characteristics - the gridiron layout of the cities, their elaborate drainage, and the puzzling pictographic script - are still best known from the excavations of Harappa and Mohenjo-daro.1

Three distinctive seals - representing the object type that has remained most characteristic of the Indus civilization - were found at Harappa in the Punjab and published in 1875, 1886 and 1912.2 But the full implication of these finds was not realized before excavations were started in 1920 at Harappa, and, by chance almost simultaneously, in 1922, at Mohenjo-daro in Sind, some 600 km south in the Indus valley. More seals of the same type were immediately found at both of these sites, and it became evident that an entirely unknown bronze-age civilization had come to light.3 This led to large-scale excavations at Mohenjo-daro and Harappa,4 followed by much more limited digs at Chanhu-daro further south in Sind.5 The bulk of the Indus (or Harappan) seals and inscriptions available to research comes from these excavations in the 1920's and 1930's.

In the partition of British India in 1947, all the major sites of the Indus civilization known at that time became part of Pakistan. During the last four decades, due to constant efforts of the Indian archaeologists, more than 862 Early Harappan, Harappan and Late Harappan sites have been

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3 For a comprehensive history of Harappan studies, see Michael Jansen, Die Indus-Zivilisation: Entdeckung einer frühen Hochkultur, Köln 1986.


5 Ernest Mackay, Chanhu-daro Excavations 1935-36, American Oriental Series 20, New Haven 1943. Mackay's excavations were a follow-up of the pioneering explorations of N.G. Majumdar. The Indus seals and inscriptions from Amri, Jhukar and Lohumjo-daro included in this volume were discovered by Majumdar and reported by him in the Annual Report of the Archaeological Survey of India for 1927-28 (1931), 76-83 & pl. XXVII-XXX (Excavations at Jhukar) and in his Explorations in Sind, Memoirs of the Archaeological Survey of India 48, Delhi 1934. The seals from Mehri and Shahi-tump were discovered by another famous early explorer, Sir Aurel Stein; see his report, An Archaeological Tour in Gedrosia, Memoirs of the Archaeological Survey of India 43, Calcutta 1931.
discovered in the Indian Union. In India the area of distribution of Harappan settlements runs broadly from Manda in Jammu (Jammu & Kashmir) in the north to Daimabad in Maharashtra in the south, and from Desalpur, District Kutch, Gujarat, in the west to Hulas in district Shaharanpur, U.P., in the east. Among the newly extensively excavated sites in India are Kalibangan, Lothal, Surkotada, Daimabad and Banawali. These important excavations have thrown fresh light on the cultural style of the Indus civilization and have produced the greatest number of seals and inscriptions in India. The recently started marine archaeology along the coast of Gujarat has already produced exciting results at Bet Dwaraka.

2. The Indus seals and the external contacts of the Indus Civilization

Immediately after the first news about the discovery of the Indus Civilization was published in 1924, it became apparent that the Harappans had been in contact with the ancient cultures of West Asia. Evidence for this was Indus seals coming from Susa, Ur, and other Mesopotamian sites.


8 See The Statesman, Delhi, April 17, 1985.

among these were both square stamp seals of a purely native Harappan type and seals combining Harappan and local elements such as the cylinder form.  

Later, a few round Indus seals (a type rarely found in the Indus valley) were discovered along with a large number of local round stamp seals on the islands of Failaka and Bahrain in the Gulf. Where excavations since the 1950's have revealed a flourishing "Dilmun Civilization." Furthermore when one purely "Dilmun-type" seal (L-123) was found at Lothal,  

much attention was paid to cuneiform sources dealing with the early maritime trade of Mesopotamia. Three foreign countries are referred to as participants of the sea trade: Dilmun (closest to Mesopotamia), Magan and (farthest away) Meluhha. Magan is now widely identified with Oman and the opposite coast of Makran, and Meluhha with the Harappan realm. Some tablets refer to a village of Meluhhans residing near Lagash for generations. The gradual evolution of the Indus Civilization from the earlier neolithic cultures of the Indo-Iranian borderlands and the relationship of these cultures with those of the ancient Near East and particularly with the cultures of the Iranian plateau and Turkmenia have started being properly understood only during the past decade or so. The French excavations at Pirak (1968-74) and at Mehrghar, Sibri and Nausharo (1974-87) have been really revolutionary in providing an unbroken stratigraphic sequence from the early 7th millennium to the middle of the 1st millennium B.C. in the Kachi plains, which leads from the Indus valley to the highlands of Baluchistan. The Italian

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13 Cf. S.R. Rao, A 'Persian Gulf' Seal from Lothal, Antiquity 37, 1963, 96-99 & pl. IX-XI. Some further Dilmun seals are reported from the submerged city of Bet-Dwaraka off the Kathiawar coast (cf. The Seafarer, Delhi, April 17, 1985), but they are yet to be published.


excavations at Shahr-i Sokhta in Seistan, the American excavations at Tepe Yahya in Southeastern Iran, and the Soviet excavations in Central Asia are just some of the other crucial archaeological research projects of recent times which have created a veritable explosion of knowledge. The emerging new picture stresses the leading role played by the Proto-Elamites in the increasing cultural interaction in the Iranian plateau during the first half of the third millennium B.C.

Another revelation is the expansion of the Bronze Age Civilization of Northeast Iran during the second half of the third millennium from the Gorgan plain (Tepe Hissar III and related sites) to Southern Turkmenia (Namazga V and related sites), to Seistan (Shahdad), to ancient Bacxia (Dashly and Sapalli in Northern Afghanistan), to Baluchistan and to the Indus valley. The current excavations of Sibri and Nausharo near Mehrgarh have proved that intrusive NE Iranians became a dominant element in the lower Indus valley around 2000 B.C., and that their merging with the Indus Civilization started the Late Harappan period.

This immigration is reflected in the seals of the Jhukar period at Chanhjo-daro in Sind (C-41 to 50, especially C-49 and C-50) and at Shahi-Tump (Sh-t-1) and Mehi (Mchi-1) in Baluchistan. Distant interaction between the NE Iranian and Indus Civilizations is evidenced earlier during the Mature Harappan period. While two Harappan seals have been unearthed at Altin Tepe in southern Turkmenia, one clearly NE Iranian type stepped seal comes from Harappa (see H-166). The plain (Baluchistan, Pakistan) at the beginning of the second millennium B.C., in: J. Schotsmans and M. Taddei (eds.), South Asian Archaeology 1983, Naples 1985. Vol. 1, 35-68; etc.


23 See V.M. Masson, Seals of a Proto-Indian Type from Altyn-depe, in: Kohl (ed.) 1981 (see fn. 19), 149-162, with
few cylinder seals found at the Indus sites have so far been thought to indicate connections with Mesopotamia, where this seal type is most characteristic. However, we now know that the NE Iranian civilization, too, used cylinder seals (which there, of course, ultimately go back to Mesopotamian inspiration); indeed, one cylinder seal from Mohenjo-daro (M-419) resembles more closely the NE Iranian type cylinders in having an engraved motif at the round ends, too. It seems that the cylinder seals of Daimabad (Drd-4) and Maski (Msk-1) continue the NE Iranian tradition.

Thus the seals have played a leading role in the discovery of the Indus Civilization and its external relations. They continue to be centrally important in the archaeological study of the bronze age, not least as chronological indicators.26

3. The function and iconography of the Indus seals and tablets

Preserved ancient seal impressions prove that the Indus seals have served as instruments of control in administration and trade, as in ancient West Asia.27 Some seal impressions have been made, undoubtedly by the potter, on wet clay pots before firing (cf., e.g., M-420 to 424). Other impressions have survived on clay tags, once attached to bales of goods whose integrity they thus guaranteed. The most important collection of such labels comes from the burnt warehouse of Lothal (L-124 ff.).28 The study of the seals and seal impressions in combination with their archaeological contexts and details of style and manufacture can significantly contribute to the understanding of the economic and administrative aspects of an ancient civilization.29

The quality of the seal increases with its size, and the largest and most expensive seals must have belonged to important persons or institutions. Since the seals were probably worn in a visible

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24 The unique T-shaped seal H-165 may also be of NE Iranian origin.
26 The dating of the Indus civilization continues to be a controversial issue. Based on the Near Eastern contacts evidenced by the Indus seals and by cuneiform references to sea-borne contacts with the far-off country of Meluhha since the times of Sargon the Great (c. 2350 B.C.), as well as radiocarbon dates, the time bracket for the mature urban phase is conventionally placed between 2550/2300 and 2000/1700 B.C. Cf. Bridget and Raymond Allchin, The rise of civilization in India and Pakistan, Cambridge 1982; D.P. Agrawal, The archaeology of India, Scandinavian Institute of Asian Studies Monograph Series 46, London 1982.
fashion by their owners, as is suggested by the cord holes, they are likely to have secondarily functioned as indicators of the wearers' rank, seen at a distance by the size of the seal.\textsuperscript{30}

Some of the seals, such as M-319, are carved hollow and provided with a lid so that something - most probably a magic charm - could be kept inside. This has generally been taken to support the old hypothesis that the seals, besides their primary function as administrative instruments, also served as protective amulets. In addition to the script, the majority of the Indus seals contain iconographic motifs, whose clearly religious nature has suggested an amuletic function. The pictorial motifs not only rank among the very best preserved examples of Harappan artistic expressions but also provide some of the most important clues to the Harappan religion and to the accompanying inscriptions.

In addition to being found on the seals, iconographic motifs are found in particular on "tablets". An important general characteristic of this category of objects is that they comprise many identical duplicates. The incised "miniature tablets" from the lower levels of Harappa are the earliest known examples of the fully developed Indus script.\textsuperscript{31} Later, incised tablets give way to embossed ones, often mass-produced in moulds. Sometimes great numbers of similar tablets (especially H-252 ff.) have been found together, or their find places are very close to each other. This has suggested that most of the tablets, both the embossed and the engraved ones, may have functioned as tokens of votive offerings or of visits to temples.\textsuperscript{32}

The inscriptions of the tablets point to such a conclusion, too. Many of the tablets have on one side a U-shaped sign which looks like a pot drawn in profile; it is preceded by zero to four vertical strokes that clearly stand for numbers. In M-494 A and M-495 A, there is a sequence of three U-shaped signs in succession: this may be another way to write the sequence 3 + U occurring on numerous tablets and apparently meaning "three pots". Sometimes the U-shaped sign on the reverse of tablets is held in the hand of a kneeling or standing man-sign (cf. H-247 A). In the moulded tablets M-478 and M-479, the sign combination of 4 + U stands next to an iconographic scene where a kneeling worshipper extends a pot shaped like the U-formed sign towards a tree. Apparently the tree is sacred, and the man is presenting the pot (or according to the inscription, four pots) to it as an offering.\textsuperscript{33}

The engraved copper tablets of Mohenjo-daro form an unusual class of inscribed objects, in that their inscriptions and iconographic motifs are clearly interrelated; this is not so obvious in other classes of Indus inscriptions, although cases like the above cited tablets M-478 and M-479 may occasionally be found.\textsuperscript{34}


\textsuperscript{31} See M.S. Vats, Excavations at Harappa, Delhi 1940, Vol. I, 324ff.


\textsuperscript{34} For an analysis of the copper tablets, see Asko Parpola, Tasks, methods and results in the study of the Indus script, Journal of the Royal Asiatic Society 1975/2. 196ff. with fig. 12, and Paul Yule, Figuren, Schmuckformen und
The interpretation of the iconography of the Indus seals and tablets constitutes a major scholarly challenge. Various comparisons have been made with the ancient West Asian glyptics as well as with the later art of classical India. Although it is impossible to go into detail here, one further example may be briefly mentioned because of its intrinsic interest and also in order to point out that these two kinds of comparisons need not be mutually exclusive. Sir John Marshall's identification of a "Proto-Siva" in the buffalo-horned deity of a famous seal from Mohenjo-daro (M-304) may well be correct, and so may be Alf Hildebeitel's even more convincing identification of this figure as "Proto-Mahisha", although this deity and his "yogic posture" have close counterparts in the earlier glyptic art of the Proto-Elamites. Comparative studies thus suggest that the Indus Civilization may have been an integral if marginal part of the West Asian cultural area and that there is an unbroken cultural continuity in South Asia from the Harappan times until the present day.

4. The enigma of the Indus script

From the very beginning, the pictographic Indus script has been the most tantalizing one among the many problems presented by the Harappan culture. Slightly more than 3500 short inscriptions hold an answer to the most debated question concerning this early urban culture, that concerning its language. Many attempts at deciphering this unknown writing system have been made ever since the first specimen was published in 1875, and all sorts of 'solutions' have been proposed.

The Indus script has been considered as genetically connected with the Brahmi script of early historical India. Other hypotheses have connected the Indus script with the scripts of the ancient Täfelchen der Harappa-Kultur, Prähistorische Bronzefunde I: 6, München 1985.


38 See the last but one paper cited in fn. 35.

Sumerians, Proto-Elamites, Egyptians, Hittites and Chinese and even with Etruscan pot-marks and with script-like carvings on wooden tablets found in the Easter Island, in the middle of the Pacific Ocean. The language underlying the Indus script has been supposed to be Sumerian, Proto-Dravidian, Proto-Indo-European, Proto-Indo-Iranian, Sanskrit, Prakrit, and so on.40

But no unanimity has been reached even on the basic issues, and most literature on the Indus script requires a lot of sifting in order to pick up useful ideas. The main reason for this unfortunate state of affairs is the fact that all keys that opened other unknown scripts are unavailable here. There are no bi- or multilingual inscriptions giving the same text in both Indus script and some readable characters. There are no understood historical texts which could tell the names of the Harappan gods, kings or cities, or which would quote samples of the language spoken by the Indus people. Even the type of the writing system represented by the Indus script is debated. Moreover, all the texts are short and limited in nature: the average length is five signs, and the longest texts, two identical three-sided tablets (M-494 and M-495), contain 26 signs each. The longest inscription on any single side of an object is found on a seal (M-314) with 17 signs divided into three lines.

But students of the Indus script must face these formidable difficulties and the pessimistic prognoses based on them. In fact, some more objective work has been done also. There has been serious discussion of the methodology, and essential research tools in the form of documentation and concordances have been created. On one point, at least, most scholars agree: the direction of writing usually is from right to left (but in the seal stamps, engraved in mirror image, from left to right); however, in some texts (particularly in the early tablets from Harappa) the direction of writing runs from left to right, and in a few texts alternatingly, boustrophedon.41

We cannot enter into a detailed discussion of the Indus script and its study here. For this, the reader is referred to literature published elsewhere.42 In the sequel we shall only try to justify our view, mention may be made of S.R. Rao (The Decipherment of the Indus script, New Delhi 1982), who derives the Brahmi script as well as the Semitic alphabet from the Indus script. However, it is a well-established fact that the Brahmi script is derived from the Semitic consonantal alphabet, and this in turn from the uniconsonantal signs of the Egyptian hieroglyphic writing. Cf. e.g. Georg Bühler, Indische Palaeographie, Grundriss der Indo-Arischen Philologie und Altertumskunde I:11, Strassburg 1896, 10f.; A.H. Dani, Indian Palaeography, Oxford 1963, 23ff.; J.J. Gelb, A study of writing, 2 ed., Chicago 1963, 147ff, 197f.


belief that the present work will constitute an indispensable tool for research in this field: the *Corpus of Indus Seals and Inscriptions* endeavours to collect all the primary material necessary for the study of the Indus script and to make it available in as good form as possible.

5. Earlier documentation of the Indus seals and inscriptions

The collection, edition and careful indexing of all existing material is a basic requirement in the critical and methodical study of any unknown script.

A praiseworthy early undertaking in this task was the book by G.R. Hunter published in 1934. It contained drawings of all the Indus texts excavated by February 1927 (comprising 518 texts from Mohenjo-daro and 243 texts from Harappa), with a documentation of the excavation numbers, as well as a concordance to the occurrences of each individual sign within these inscriptions. Hunter further discussed this evidence and drew certain conclusions from it. Even if one disagrees with his general findings, Hunter is to be credited for a good number of pertinent observations and for the preparation of a valuable research tool.

The official reports of the excavations at Mohenjo-daro, Harappa, Chanhujo-daro and Lothal have included photographs and very substantial and comprehensive descriptions of most of the seals and inscribed objects discovered. It must be noted, though, that the photographs of many duplicate inscriptions from Harappa (and a few from Mohenjo-daro) were omitted from the excavation reports, being replaced in the data tabulations by the short statement "similar to...". Objects in a bad state of preservation were also excluded. The reports of Mohenjo-daro and Harappa further comprise sign lists which record occurrences of the individual pictograms. The sign lists are valuable, even include a few unpublished texts, but are not always accurate and are limited to a portion of the material


43 See above, footnotes 4,5,7. These reports remain essential, and the reader is referred to them also because the detailed catalogue of the material published in this volume will be published later, in the third volume of the Corpus. It is, however, useful to keep in mind that a few mistakes have crept into the excavation reports, especially that of Harappa. Thus, pictures of two-sided tables have occasionally been mixed up, so that the two sides of a given object actually belong to two different objects. Sometimes two sides of one object have been separated from each other and given separate numbers. The tabulations are not fully reliable, either: in addition to misprints, some objects have excavation numbers which are quite different from those written on the respective objects themselves.
only.

A computer-drawn concordance to the Indus inscriptions was published in 1973 by a group of Finnish scholars. In the preparation of this work, Dr Asko Parpola visited the principal museums in Pakistan and India in 1971 in order to compare the readings based on the published photographs with the original objects. To his surprise he found more than 400 seals and inscriptions from Mohenjo-daro and Harappa that had never been published. Most of them came from the digs carried out by the custodians of the site museums after the official excavations and reported only very briefly in the Annual Reports of the ASI. (Fortunately, the unpublished fieldbooks of these as well as of the official excavations have since been discovered in Pakistan, and are in the process of being published.)

Mr Mahadevan brought out his edition and concordance of the texts in the Indus script in 1977, improving upon the Finnish concordance in several respects. Besides, Mahadevan could include more text material on the basis of the Photo Archive of the ASI, which preserves old unpublished photographs of objects since lost. On the other hand, however, Mahadevan excluded all material that Asko Parpola had discovered in the museums of Pakistan and that had been included in the Finnish concordance. Mahadevan's book further included a listing of the texts on which the concordance is based, good documentation, and several cross charts with interesting statistics of different kinds.

Dr Parpola had gone through the Photo Archive of the ASI in 1975 and identified most of its material. In collaboration with Dr Kimmo Koskenniemi, he brought out a revised edition of the Finnish concordance in three volumes in 1979-1982, since there was still scope for improving upon the reading of the inscriptions and upon Mahadevan's work. The new version was published in a preliminary limited edition as research reports, because the work on the present Corpus of Indus Seals and Inscriptions was expected to bring still further improvements upon the textual readings as well as new inscriptions. The updated version will appear in print after the publication of the three

49 Iravatham Mahadevan, The Indus script: Texts, concordance and tables. Memoirs of the Archaeological Survey of India 77, New Delhi 1977. One improvement was the general arrangement of the concordance, which took the single sign as the basis, as in Hunter's concordance, while the Finnish concordance indexed the pairwise combinations of signs and left the isolated occurrences of signs unindexed.
50 Kimmo Koskenniemi and Asko Parpola, Corpus of texts in the Indus script. Department of Asian and African Studies, University of Helsinki, Research reports 1, Helsinki 1979; id., Documentation and duplicates of the texts in the Indus script, Ibid. 2, Helsinki 1980; id., A concordance to the texts in the Indus script. Ibid. 3, Helsinki 1982. The reference numbers of the inscriptions in the Finnish concordance will be changed to those of the Corpus, so as to ease comparison with the photographs. The typological and iconographical classifications will be revised as well.
volumes of the Corpus, for such a standardized and indexed text edition remains a necessary complement to the photographic Corpus.

6. The purpose and scope of the Corpus

The texts in standardized editions and concordances are based upon the subjective judgements of individual scholars, and they do not display all the intricacies of the originals. Moreover, they contain numerous admittedly doubtful readings. Objective photographic documentation of the original inscriptions thus is a necessary complement to such textual studies. Photographs of the original objects are equally indispensable tools for the historians of art and religion studying the iconographic motifs and for archaeologists engaged in a comparative study of the objects. In short, there is no replacement for good photographs of all the Indus seals and inscriptions.

A major part of the material has been published in photographs in the excavation reports of Mohenjo-daro and Harappa; they illustrate altogether roughly 2500 objects. These publications have long been out of print and difficult to procure. It is true that they have been reprinted in recent years, but the quality of the photographs in the reprints is so low that they are practically unusable. The published photographs of the rest of the material, on the other hand, are scattered in a number of publications, and their mere collection involves great difficulties for persons without access to specialized libraries.

It would have been simple enough to collect and reproduce the old photographs of the earlier publications. Such a procedure, however, would have resulted in a book that would not have fully satisfied the serious student of the Indus script and iconography. The size and quality of the illustrations, even in the original reports, is not always sufficient. Moreover, the available material is documented incompletely, for, as pointed out above, there are many hundreds of unpublished objects: objects coming from excavations conducted at Mohenjo-daro and Harappa after the conclusion of the official excavations; a large number of duplicate and broken or indistinct objects, especially from Harappa; and objects from excavations and explorations carried out in India and Pakistan during the past few decades but not yet published in full.

Apart from their inscriptions and iconography, the seals form an important category of artifacts in their own right, which we have seen to have much relevance for the study of the external relations of a culture as well as of its internal processes. Therefore, in addition to all the inscriptions in the Indus script, this Corpus will contain all the Harappan seals, including those without any inscription. In the case of other object types, "inscription" has occasionally been understood rather liberally so as to include, for example, K-119, a most interesting terracotta cake from Kalibangan, though its incisions form an iconographic motif rather than an inscription.

Moreover, the concept of 'Indus seals' is to be understood in its widest meaning. In addition to the Mature Harappan period or the Indus Civilization proper, the Corpus will, with certain restrictions, cover the Early and Late Harappan periods as well and also include all the imported seals of foreign types coming from Harappan sites.51 Furthermore, 'Harappan' is understood to

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51 See the discussion in chapter 2. In the past, some clearly imported seals like H-166 have often been treated as Harappan; in order to prevent this from happening in the future, the word "foreign" has, space permitting, been put in the page caption of the Corpus at such seals.
include closely related cultures such as that of Kulli in Baluchistan or Prabhas Patan in Saurashtra. Thus the "Northeast Iranian" type seal coming from the Kulli site of Mehi has been included, and it would have been folly to exclude the NE Iranian type seal from Shahi-tump found in Indian collections. Although Maski is not a Harappan site, the cylinder seal found there is of great interest: obviously made in India - witness its elephant motif - it demands comparison with the cylinder seal found not so far from Maski, in Daimabad, in a Late Harappan context.

Some objects kept in the museum collections together with Indus seals or inscriptions have been purposely excluded as irrelevant. In the case of this volume, these include some Kuśāga coins from Mohenjo-daro, some Harappan ear studs (?) with geometrical motifs carved on them, and some quite indistinct objects from Lothal.

The relatively few seals and clearly Harappan-type inscriptions from the Late Harappan period have been included in the Corpus, but Late Harappan graffitti have been excluded, with a few exceptions. These graffitti are short and appear to be just "pot-marks" rather than real writing. Still, they are potentially interesting to the student of the Indus script, even though not to the same extent as the Early Harappan pot-marks. The problem is their great number, coupled with the difficulties of drawing a line between Late Harappan and Post-Harappan and of finding the original potsherds. For these reasons we have decided not to reproduce the graffitti from Rangpur in this volume; these have been collected and published (only partially in photographs) by S.R. Rao. Only the most elaborate Late Harappan "inscription" from Rangpur (Rgp-2) has been reproduced in this volume along with the one original sherd that could be traced (Rgp-1). The "Late Harappan inscriptions" from Machhala Mota, the signs painted on Jorwe pottery from Daimabad, and, among other things, the graffitti on red pottery from Ganeshwar have been excluded for similar reasons.

7. The documentation of the objects

Original objects and their present-day impressions

Because the texts carved in mirror image on the seals are to be read as they appear in the impression, the reports of the excavations at Mohenjo-daro and Harappa published just the

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52 (Sd 2756, ASI 63.10.294) Two copper coins, one round, one square; one copper coin found by R.D. Banerjee (ASI 63.10.301); and one round copper coin (Y 71, ASI 63.10.418).
53 DK 8991 (PWM 350); DK 12204 (PWM 351); HR 225 (IM 10508, A 7978) and HR 822 (PTN Arch. 10259) from Mohenjo-daro: 336 (IM 11109, A 21202) and 3603 (IM 11101, A 22435) from Harappa; and one of uncertain provenance (PWM 352). Cf. E. Mackay, *Further Excavations at Mohenjo-daro*, Delhi 1938, Vol. I, 532f.
54 The objects having the exc. nos. 2839 and 3750 could be remnants or elements of seals, but this seems most uncertain, and in any case they contain no writing. The clay lumps having the exc. nos. 1837, 1856, 1890, 1984, and 5242 contain no trace of a seal impression.
57 See *Indian Archaeology* 1974-75 - A Review, pl. XXVI.
impressions. However, the impression may not faithfully reproduce all the features of the original, and the original always remains the ultimate authority. On the other hand, the impression is needed not only because it shows the inscription in its proper form but also because it sometimes reveals details not immediately visible by the inspection of the original. For example, it is harder to see an inscription on a rough or transparent or multicoloured surface than in an impression taken on a neutral and unweathered material (cf. M-221 and L-36). Thus the original and its impression complement each other and furthermore make a double checking possible.

As a rule, an impression of an object is always published in this Corpus when the object was originally meant to produce one, as is the case with the stamp seals. Exception is taken to this rule, however, if it was not possible to get an impression, as for example if a seal was too brittle. In addition, an impression is published whenever it clearly helps in understanding an object meant to be read directly (e.g., H-176).

The ASI has taken the responsibility for making the impressions of these unique and often fragile Harappan objects. The use of silicone rubber was considered, but in their tests the chemists of the ASI came to the conclusion that the condition of the objects does not allow this material to be used. Unfortunately the plasticine used instead is not sensitive enough, so that all details have often not been reproduced. Moreover, small crevices often form when a forceful impression is made on plasticine, with a result that is not aesthetically pleasing even if it may otherwise be adequate (cf., e.g., M-32 a & M-208 a). And in the case of large seals especially, it is difficult to obtain a good impression in which all parts of the inscription and the device are perfect. However, in the vast majority of the seals, the new impression is much better than the old one.

Since an impression was taken and photographed twice for most of the objects, there was often the possibility to choose a second if one was not good, but in numerous cases neither version was publishable. In 1987, an effort was made to obtain a good new impression of such seals. Where this could not be done, recourse was taken to old impressions made soon after the excavations, either those published in the excavation reports or, if better, those available in the Photo Archives of the ASI.

It would have been possible to replace missing or bad impressions by reversed prints of the original seals, but this procedure was strictly refrained from; it could have lead to serious misunderstandings, for some seals have a reversed direction of writing.

Broken objects

Old photographs have been published besides the new if they clearly complement each other and whenever they show an object in a state of preservation that is better than its present state. A broken object may have been restored afterwards, and in some cases the impression taken nowadays of the object may be quite misleading.

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59 Sometimes the photograph of a new impression was received only after the printing was started, with the result, e.g., that M-81 a bis now makes M-81 a irrelevant.

60 Cf., e.g., H-141 and especially H-129. From M-277 a, an old impression, it can be seen that one corner was originally missing from this seal. The restoration evidenced already in another early impression, M-277 a bis, seems dubious, for the inscription in the added corner does not seem to fit.
The excavation reports sometimes left one wondering whether the object depicted is complete, and if not, how much is missing. This can be checked by examining its back or sides. In the case of the regular square seals, this is often superfluous, because the estimate can be made from the front side itself, but for the rectangular seals without iconography it is indispensable to see the flank side and the position of the cord hole that is usually pierced through its centre.\footnote{This can sometimes be tricky. For example, the seal L-84 at first sight seems to be complete even when one looks at its side edges, because the hole goes through the middle of the seal. But the remains of a second hole show that the seal has been reshaped.}

The different sides of the objects and their specification

Many of the objects have two or more (up to six) sides with inscriptions, pictures or engravings of one kind or another. It is clear that all such sides had to be photographed and published. But the photography carried out for the Corpus was extended to comprise even the empty sides. This procedure made it possible to verify afterwards whether a given side of a specific object really is empty. Another reason for documenting all the sides of the objects was the need to check the excavation number (and often the museum number as well), which has usually been painted on the object.\footnote{In some cases the excavation number painted on the object differs from that assigned to it in the lists of the excavation reports; sometimes the difference is likely to be due to a mistake in the report; sometimes the number painted on the object has become obliterated and has been erroneously restored.}

Originally the publication of all the sides of all the objects was contemplated, but this would have been too expensive, and for most of the users of the Corpus, the sides now left out are of little interest. So only a selection of the unscribed sides is published in the Corpus: they are shown when needed to give an idea of the shape of the object, especially if a divergent type of seal is concerned.\footnote{However, it was deemed unnecessary to show all the sides of some shapeless lumps (such as L-120). If side edges are shown, it is the edge with a hole going through the object that is selected.}

The different sides of the objects are indicated in the Corpus by means of capital letters, which normally have the following significance: \( A \) = the obverse (which is taken as the point of reference for the other sides) / \( B \) = the reverse / \( C \) = the upper side / \( D \) = the right side / \( E \) = the lower side / \( F \) = the left side. The principal (rectangular) sides of the three-sided prisms are numbered A, B, and C and their (triangular) ends D and F.\footnote{An additional letter G is used in M-494 and M-495 which, classified as three-sided prisms, actually are four-sided.}

The corresponding lower case letter is used to refer to the impression taken of any of the sides, for instance, \( a \) = impression of \( A \).

Different inscriptions (for instance, impressions made with separate seals) on any one side of an object have been numbered with Arabic numerals following the letter for the side, and usually the corresponding numbers have been marked beside the respective inscriptions alongside the photograph. The order is, conventionally, from left to right and from top to bottom.

If two or three different photographs of the same side are published, the code number for the second, third and fourth photograph is followed by the words \emph{bis}, \emph{ter} and \emph{quater} respectively. Such photographs are usually arranged in the temporal order, from the oldest (first) to the latest (last). If
different parts of the same side are shown in several photographs (as in the case of the cylinder seal M-418), these are given a separate Arabic numeral put within parentheses after the letter indicating the side: M-418 A (1), M-418 A (2), etc. The same is done if one picture gives a general view of a side and another an enlargement of its inscription (as in the case of the pots M-420 to M-422).

The aim of these conventions is to make each photograph and the reference to it unambiguous.

The scaling and printing of the photographs

In the excavation reports, the seals are normally depicted in their natural size, but this scale has proved to be too small for a clear recognition of all details of the inscriptions and iconographic motifs. The policy adopted in this Corpus is to print all the sides of all objects bearing either inscriptions or any kind of iconography in double size (2:1, or 200%) whenever possible, and their uninscribed sides (if illustrated at all) either in the natural size (1:1, or 100%) or in the double size (200%). All exceptions to this rule will be specifically indicated in each case. Most of the graffiti from Lothal are shown half-sized (50%) - this percentage is given in the page caption, and exceptions to it in casu.

As the great majority of the photographs is in the same scale, one will have an idea of the relative size of the different objects. This is important, because in the case of the seals, for instance, the relative size seems to convey information of its own.\textsuperscript{65}

The major part of the prints was made on plastic in order to avoid the distortions due to the stretching of wet paper. Moreover, while photographing the original objects Ms Lahdenperä measured them, and most of the prints have been enlarged by using these measurements.\textsuperscript{66} Note, however, that reproductions of (published and unpublished) old photographs especially, which were not necessarily in the correct size originally and which were mechanically enlarged in the double size, are liable to be slightly inaccurate. As the actual measures of the objects will be listed separately in the third volume and are partly available even now in the published reports, the reader will be able to check the size of the photographs.

Deep etching gives an aesthetically pleasing look to the page, but it has its drawbacks.\textsuperscript{67} For this reason it is used sparingly in the Corpus.

8. The criteria of arrangement and related conventions of the Corpus

General considerations

Theoretically, the Indus seals and inscriptions could be classified in several ways. For example, the inscriptions could be arranged according to the pictographic sequences they contain. However, this arrangement would only serve the needs of scholars interested in the script and is better left to the concordances of the script. If the concordances are keyed to the Corpus, cross-reference and verification will be easy, whatever the principles of arrangement.

\textsuperscript{65} Cf. above, at fn. 30.

\textsuperscript{66} If the enlargement is based on a scale visible in the picture, there is an element of error, for the scale is often at a different level from the surface of the object.

\textsuperscript{67} Cf., e.g., E. Mackay, \textit{Further Excavations at Mohenjo-daro}, Delhi 1938, Vol. II, no. 361 with M-153 below.
Ernest Mackay, in Further Excavations at Mohenjo-daro, arranged the objects coming from Mohenjo-daro according to the different areas of the site and the absolute depth of the finding place from the surface. He wished to control the data from the point of view of archaeological distribution, looking for evolutionary and other trends. The result was chaotic: objects of different types and sizes were mixed with each other. Unless one knows the number of the object, it is impossible to locate it without scanning through the entire material. In the present Corpus, the archaeological context is taken into account in the arrangement of the objects when it is feasible and useful: thus the objects from the Late Harappan period from Lothal (graffiti only) and Chanhoo-daro (seals) are presented as a separate section at the end.

The aim of the classification must be efficiency in placing and locating any given object within the whole. The type of the object, form, material, iconographic motif, size, style and state of preservation have been chosen as parameters in the Corpus, in this order. A solution of this kind, which makes a neat layout possible, was followed by Sir John Marshall in Mohenjo-daro and the Indus Civilization and, less successfully, by M.S. Vats in Excavations at Harappa.

The 1st criterion: the owners of the objects; and the overall publication plan

Ideally, of course, one would like to see all the objects coming from a single site, for example Mohenjo-daro, neatly arranged into one single sequence. There are, however, other considerations and realities, which have made it impracticable to realize this ideal. Instead, the Corpus is divided into three volumes according to the first criterion of physical location and ownership of the original objects. In this the Corpus of Indus Seals and Inscriptions follows the example of the Corpus of Minoan and Mycenaean Seals, for instance, which is divided into different volumes according to the museums in which seals are preserved. The first volume of the Corpus presents the collections housed in the museums of India, the second volume the collections in the museums of Pakistan.

The third volume will contain the relatively few objects known to exist in collections outside India and Pakistan and the large number of lost objects, which are not directly documentable but must be published as old photographs only. Besides addenda to the previous volumes, this third (and for the time being last) volume will also contain a detailed catalogue of all the objects of the Corpus, documenting (in addition to the excavation and museum numbers, which are given separately in the first two volumes as well) such matters as the archaeological context, measures, notes on the material, manufacture, text and iconography, and published references. Furthermore this information will be fully indexed.

This first volume, then, contains 1537 Indus seals and inscriptions physically existing in

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69 We want to emphasize that the order of the volumes is due simply to the fact that the Indian material first reached the stage when publication could be begun and has no political implications. In fact, the possibility of leaving out the volume numbers altogether in order to avoid the issue was considered, but then dropped as impractical.

70 This arrangement has practical reasons. The first two volumes are bulky because of a large number of photographs, while the third volume will contain an essentially smaller number of photographs. Therefore, it has more space to accommodate both the lengthy catalogue and the indexes, which naturally should be cumulative. Even the museum indexes, which would have been handy in the first two volumes, have to be published in the third volume for these reasons.
public collections in India. We have excluded the objects stolen from the Prince of Wales Museum of Western India, Bombay, although photographs of these objects are available; they will be published as lost objects in the third volume. As far as possible, we have tried not to publish old photographs, but to procure new better ones. When originals almost certainly existing in Indian collections could not be located, however, we have resorted to reproductions. If better pictures of such objects are obtained later, they will be published in the third volume.

The 2nd criterion: the provenance of the objects; and their numbering system

It is clearly undesirable to lose control over the sitewise distribution of the objects; a purely typological arrangement mixing objects from all sites would be inadvisable. The site from which the object comes has to be a primary parameter of the classification. Now that seals and inscriptions coming from one and the same site will be distributed in several volumes, a flexible new numbering system is required which will both allow additions at will and make it easy to place the object in its proper context. The Corpus of Indus Seals and Inscriptions employs a separate consecutive numbering for each site, prefixed by a letter code which is more easily remembered than a numerical code. The major sites have a short, one-letter code. These sites are, moreover, arranged in each volume according to the total number of seals and inscriptions found at them, in the descending order. The sites which are "smaller" (in respect to the number of seals and inscriptions found at them) have a two-, three- or four-lettered code corresponding to their standard archaeological abbreviations and they are arranged in alphabetical order for easy reference. (See the table of contents.) The letter prefix for the site is followed by a dash and the number of the object assigned to it by its place within the classification sequence. Thus the objects from Mohenjo-daro in this first volume are numbered M-1 to M-620, and they are followed by the objects from Harappa starting with H-1. The objects from Mohenjo-daro in the second volume will start with M-621. Any number of additions can be made.

The 3rd, 4th and 5th criteria: the object type, form and material; and the symbols in the page captions

After the site, the next criterion of organization of the Corpus is the type of the object.

71 In the recent editions and concordances, the Indus inscriptions from Mohenjo-daro and Harappa were keyed to the published excavation reports: a number code was allotted to each of these reports and prefixed to the consecutive numbers used for the objects in the plates of the respective report. This basic reference number system was then extended to cover the other sites as well and also the unpublished objects from Mohenjo-daro and Harappa found in museums. In principle, one could recognize the site from which any given object came from the first one or two digits of its four-digit reference number. However, this system has its obvious drawbacks and limitations. Mohenjo-daro required three separate first numbers: 1 for Marshall’s report, 2 for Mackay’s report, and 0 (in the Finnish concordance) or 3 (in Mahadevan’s concordance) for the unpublished objects. The small sites required at least two consecutive first numbers, difficult to remember. And not only had this system become a bit complex, but it also started to run out of numbers. Cf. S. Koskenniemi, A. Parpola and S. Parpola, Materials for the study of the Indus script I: A concordance to the Indus inscriptions, Annales Academiae Scientiarum Fennicae B 185, Helsinki 1973, xvi; and I. Mahadevan, The Indus script: Texts, concordance and tables, Memoirs of the Archaeological Survey of India 77, New Delhi 1977, 30.
Table 1 lists in order and explains the simplified symbols for the typological subcategories used in the page captions of volume one. Because this table simultaneously gives a convenient overview of the typological classification of the seals and tablets, the captions over each page are explained first in this context.

The caption lists in order (1) the full name of the site and the numbers of the objects coming from it that are illustrated on the page; (2) the principal object type spelled out in letters; (3) simplified symbol(s) specifying the form of the object(s); (4) material (if metal), iconographic motif(s) and size class(es) expressed with Roman numerals. Occasionally, exceptional scaling or archaeological period is mentioned. Only one-line captions are used, and information that cannot be accommodated is dropped, starting from the last categories. The captions have been reversed on even-numbered pages, in order to place the first and most needed subcategories closest to the page number on the right.72

We have tried to keep the typological classification as simple and unambiguous as possible. Four broad categories are distinguished: (1) seals & seal impressions, (2) tablets, (3) graffiti on pottery and (4) miscellaneous. These main groups, which are functionally different from each other, are subdivided further according to formal criteria. The material of the object is taken into account next, but only in the form of a broad division into non-metal and metal (mainly copper or bronze) objects, which are placed at the end of each class.

Seals are the most important category of Indus inscriptions in terms of frequency, so they are placed at the beginning. The most common basic form of the Indus seals is square, which is placed first, and the next frequent form, rectangular, is placed after it. Within both forms, subcategories are distinguished.

The square seal normally has a perforated boss at the back, which apparently served both for hanging the seal by a cord and as an aid in making the impression. This type is presented first, with the rare example of a metal (silver) seal at the end, followed by the exceptional seals of this category: those that have been inscribed on more than one side and those having a case (probably for an amulet) inside them. Next follow the square seals where the boss is absent: first perforated seals with one side inscribed, then perforated seals with two or more sides inscribed, and then the unperforated seals similarly subdivided. These seals without a boss share similar inscriptions and iconographic motifs with the ordinary seals having a boss, so they have been placed after them, before the seals with nothing but a swastika or some other geometric motif, although the reverse of these last-mentioned seals does have a perforated boss (usually smaller than the normal seals and undivided, see M-332).

Imported foreign objects are usually placed at the end of each category; thus a fine Iranian square seal with a perforated undivided boss (M-353) is the last of the square seals of Mohenjo-daro.

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72 The decision to reverse the captions on even-numbered pages was perhaps not quite so felicitous, because they have become somewhat difficult to interpret: each subcategory forms an entity to be read from left to right, so two or more symbols of form class (each with or without information on the iconographic motifs on the left) are to be read from left to right on even-numbered pages.

73 Most of the Harappan metal objects are copper rather than bronze; cf. D.P. Agrawal, The archaeology of India, Scandinavian Institute of Asian Studies Monograph Series 46, London 1982, 151. It is hoped that all the objects can be properly analysed in the near future, so that the results can be published in the detailed documentation of the third volume.
The normal type of rectangular seals has a profile that is straight on the front side and convex on the back side with a hole for the suspension cord going through the middle (cf. M-354 C).\textsuperscript{74} Whenever the side profile is rectangular, or the back has a boss similar to that of the square seals, this is shown by publishing the relevant side(s) (cf. M-407 ff.).

Other forms of seals are rare, and in most cases these forms have been inspired by foreign models, if the seal itself is not a foreign import (see above, chapter 2). The round seals of the Indus Civilization have a perforated boss of the same type as the square seals and differ in this respect from the round "Dilmun" seal (L-123). In the round seals of the Late Harappan period, the suspension hole goes through the flat body of the seal (cf. C-45 to 50). With regard to the cylinder seals, which come next, before the stepped seals, it has to be pointed out that two small cylinders from Harappa have been classified as incised tablets (H-368 and H-369).\textsuperscript{75}

The ancient seal impressions stand for the seals they were once made with, so they are placed next to the actual seals. A distinction is made between impressions on pots, which come first, and impressions on clay tags. Uninscribed sides of clay tags that have been attached to bales of goods are illustrated, if they bear significant traces of the package material. The tags have been arranged according to the number of seal impressions they contain, those with single impressions being placed first, then according to the iconography and the inscriptions of the seal impressions.\textsuperscript{76}

There is a large group of objects which we have lumped together and called, neutrally, tablets. A basic distinction is made between stamped or moulded tablets, whose texts and iconography are in bas-relief, and incised or engraved tablets, whose texts are depressed. The incised copper tablets (placed at the end), so far found at Mohenjo-daro alone, can be divided into three groups according to their shape: square, rectangular and oblong (or long rectangular).

Round tablets in bas-relief often bear a square seal impression on one side and are flat on the other side. These round ‘tablets’ are placed at the beginning, because they might also be classed as seal impressions;\textsuperscript{77} they may have functioned as tokens of identification, or ‘passports’ of representatives of the seal owners. Since some of the other tablets in bas-relief, too, may have been produced with the help of seals, these round tablets have not been separated from the rest.

In both of the main categories, the embossed and the engraved, the tablets are subdivided firstly according to their form (and material) and secondly according to their iconography, size, and condition of preservation. We have tried to avoid form-based classifications that will lead to ambiguous cases and practical difficulties: thus, the class of rectangular shape includes both thin and thick tablets and evenly flat tablets as well as tablets that are slightly thicker at the centre than at the edges. Finer classifications have been proposed, but they are difficult to carry through in practice.

\textsuperscript{74} The arch of the back is usually smooth (as in the case of M-354), sometimes edged (cf. M-374 C), but as this distinction is often a question of degree, it is not systematically noted in the Corpus.

\textsuperscript{75} The fact that the inscription has the normal direction of writing, from right to left, in the original cylinder but is reversed in the impression, is in itself not a sufficient proof for such a cylinder not being a seal, because the direction of writing has not yet been fixed in the early layers of Harappa. But the inscription in H-369 C connects this object with the vast majority of the ‘tablets’.

\textsuperscript{76} The Lothal tags with multiple seal impressions have been arranged in accordance to the preliminary analysis presented by Askos Pargy, The Indus Script: A Challenging Puzzle, in: World Archaeology 17: 3, February 1986, 401 f. with fig. 1.

\textsuperscript{77} Incised tablets with a round shape have a different place in the sequence.
and would complicate locating a given object in the Corpus.

The term *graffiti* is understood here to mean inscriptions incised on pottery before or after firing and inscriptions painted on pottery. An attempt has been made to place graffiti with similar signs together, and the better and clear inscriptions at the beginning. When the text is very fragmentary, it is often quite uncertain in which direction the potsherd should be read. The reader, therefore, must never take the solution offered in the Corpus for granted, but be prepared to turn the photograph around.

*Miscellaneous objects* is a heterogeneous category designed to accommodate the few odd objects that fall outside the other typological classes. Inscribed copper or bronze weapons and tools is the most important object type here, but in this volume the category also comprises an incised terracotta cone (M-619) and an incised shell ladle (M-620).

**The 6th criterion: the iconographic motifs**

The classification of the iconographic motifs in the Corpus is based on the following oppositions:

- **iconographic motif:** no iconography
- moving animate being : inanimate
- animal : anthropomorph
- real animal : imagined animal
- single : group
- joined animals : composite animal

A detailed analysis of the iconography of the Indus seals and tablets is in preparation and will be published elsewhere. What we offer here is a broad classification of motifs sufficient for organizing the material into coherent classes: 'unicorn' / urus / bison / zebu / buffalo / markhor / goat / deer / rhinoceros / elephant / tiger / hare / snake / gharial / animal group / joined animals / composite animal / anthropomorph / tree / cult object (variously interpreted as a manger, incense burner or filter) / ship / swastika / other geometric design.

The 'unicorn' motif is placed first because it is the most common one of the Indus seals. The style of representing this animal in profile, so that just one single horn is shown, has in all probability been borrowed from the art of the ancient Near East. Although this representation undoubtedly has had a mythological explanation and importance in the Harappan religion, the 'unicorn' is likely to be a real animal (probably the urus, or Bos primigenius) which actually had two horns. It is in fact sometimes depicted as having two horns, but for the sake of analysis and classification, these two-horned representations have been separated from the 'unicorns' under the immediately following heading of 'urus'. These two headings are followed by other bovids, these by caprids and other cloven-hoofed ruminants.

An "animal group" consists of two or more natural animals appearing on one object, either

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78 Not infrequently, it is difficult to distinguish between a painted inscription on pottery and a painted pot decoration. This applies especially to the Early Harappan 'pot-marks', many examples of which will be published in the second volume of the Corpus.
separately or forming one scene like the two confronting bison. "Joined animals" usually have more than one head (as do the three tigers joined into a rhomb in M-295 or the bison which, in addition to its own head, has the head of the 'unicorn' in M-298) or, while composed of two or more animals, may not be complete animals (for example, just the heads and necks of two 'unicorns' are joined with each other and a fig tree and a cult object in M-296). The "composite animal", again, is a complete beast whose body parts belong to different animals.

Usually only one type of composite animal is represented in the seals. It has the horns of the zebu, the face of man, the tusks and the trunk of the elephant, the neck and front legs of the goat, the middle body of the 'unicorn', the hind legs of the tiger, and the snake for a tail (cf. M-299 to M-302). But in the incised copper tablets of Mohenjo-daro, one can distinguish several composite animals. The composite nature of most of the animals depicted on these copper tablets has rarely been recognized so far. The "mastiff" of the excavation reports, for example, is actually a composite animal put together of the zebu (horns), tiger (head and front part of the body) and rhinoceros (back part of the body). In this fashion, we distinguish the following composite animals on the copper tablets (given separate Roman numerals when occurring after one another): buffalo + man + deer (?) + snake (M-504 to 506) / markhor + unicorn (M-543 to 549) / two-headed zebu + tiger (?) + unicorn (M-550) / markhor + camel + buffalo (M-551 to 566) / zebu + tiger + buffalo (M-567 to 570) / zebu + elephant + rhinoceros + snake (M-571) / zebu + tiger + rhinoceros (M-572 to 574) / zebu + camel + rhinoceros + snake (M-575 to 581).

The "anthropomorph" is another broad category, which lumps together almost all the scenes in which any man-like figure is seen. This motif is broadly arranged as follows: sitting anthropomorphic deity / anthropomorphic deity inside a fig tree / "contest": hero fighting with two tigers / man sitting in a tree and a tiger beneath looking at him / tiger-bodied goddess / deity holding by the hand two men who carry uprooted trees / archer / men jumping over a buffalo / man spearing a buffalo / tree-worship / sexual intercourse / religious procession with carried cult objects.

The 7th, 8th, and 9th criteria: the size, style, and state of preservation

The size criterion implies that, other things being equal, the larger object comes first. Only in two categories of objects has it seemed necessary to distinguish between several size groups according to their height, for both intrinsic and layout reasons.

The rectangular seals without iconography have been divided into three classes: (I) 18.5 mm and more, (II) 13 to 18 mm, (III) 12.5 mm and less.

79 For the iconography of C-26 and C-41, cf. A. Parpola, The Sumerian 'bull-harp' motif in late Indus seals from Chanhuj-daro (forthcoming).
80 M-303 represents a deviant type, with not only the horns but also the hump of the zebu and a less human face.
81 An exception is Paul Yule, Figuren, Schmuckformen und Täfelchen der Harappa-Kultur, Prähistorische Bronzefunde I, 6, München 1985, 32-34. Yule's analysis is somewhat different in detail.
82 The scene in M-439 to M-441 B is classified as an "animal group" although three anthropomorphs are seen in it.
83 This sketchy list is not exhaustive for the anthropomorphic motifs nor is it meant to provide an adequate description of the scenes involved.
The square 'unicorn' seals have been divided into six groups: (I) 43.5 mm and more, (II) 35 - 43 mm, (III) 29 - 34.5 mm, (IV) 23 - 28.5 mm, (V) 17.5 - 22.5 mm, (VI) 17 mm and less.

Within each size group, the 'unicorn' seals have been further arranged according to stylistic criteria. We have adopted the basic scheme developed by Paul Rissman by placing first the unicorns with a "collar", then the unicorns with "hatched neck", and finally the unicorns with "hatched face". Each of these groups, which apparently have a chronological significance, is subdivided according to the details of the "cultic object" in front of the unicorn.84

As a general principle, badly broken objects are placed after the better preserved specimens of their category. However, exception is taken to this rule in the class of rectangular seals, which are arranged according to their length, since broken seals have once been longer than the full seals of the same length.

9. A note on the material and production of the objects and on the colour photographs

Space forbids discussing the material and production of the Indus seals and inscriptions in any detail here; for this the reader is once again referred to the excavation reports. It can only be noted that the great majority of the Indus seals are made of steatite, generally whitish in colour. The seals were first sawed and cut into their forms and then polished; the subject was outlined with a sharp point and then engraved with a drill. Finally the seal was coated with an alkali and heated. It seems that the alkali coating was applied mainly to dark steatite in order to make it white. Heating hardens the steatite, which is a very soft stone, and thus protects it against wear. The various stages of this process can been seen from different examples, the unfinished ones being particularly instructive.85

The moulded tablets are normally made of terracotta or faience, but there are also a few cast copper tablets (placed at the end), while the incised tablets usually are of steatite or copper.

Some selected objects are shown in colour and in as big enlargements as the space allows at the end of the volume. In part, this 16-page selection aims at doing justice to the artistic beauty of some superb pieces of Harappan art, and partially it is intended to convey an idea about the colour and material of the objects.86 Naturally some enlargements, such as that of the "Proto-Siva" seal (M-304), are also meant to help scholars in distinguishing important details. No scale is given, because the relative and absolute size of the objects may be seen from the black-and-white photographs, to which they are keyed.

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86 Of the objects illustrated in the colour photographs, 10 (M-332), 20 (M-453), 23 (M-445) and 26 (H-231) are said to be faience (20 "with a white glossy coat", 23 with traces of green glaze); 21 (M-449), 22 (M-440), 31 (K-89), 32 (K-96) and 35 (Stkt-3) are pottery (21 once coated with dark chocolate coloured slip); and 24-25 (M-534) copper. All the rest are said to be steatite (of different colours), but this remains to be checked by mineralogists.
Mohenjo-daro
M-3 A

M-3 a
M-HENJO-DARO 73-74 SEALS  'unicorn' III

M-73 A

M-73 a

M-74 A

M-74 a

M-74 a bis
MOHENJO-DARO 269-273 SEALS

buffalo, markhor, goat

M-269 A

M-270 A

M-270 B

M-270 C

M-270 D

M-269 a

M-270 a

M-271 A

M-271 a

M-272 A

M-272 a

M-273 A

M-273 a
M-278 A

M-278 a

M-279 A

M-279 a

M-280 A

M-280 a
joined animals

M-295 A

M-295 B

M-295 a

M-296 A

M-296 A bis

M-296 a

M-296 a bis
<table>
<thead>
<tr>
<th>Tablet Number</th>
<th>Image</th>
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<tbody>
<tr>
<td>M-509 A</td>
<td><img src="image" alt="M-509 A" /></td>
</tr>
<tr>
<td>M-509 B</td>
<td><img src="image" alt="M-509 B" /></td>
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<tr>
<td>M-510 A</td>
<td><img src="image" alt="M-510 A" /></td>
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<tr>
<td>M-510 B</td>
<td><img src="image" alt="M-510 B" /></td>
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<tr>
<td>M-511 A</td>
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<tr>
<td>M-511 B</td>
<td><img src="image" alt="M-511 B" /></td>
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<tr>
<td>M-512 A</td>
<td><img src="image" alt="M-512 A" /></td>
</tr>
<tr>
<td>M-512 B</td>
<td><img src="image" alt="M-512 B" /></td>
</tr>
</tbody>
</table>
elephant

TABLETS incised, copper MOHENJO-DARO 529-532

M-529 A
M-529 B

M-530 A
M-530 B

M-531 A
M-531 B

M-532 A
M-532 B
MOHENJO-DARO 533-536 TABLETS incised, copper

- elephant, hare

M-533 A
M-533 B

M-534 A
M-534 B

M-535 A
M-535 B

M-536 A
M-536 B
TABLETS incised, copper MOHENJO-DARO 537-540

M-537 A
M-537 B
M-538 A
M-538 B
M-539 A
M-539 B
M-539 A bis
M-539 B bis

[For M-540 see p. 364]
MOHENJO-DARO 604-608 TABLETS incised, copper  no icon.

M-604 A

M-604 B

M-604 B bis

M-605 A

M-605 B

M-606 A

M-606 B

M-607 A

M-607 B

M-608 A

M-608 B
<table>
<thead>
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<th>No.</th>
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<tbody>
<tr>
<td>H-214 A</td>
<td>![Image](H-214 A)</td>
</tr>
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<td>H-214 B</td>
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<tr>
<td>H-215 A</td>
<td>![Image](H-215 A)</td>
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<tr>
<td>H-215 B</td>
<td>![Image](H-215 B)</td>
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<tr>
<td>H-216 A</td>
<td>![Image](H-216 A)</td>
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<tr>
<td>H-216 B</td>
<td>![Image](H-216 B)</td>
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<tr>
<td>H-217 A</td>
<td>![Image](H-217 A)</td>
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<tr>
<td>H-217 B</td>
<td>![Image](H-217 B)</td>
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<td>H-218 A</td>
<td>![Image](H-218 A)</td>
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<td>H-218 B</td>
<td>![Image](H-218 B)</td>
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<td>H-219 A</td>
<td>![Image](H-219 A)</td>
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<td>H-219 B</td>
<td>![Image](H-219 B)</td>
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<td>H-220 A</td>
<td>![Image](H-220 A)</td>
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<tr>
<td>H-221 A</td>
<td>![Image](H-221 A)</td>
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<td>H-221 B</td>
<td>![Image](H-221 B)</td>
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<tr>
<td>H-222 A</td>
<td>![Image](H-222 A)</td>
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<tr>
<td>H-222 B</td>
<td>![Image](H-222 B)</td>
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<tr>
<td>H-223 A</td>
<td>![Image](H-223 A)</td>
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<td>H-223 B</td>
<td>![Image](H-223 B)</td>
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<tr>
<td>H-224 A</td>
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<td>H-224 B</td>
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<td>H-225 A</td>
<td>![Image](H-225 A)</td>
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<td>Image</td>
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<td>H-245 A</td>
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<tr>
<td>H-245 A bis</td>
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<td>H-246 A</td>
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<td>H-247 A</td>
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<td>H-245 B</td>
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<td>H-247 B</td>
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<td>H-248 A</td>
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<td>H-248 A bis</td>
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<td>H-248 B</td>
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<td>H-248 a</td>
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<td>H-249 A</td>
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<td>H-249 B</td>
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<tr>
<td>H-250 A</td>
<td></td>
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<tr>
<td>H-250 B-C</td>
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<tr>
<td>H-250 F</td>
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</tr>
<tr>
<td>H-250 B</td>
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<td>H-250 D</td>
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<td>H-250 E</td>
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<td>H-251 A</td>
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<td>H-251 B</td>
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<td>H-251 C</td>
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<td>H-251 a</td>
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<tr>
<td>H-251 b</td>
<td></td>
</tr>
<tr>
<td>H-251 c</td>
<td></td>
</tr>
</tbody>
</table>
H-252 A
H-252 B
H-252 A bis
H-252 B bis
H-253 A
H-253 B
H-253 A bis
H-253 B bis
H-254 A
H-254 B
H-254 A bis
H-254 B bis
[For H-266 to H-275 see vol. 2]
HARAPPA 291–301  TABLETS incised  □ cult object; no iconography
Lothal
LOTHAL 101-103 SEALS  no iconography

L-101 A

L-101 B

L-101 C

L-101 E

L-102 A

L-102 B

L-102 C

L-102 D

L-102 E

L-102 F

L-103 A

L-103 B

L-103 C

L-103 D

L-103 E

L-103 F
'unicorn', geometric design, no icon.
LOTHAL 113-116 SEALS  

no iconography
LOTHAL 177-180 SEAL IMPRESSIONS  no iconography

L-177 A

L-178 A

L-177 A bis

L-178 A bis

L-179 A

L-180 A
several impressions SEAL IMPRESSIONS LOTHAL 191-193

L-192 A 2 bis

L-191 A 1-2

L-192 A 1-2

L-193 A 1-2

L-193 A 3
LOTHAL 229–246  GRAFFITI (50 %)  Period A
Kalibangan

K-1 A

K-1 a

K-2 a

K-2 A

K-2 a bis
bison, zebu, buffalo, markhor
tiger, joined animals, indistinct animal
TABLETS in bas-relief

SEAL IMPRESSIONS

K-78 A

K-78 B

K-78 C

K-79 A

K-79 B

K-80 A

K-80 B

K-81 A

K-81 B

K-81 C
K-89 A 1-4

K-89 A 1-4 bis
Chanhujo-daro

C-1 B

C-1 A

C-1 a
Banawali

B-1 A

B-1 B

B-2 A

B-2 a

B-3 A

B-3 a

B-4 A

B-4 a

B-5 A

B-5 a

B-6 A

B-6 a
BANAWALI 24-29  TABLETS in bas-relief & incised; GRAFFITI (50 %)

B-24 F
B-24 A
B-24 B-C

B-25 A
B-25 B
B-25 C

B-26 A
For B-26 a see p. 364
B-26 B

B-26 C

B-27 A

B-28 A
B-29 A
Alamgirpur

Agr-1 A (1) (19 %)

Agr-1 A (2) (50 %)

Agr-2 A (50 %)

Agr-3 A (50 %)

Agr-1 A (2) bis (100 %)
Daimabad

Dmd-1 A  Dmd-1 B  Dmd-2 A  Dmd-2 C
Dmd-1 E  Dmd-2 B  Dmd-2 a
Dmd-1 a  Dmd-2 a
Dmd-3 A  Dmd-3 B  Dmd-3 D  Dmd-3 E
Desalpur (Desalpar)

Dholavira (Kotadi, Kotda Timba)
Hulas

Jhukar
Khirsara (Khera-Shara, Netra)

Lohumjo-Daro
Maski

Mehi

Pabumath
Prabhas Patan (Somnath)

Rakhigarhi

[Images of seal impressions and inscriptions]
Rangpur
Shahi-tump

Surkotada

Sktd-1 A  Sktd-1 a  Sktd-2 A  Sktd-2 a  Sktd-2 B  Sktd-2 C  Sktd-2 D
Tarkhanewala-dera

Sktd-3 A (50 %)

Sktd-4 A (50 %)

Sktd-5 A (100 %)

Sktd-6 A (100 %)

Tkwd-1 A (100 %)

Tkwd-1 B (100 %)

Tkwd-2 A (50 %)

Tkwd-3 A (50 %)
Addenda

M-435 A

M-540 A

H-76 A

H-382 A (50 %)

B-26 a
Table 1: Symbols of the form classes of Indus seals and tablets in this volume

<table>
<thead>
<tr>
<th>SEALS</th>
<th>TABLETS in bas-relief &amp; incised</th>
</tr>
</thead>
<tbody>
<tr>
<td>square</td>
<td>round (tablets in bas-relief)</td>
</tr>
<tr>
<td>with a perforated boss</td>
<td>square</td>
</tr>
</tbody>
</table>
| - inscribed on one side | rectangular-
| - inscribed on more than one side | unperforated |
| - having a case | perforated |
| perforated, without a boss | twisted |
| - inscribed on one side | rectangular, rounded at both ends |
| perforated, without a boss | lancet-like with truncated ends |
| - inscribed on more than one side | lancet-like |
| unperforated, with a swastika or some other geometric motif/with a perforated boss | rectangular, rounded at one end |
| - inscribed on one side | half rectangular, half shield-shaped |
| with a swastika or some other geometric motif (and with a perforated boss) | shield-shaped |
| with a perforated undivided boss | crescent-shaped |
| perforated with a convex back | half-moon-shaped |
| - inscribed on one side | heart-shaped |
| perforated | fish-shaped |
| unperforated | hare-shaped |
| - inscribed on one side | leaf-shaped |
| round | triangular |
| with a perforated boss | round (incised tablets) |
| with a perforated undivided boss | round with a perforated projection |
| perforated | triangular prism inscribed on more than one side |
| unperforated | rectangular bar inscribed on more than one side |
| with an unperforated boss | cubic inscribed on more than one side |
| Dilama-type (foreign) | perforated cylinder |
| cylinder | unperforated cylinder |
| perforated or unperforated | unperforated cylinder |
| unperforated, inscribed on more than one side | unperforated cylinder inscribed on more than one side |

Basic data for the objects illustrated

Column 1: in the following tabulation gives the CISI numbers assigned to the objects in the present volume.
Column 2 gives the FC (the Finnish Concordance in its current version, cf. p. XX, fn. 50) numbers, according to which the material is arranged in the CISI archives at the University of Helsinki. This number is given also because the FC offers help in reading the inscriptions, as does also I. Mahadevan's Concordance (see p. XX, fn. 49), where many numbers are identical with the FC numbers (but
24: M-534 A

25: M-534 B
Memoirs — A. S. I.
A. S. I. — Memoirs